OP0315

ACHIEVING A LOW DISEASE STATE WITHIN FIRST 3 MONTHS IN EARLY RHEUMATOID ARTHRITIS RESULTS IN LOWER FATIGUE OVER 5 YEARS

Melissa Holdren¹, Orit Schieir², Susan J. Bartlett^{3,4}, Louis Bessette⁵, Gilles Boire⁶, Glen Hazlewood⁷, Carol Hitchon⁸, Edward Keystone⁹, Diane Tin¹⁰, Carter Thorne¹⁰, Vivian Bykerk^{11,12}, Janet Pope¹. ¹Western University, London, Canada; ²University of Toronto Dalla Lana School of Public Health, Toronto, Canada; ³McGill University/MUHC, Montreal, Canada; ⁴Johns Hopkins Medicine, Baltimore, United States of America; ⁵Université de Laval, Quebec City, Canada; ⁶Université de Sherbrooke, Sherbrooke, Canada; ⁷University of Calgary, Calgary, Canada; ⁸University of Manitoba, Winnipeg, Canada; ⁹University of Toronto, Toronto, Canada; ¹⁰Southlake Regional Health Center, Newmarket, Canada; ¹¹Hospital for Special Surgery, New York, United States of America; ¹²Weill Cornell Medical College, New York, United States of America

Background: Up to 80% of rheumatoid arthritis patients report clinically relevant fatigue.¹ Fatigue is complex multi-factorial process that can result in adverse affects on patients' physical and emotional well-being.²

Objectives: To examine the relationship between disease activity and fatigue over time in early rheumatoid arthritis (ERA).

Methods: Data were from patients with ERA (symptoms $\leq$ 12 months) enrolled in the Canadian Early Arthritis Cohort (CATCH). CATCH participants completed repeat clinical assessments, laboratory investigations and self-reported questionnaires including rating their fatigue over the past week using a 10 point numerical rating scale (NRS). Fatigue severity was classified as low (≤ 2); moderate (>2 but <5) and high (≥ 5) based on other published RA studies. Bivariate relationships between disease activity measures and fatigue over 5 years of follow-up were estimated using the Pearson correlation coefficient. T-tests and repeated measures anova were used to compare differences in fatigue ratings in patient who did vs. did not achieve a low disease state (DAS28 <3.2) within 3-months of cohort entry.

Results: Of the 1864 patients included, 1640 (88%) met criteria for RA, 1342 (72%) were women and most had moderate-high baseline disease with a mean (SD) DAS28 of 4.9 (1.5). Fatigue was common with 19% reporting moderate and 59% severe fatigue at baseline. Fatigue was positively and strongly correlated with pain and patient global ratings (r 0.56-0.67, $p<0.001$), positively and moderately correlated with DAS28 (r 0.35-0.49, $p<0.001$), and positively but more weakly correlated with tender/swollen joint count, physician global assessment, ESR and CRP (r 0.10-0.39, $p<0.01$) throughout the first year of follow-up. Patients who reported low fatigue severity by three months continued to have significantly lower fatigue throughout follow-up compared to those with moderate or high fatigue ($p<0.001$). Patients who achieved DAS28 REM or LDA within 3-months of cohort entry had significantly lower mean fatigue compared to those with more active disease throughout 5 years of follow-up ($p<0.001$) (Figure 1).

Figure 1. Mean patient fatigue scores based on NRS of 1-10 over subsequent visits, split based on DAS28 score at 3 months.

DAS28: disease activity score in 28 joints; REM: remission; LDA: low disease activity; MDA: moderate disease activity; HDA: high disease activity.

Conclusion: Fatigue is common in ERA and is most strongly correlated with pain and disease activity. Early treatment response within 3-months was associated with short and long-term improvements in fatigue over time. Further longitudinal research examining the time-varying effects of both clinical and psychosocial factors on fatigue is needed.

REFERENCES:

- [1] Pollard, LC., Choy, HE., Gonzalez, J., Khoshaba, B., and Scott, DL. Fatigue in rheumatoid arthritis reflects pain, not disease activity. *Rheumatology*. 2006;45:885-889.
- [2] Nikolaus, S., Bode, C., Taal, E., and Van De Laar, MA. Fatigue and Factors Relating to Fatigue in Rheumatoid Arthritis: A systematic Review. *American College of Rheumatology*. 2013;65:1128-1146.

Acknowledgement: On behalf of Canadian Early Arthritis Cohort (CATCH) Investigators

Disclosure of Interests: Melissa Holdren: None declared, Orit Schieir: None declared, Susan J. Bartlett Consultant for: Pfizer, UCB, Lilly, Novartis, Merck, Janssen, Abbvie, Louis Bessette Grant/research support from: Amgen, BMS, Janssen, Roche, UCB, AbbVie, Pfizer, Merck, Celgene, Sanofi, Lilly, Novartis, Consultant for: Amgen, BMS, Janssen, Roche, UCB, AbbVie, Pfizer, Merck, Celgene, Sanofi, Lilly, Novartis, Speakers bureau: Amgen, BMS, Janssen, Roche, UCB, AbbVie, Pfizer, Merck, Celgene, Sanofi, Lilly, Novartis, Gilles Boire Grant/research support from: Investigator-initiated studies: Amgen, Abbvie, BMS, Eli Lilly, Merck, Novartis, Pfizer, Consultant for: Advisory boards: Amgen, BMS, Celgene, Eli Lilly, Pfizer, Speakers bureau: Merck, BMS, Pfizer, Glen Hazlewood : None declared, Carol Hitchon Grant/research support from: Pfizer, UCB (unrelated studies), Edward Keystone Grant/research support from: AbbVie, Amgen, Bristol-Myers Squibb, F. Hoffmann-La Roche Inc, Gilead, Janssen Inc, Lilly Pharmaceuticals, Pfizer Pharmaceuticals, Sanofi-Aventis, Consultant for: AbbVie, Amgen, AstraZeneca Pharma, Biotest, Bristol-Myers Squibb Company, Celltrion, Crescendo Bioscience, F. Hoffmann-La Roche Inc, Genentech Inc, Gilead, Janssen Inc, Lilly Pharmaceuticals, Merck, Pfizer Pharmaceuticals, Sandoz, UCB., Speakers bureau: Amgen, AbbVie, Bristol-Myers Squibb Canada, F. Hoffmann-La Roche Inc., Janssen Inc., Merck, Pfizer Pharmaceuticals, Sanofi Genzyme, UCB, Diane Tin: None declared, Carter Thorne Grant/research support from: Investigator-initiated studies: Amgen, Pfizer. RCTs: Abbvie, Celgene, CaREBiodam, Novartis, Pfizer, Consultant for: Advisory board: Abbvie, Amgen, Celgene, Lilly, Medexus/Medac, Merck, Novartis, Pfizer, Sanofi. Consultant: Abbvie, Centocor, Janssen, Lilly, Medexus/Medac, Pfizer, Speakers bureau: Medexus/Medac, Vivian Bykerk Grant/research support from: Mallinckrodt, BMS, Crescendo Biosciences, Sanofi/Regeneron., Consultant for: Amgen, Pfizer, UCB, Scipher, Sanofi/Genzyme/Regeneron, Janet Pope Consultant for: Eli Lilly and Company
DOI: 10.1136/annrheumdis-2019-eular.4414

FRIDAY, 14 JUNE 2019

Optimizing the access to new treatments for RMD patients

OP0316

COST EFFECTIVE INTERVENTION TO IMPROVE QUALITY OF CARE MEASURES FOR RHEUMATOID ARTHRITIS PATIENTS IN AN UNDERSERVED COMMUNITY

Yvan Maque-Acosta¹, Julianna Hirsch², Qingying Lai³, Rachel Kapelow¹, Beverly Johnson⁴. ¹Jacobi Medical Center/Albert Einstein College of Medicine, Internal Medicine, Bronx, United States of America; ²Mt. Sinai St. Luke's-West Hospital, New York, United States of America; ³Hackensack University Medical Center, Hackensack, United States of America; ⁴Jacobi Medical Center/Albert Einstein College of Medicine, Rheumatology, Bronx, United States of America

Background: Quality of care measures for rheumatoid arthritis (RA) have been endorsed by the American College of Rheumatology and the CDC. Similar quality indicators have been studied and recommended by the European League Against Rheumatism. Improving quality metrics in an underserved community is a problem given the lack of resources.

Objectives: To identify quality metrics for RA patients with need for improvement in our underserved urban public hospital, and to establish an effective intervention.

Methods: An initial retrospective chart review established baseline data from patients with RA seen in our clinic (July 2015 - July 2016), they were identified by ICD-9/10 coding. We identified 3 RA measures needing improvement: (a) tuberculosis screening (TBsc) 12 months prior to starting a new biologic agent, b) documentation of clinical disease activity index (CDAI) in $\geq 50\%$ of encounters, c) appropriate pneumococcal vaccination. We then planned an intervention by placing index cards at computer stations to remind providers to check these measures. We collected data on these 3 variables prior to the intervention (December 2016 - July 2017) and 30+ days after (August 2017 - December 2017). We also compared these results by provider type (attending and fellows). For statistical analysis we used Chi-Square test and SPSS 24.

Results: Baseline data included 240 patients, analysis prior to the intervention included 86 patients, and after the intervention included 131 patients. CDAI documentation was improved from 72.1% to 86.3% (Figure 1, $p=0.01$), however when stratifying the analysis by provider type, this improvement was only significant in attendings ($p=0.005$) and not in fellows ($p=0.43$). Further analysis by including only the same fellows in both pre and post intervention moments (some fellows graduated) showed a significant difference in both groups (attendings: $p=0.005$; fellows: $p=0.024$). In terms of TBsc, baseline data showed 73.1% compliance, however we already found a compliance of 100% prior to the intervention (Figure 2, $p=0.002$ when compared with baseline data). Finally, there was no difference in

compliance with pneumococcal vaccination between baseline data, prior and post intervention ($p=0.895$).

Conclusion: Placing a card reminding providers to check 3 RA quality measures significantly improved CDAI documentation after 30 days of starting the intervention. The compliance with TBsc prior to starting a new biologic agent was 100% even before the intervention, which was better compared to baseline data, likely due to providers being aware there was a problem after initial data was collected. We did not find improvement in pneumococcal immunization rate, most likely because there are multifactorial components to motivating patients to get the vaccine. Our results suggest that interventions as simple as raising provider awareness to a problem such as TB screening, and an index card to remind people to document CDAI can be effective to improve QI measures in RA patients in underserved communities.

REFERENCES:

- [1] Yazdany K, et al. Development of the American College of Rheumatology's RA Electronic Clinical Quality Measures. *Arthritis Care & Research*. 2016; 68 (11): 1579–1590.
- [2] Petersson I, et al. Development of healthcare quality indicators for RA in Europe. *Ann. Rheum. Dis.* 2014;73(5):906-8.
- [3] Lai Q, Johnson B. Improving Quality of Care for RA Patients in an Underserved Area. *Arthritis Rheumatol*. 2017; 69 (suppl 10).

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.3683

OP0317

ASSOCIATION OF PATIENT SATISFACTION WITH HEALTHCARE UTILIZATION, COST, AND QUALITY OF LIFE IN RHEUMATOID ARTHRITIS

Nasim Khan^{1,2}, Fawad Aslam³, Wais Atzal¹, Chenghui Li¹. ¹University of Arkansas for Medical Sciences, Little Rock, United States of America; ²Central Arkansas Veterans Healthcare System, Little Rock, United States of America; ³Mayo Clinic, Phoenix, United States of America

Background: Patient satisfaction and experience with care is being used as a surrogate marker of quality and value of healthcare delivery. No study has evaluated the association of patient satisfaction with healthcare utilization and cost, and quality of life in RA patients.

Objectives: To examine the association of RA patient satisfaction with healthcare utilization and cost, and quality of life.

Methods: 2010-2015 longitudinal files from the Medical Expenditure Panel Survey (MEPS), a nationally representative survey of the US civilian non-institutionalized population were used to identify patients with self-reported RA diagnosis. MEPS has overlapping panel design with participants interviewed up to 5 rounds over a 2- year period. In rounds 2 and 4, patient satisfaction is assessed by the four items about physician interaction – listened carefully, explained things well, showed respect, and spent enough time; and one item for overall satisfaction with quality of care received. A patient satisfaction score was constructed from standardized composite score of these items, and classified as most satisfied (patient satisfaction quartile 4) and less satisfied (patient satisfaction quartiles 1-3). The outcome measures were assessed in year 2: healthcare utilization (any emergency department visit, any inpatient stay, number of visits to office-based providers, outpatient department, and prescription drugs); total healthcare expenditures (measured in 2015 dollars), and quality of life (QoL, measure using 12-item Short Form healthy survey (SF-12)). Two statistical approaches were used: a standard logistic regression comparing most satisfied with less satisfied, and propensity score matching. Propensity scores were estimated using a logistic regression to model most satisfied quartile (vs. lower) as a function of covariates (satisfaction score in year 1 were matched 1 to 1 without replacement using a

greedy matching algorithm. After matching, means of outcomes in year 2 were compared among matched pairs. Standard errors were estimated using bootstrapping method with 200 repetitions. Covariates included socio-demographic measures, health behaviors, health status (Charlson Comorbidity Index, general health, activity limitation, and pain affecting activities); RA measures (DMARDs, corticosteroids, and analgesics use); and the Year 1 outcome measures (utilization, total expenditure, QoL).

Results: 568 patients had a self-reported RA diagnosis. 1025 (65.4%) patients were analyzed (326 patients excluded for missing satisfaction response; 201 patients for missing information on other study variables; and 16 for not having data in all 5 rounds). The results using the propensity score matching approach are presented in the Table (202 most satisfied matched to 202 less satisfied patients). There were no differences in the healthcare utilization, cost and QoL among the two groups. Logistic regression approach yielded similar results.

Outcome	Most satisfied, Q4	Less satisfied, Q1-Q3	Difference	Bootstrapped SE (reps 200)	P Value
Total expenditure, \$	13452	14695	-1243	2607	0.633
Number of Office Visits	13.24	12.73	0.51	1.55	0.741
Number of Outpatient Visits	1.06	1.24	-0.17	0.35	0.622
Number of Inpatient Visits	0.23	0.34	-0.09	0.085	0.267
Number of ER visits	0.460	0.525	-0.064	0.107	0.547
Number of Prescriptions	48.936	51.465	-2.530	4.351	0.561
QoL - Mental health summary scores	47.557	47.186	0.371	1.116	0.739
QoL - Physical health summary scores	36.526	34.840	1.686	0.969	0.082

Conclusion: Patient satisfaction score of RA patients was not associated with healthcare utilization and cost, and quality of life measures.

REFERENCE:

- [1] Fenton JJ et al. *Arch Intern Med*. 2012;172(5):405-411

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6163

FRIDAY, 14 JUNE 2019

Teenage look in the mirror (sexuality and body image meeting health care)

OP0318-HPR

IS PSYCHOLOGICAL SUPPORT REACHING THOSE IN MOST NEED? A SURVEY OF PEOPLE WITH RHEUMATOID ARTHRITIS AND ADULTS WITH JUVENILE IDIOPATHIC ARTHRITIS:

Hayley McBain¹, Matthew Bezzant², Ailsa Bosworth². ¹City, University of London, London, United Kingdom; ²National Rheumatoid Arthritis Society (NRAS), Maidenhead, United Kingdom

Background: Rheumatoid arthritis (RA) and adult juvenile idiopathic arthritis (AJIA) is associated with a significant impact on psychological well-being.¹⁻² UK guidelines for the management of RA³⁻⁵ state that psychological interventions should be offered to people with RA to help them adjust to living with their condition and manage their psychological well-being. Three in four rheumatology units in the UK however, rate their overall provision of psychological support as inadequate.⁶

Objectives: To establish levels of anxiety and depression in people with RA or AJIA and how this relates to the prevalence of diagnosed mood disorders and receipt of psychological support.

Methods: The 2018 National Rheumatoid Arthritis Society (NRAS) 'Emotional Health and Well-being Matters' survey was designed by patients and researchers. This included a questionnaire designed to capture self-reported comorbidities, receipt of psychosocial support and the Hospital Anxiety and Depression Scale (HADS).⁷ Participants were recruited by NRAS via their social media platforms, membership and non-membership lists and in newsletters and forum. The survey was open from May-July 2018. Recruitment was focused on those diagnosed with RA or AJIA aged 18 years and over and living in the UK.

Results: A total of 1565 people with RA and 55 AJIA completed the survey. Although mean scores on the HADS were within the normal range in both populations, over 25% of the samples were experiencing clinical levels of anxiety or depression. Over half of those reporting clinical levels of anxiety or depression had never received a formal diagnosis. Most concerning however, was that 1 in 2