OP0315

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

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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 ≤ 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.

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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

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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