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THU0633 TEMPERATURE SENSITIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Studies evaluating weather sensitivity among patients with rheumatoid arthritis (RA) have yielded conflicting results.
Objectives: To evaluate whether patients with RA exhibit sensitivity to outside temperature.
Methods: We assessed correlation between mean daily temperature and self-reported pain (by visual analogue scale), and patient's global assessment of disease activity (PGA). Assessments documented in the RA database of our department as well as the average temperature obtained from the Central Institute for Meteorology and Geodynamics, were matched on a daily basis for a period of 10 years between 2005 and 2015 and analyzed using generalized estimating equation (GEE) and a mixed model analysis (MM). Patients with <5 visits in the study period, or with <1 visit/quarter or with pain=0 in ≥ 3 consecutive visits and those living outside of the catchment area were excluded. Overlap between responsiveness of pain or PGA to temperature was calculated by Cohen's kappa.
Results: A total of 399 patients with RA (average disease duration at first visit: 6.0±7.6 years, average age: 57.7±13.9 years, 82% female, mean CDAI 19.7±11.5, 59.9% rheumatoid factor positive) were analyzed. Lower temperatures correlated significantly with higher pain levels (estimate: -0.07, p=0.021) in GEE, however the effect size was very small. When we performed MM with temperature as independent variable and VAS pain or PGA as dependent variable, the majority of patients showed no sensitivity to temperature, however 22% of patients were significantly sensitive to cold temperature with an estimate of -0.29 ($p<0.0001$) for pain and -0.21 (p=0.0005) for PGA (Figure 1). When we evaluated whether patients who demonstrate temperature-sensitivity to pain also exhibit temperature-sensitivity to PGA, we found an excellent overlap between the two patient groups (kappa: 0.81).

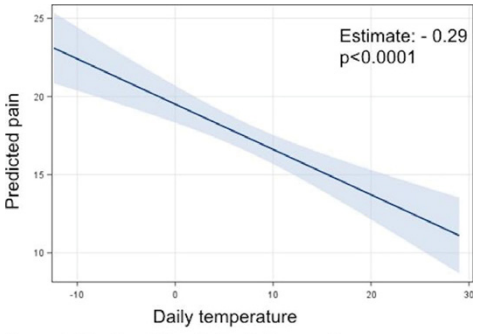

Figure 1. Mixed model analysis of influence of temperature on pain of patients demonstrating sensitivity to cold temperature

Conclusions: Our results indicate that a subgroup of patients with RA show significant sensitivity to cold temperature, and that these patients are characterized by higher pain and PGA levels at lower daily temperatures. These aspects may have to be taken into account in longitudinal analyses of disease activity of RA.
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THU0634 COMPARING PREFERENCES OF PATIENTS WITH RHEUMATIC DISEASES, OF RHEUMATOLOGISTS, NURSES AND PHARMACISTS TOWARD THE TREATMENT OF RHEUMATIC DISEASES WITH BIOLOGICAL AGENTS: RESULTS FROM THE CARA STUDY

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Background: The management of patients with rheumatologic diseases (RDs) involves a complex interaction between different parties such as patients, physicians, pharmacists. The development of biologic therapies has created a more complex decision-making process to select the treatment option for patients. To optimize the appropriateness of the decisions, it is necessary to be informed and aware of the preferences of the interested parties.
Objectives: To estimate preferences of relevant treatment characteristics with biological agents valued by the different subjects involved in the management of patients with rheumatic diseases.
Methods: We involved patients with RDs, rheumatologists, nurses and pharmacists with experience in the treatment with/provision of biological drugs of these patients. Through a Discrete-Choice-Experiment, the participants valued 16 possible scenarios in which pairs of similarly effective treatments were described with 6 characteristics including 2–4 possible levels each: (1) frequency of administration; (2) mode and place of administration; (3) hospitality, service, efficiency and courtesy of health personnel; (4) frequency of reactions at the site of drug administration; (5) generalized undesired/allergic reactions; (6) additional cost: since the Italian NHS pays treatment costs, we included possible additional cost as monthly healthcare taxes for all the citizens, to make available the treatment to all target patients. relative importance of each characteristic was estimated through a random-effects conditional logistic regression model.
Results: 513 patients, 110 rheumatologists, 51 nurses and 46 pharmacists from 30 centres through Italy participated. Characteristics (3), (4) and (6) were the most important for every subgroup, while (1) was the least important for patients and rheumatologists, (2) the least important for the pharmacists, (2) and (5) the least important for the nurses. The four subgroups were consistent in preferences towards the specified levels of characteristics (1) and (3) to (6). However, as for characteristic (2), pharmacists preferred autonomous subcutaneous injection with syringe, nurses preferred assisted infusion at an infusional center close to patient's place, patients and rheumatologists preferred autonomous subcutaneous injection with pen.
Conclusions: Different subjects show different preferences for some treatment characteristics, which together with pure clinical aspects can play an important role in the choice and consequent success of treatments.
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THU0635 PRECISE AND SIMPLE ALGORITHM TO IDENTIFY RA CASES IN ELECTRONIC MEDICAL RECORDS

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Background: Electronic medical records (EMR) have emerged as a large-scale data collection option for observational studies. These huge data registries create new opportunities to study the rheumatologic phenotype and the real-life implications for these diseases. EMR usage poses new questions of quality management, such as how to reliably identify patients with the disease or phenotype of interest, as well as bioinformatic tools to handle the magnitude of data.
Thusfar, the algorithms used to identify cases are often not validated and overly simplify by using one financial code, or they are well-validated but require very specific information which hampers the applicability to other datasets.
Objectives: *Aim I:* Test the accuracy of the identification of patients with rheumatoid arthritis (RA) using the financial coding system.
Aim II: Develop a simple and precise algorithm to select patients with RA that is easy to implement at other centers.
Methods: *Aim I:* Out of the 16,183 Rheumatology patients in the Leiden out-patient EMR system 400 charts were randomly selected and reviewed for the rheumatologic diagnosis. Next, the charts were reviewed for 200 randomly selected patients that were labeled as RA in the financial system.
Aim II: To enable generalizability, only codified data that was obtained at regular outpatient clinic visits was used. Lasso regression was applied to identify the most discriminative variables.
Results: *Aim I:* Since 2008, 16,183 patients were enrolled in the EMR system of the Leiden rheumatology outpatient clinic. 2,845 of these patients were classified as having RA in the financial system. 63/400 (16.3%) of the reviewed charts concerned patients with RA. The majority (n=57) were registered as having RA in the financial system. Still, 33% of the patients with the financial code RA did not have RA.
Aim II: Using Least Absolute Shrinkage and Selection Operator (LASSO) regression anti CCP, MTX prescription and number of visits were identified as the most discriminative variables. Combining these with the presence of the financial code for RA improved the algorithm from an accuracy of 67% to 90%.
Conclusions: The vast majority of patients that are classified as having RA are registered as such in the financial system. However, a substantial number of patients are registered as RA in the financial system are not classified as RA in clinical charts. Using widely available data on anti-CCP status, MTX prescription