PRESCRIPTION PATTERNS OF TUMOUR NECROSIS FACTOR INHIBITOR AND USTEKINUMAB IN PSORIATIC ARTHRITIS: A NORDIC POPULATION-BASED COHORT STUDY

R. L. Hansen[1], T. S. Jørgensen[1], L. Dreyer[1], B. Gudbjornsson[5], M. L Hetland[1], B. Glintborg[1], J. Askling[2], K. Chatzidionysiou[2], D. D. Giuseppe[2], L. Jacobsson[2], J. K. Wallman[2], E. K. Kristianslund[4], I. C. Olsen[4], K. Fagerli[4], E. Lie[4], D. Nordström[3], K. Aaltonen[3], J. Joensuu[3], T. J. Love[5], A. J. Geirsson[5], and L. E. Kristensen[1]

[1] On behalf of the DANBIO registry, Copenhagen, Denmark
[2] On behalf of the SRQ registry, Stockholm, Sweden
[3] On behalf of the ROB-FIN registry, Helsinki, Finland
[4] On behalf of the NOR-DMARD registry, Oslo, Norway
[5] On behalf of the ICEBIO registry, Reykjavik, Iceland

Background: Psoriatic arthritis (PsA) is a chronic inflammatory disorder associated with skin and joint manifestations, several extra-articular symptoms, various comorbidities, and disability. The emergence of tumour necrosis factor inhibitor (TNFi) therapy has dramatically changed the course of disease. Over the past decade new TNFi therapies have emerged (certolizumab pegol and golimumab), and recently ustekinumab and secukinumab have also become available for PsA.

Objective: The objective of this study was to assess the relative use of biological agents (bDMARDs) in PsA from 2006 through 2017, using data from the Nordic Rheumatology registers.

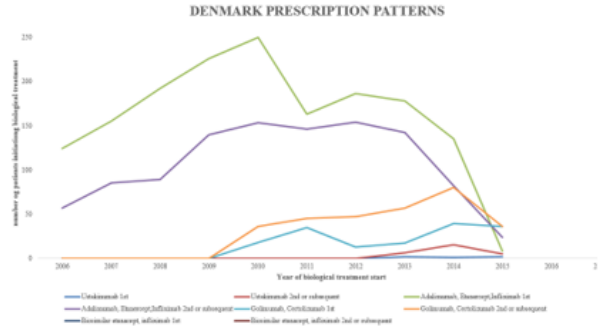
Methods: Based on data from the observational registers DANBIO, ICEBIO, NOR-DMARD, ROB-FIN, and SRQ registers, PsA patients initiating treatment with bDMARDs as a first or subsequent biological therapy were identified. Patients treated with biosimilars were also identified. Adalimumab, etanercept and infliximab were grouped as “first generation TNFi therapies”; certolizumab pegol, golimumab were grouped as “second generation TNFi” and all biosimilar treatments were grouped. Treatments with ustekinumab during the study period were also identified.

Results: A total of 18,089 treatment initiations were identified (DANBIO 4,361, ICEBIO 449, NOR-DMARD 1,948, ROB-FIN 1,069, SRQ 10,262). 53,68% of the patients were female. Overall, 6,541 patients initiated a first generation TNFi, 1,306 a second generation TNFi, and 49 ustekinumab, as their first course of biological treatment. The corresponding numbers for those initiating a second (or more) biological treatment were 4,569, 1,538 and 348 patients, respectively. Treatment with biosimilars as first treatment were identified in 950 patients, and 1,319 as a second or subsequent. Figure 1 displays the annual number of treatment initiators statified by treatment type from 2006-2017. The total annual number of first course biological treatment increased significantly throughout the period ($p<0.001$), and this was also the case for patients switching therapy ($p<0.001$), indicating a previously unmet need for biological therapies in the Nordic population. The annual number of patients initiating first generation TNFi both as first and subsequent course of therapy decreased significantly towards the end of the study period ($p<0.001$). This drop was more than offset by a rapid increase in initiation of second generation TNFi treatments ($p<0.001$). Ustekinumab was primarily used as second or subsequent course of therapy in PsA. The same pattern was seen when stratified by each country. Figure 2 shows the secular trends of baseline data collected from the Nordic countries with the subcatergories of CRP, disease duration, HAQ score, VAS patient pain, swollen joint count and tender joint count.

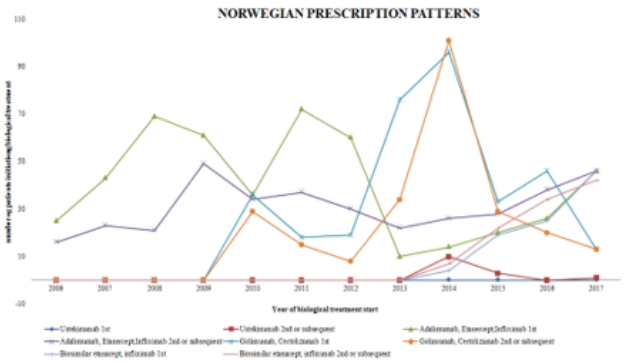
Image/graph:

Figure 1 *Prescription patterns for the Nordic countries within the observational period 2006-2017*

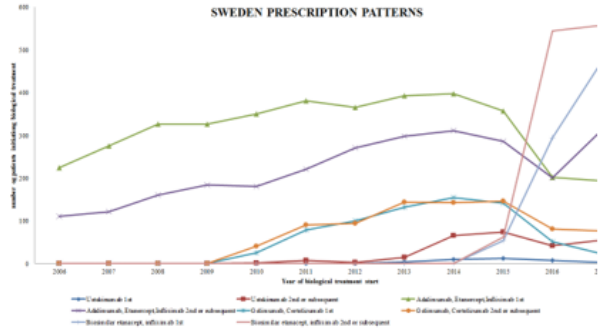
DENMARK



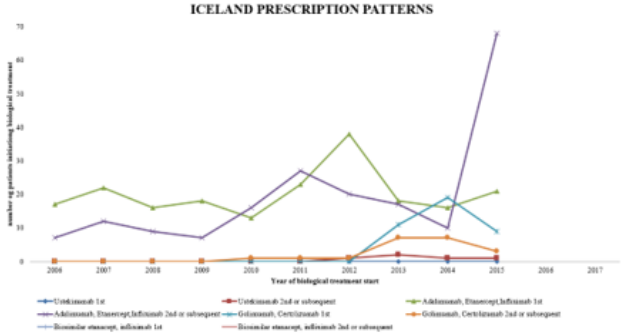
NORWAY



SWEDEN



ICELAND



FINLAND

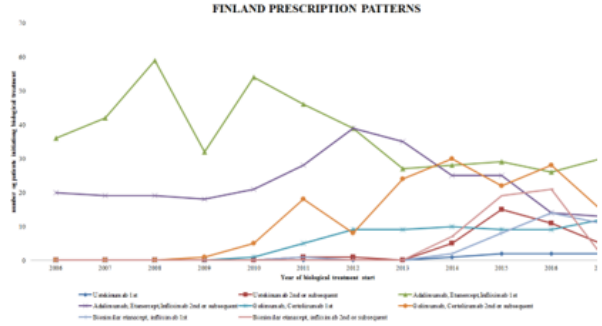
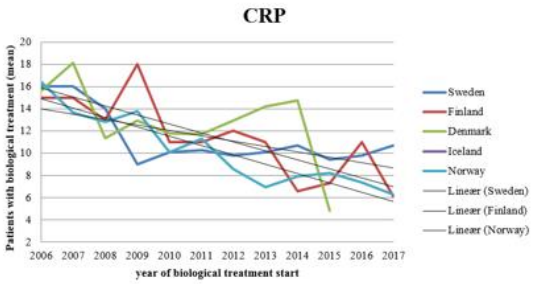
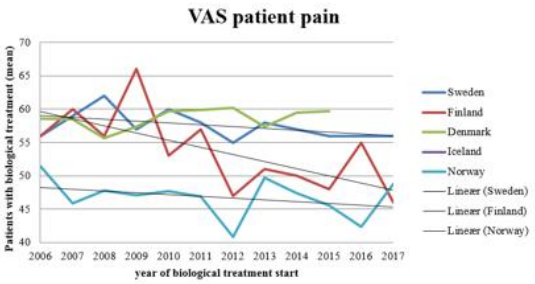


Figure 2*: biological treatment initiators by baseline characteristics from 2006-2017*

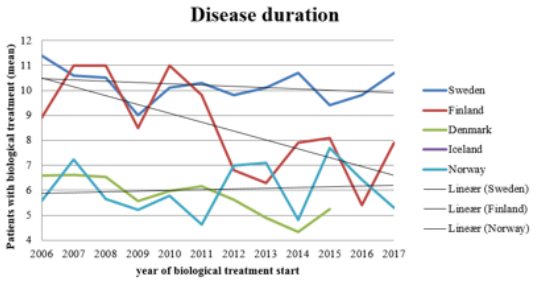
A: *CRP*



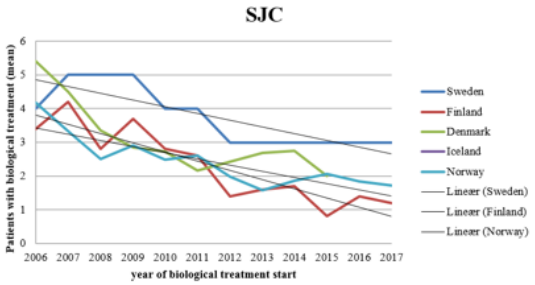
D: *VAS patient pain*



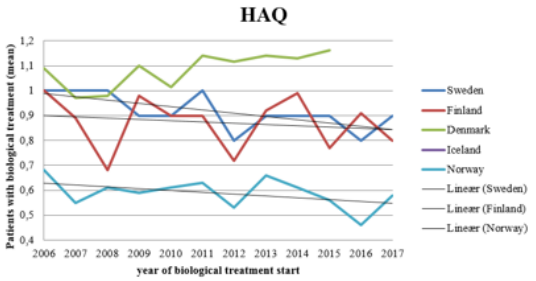
B: *disease duration*



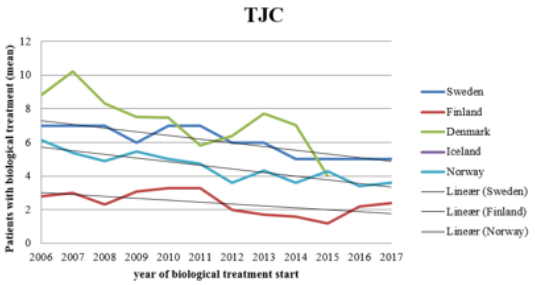
E: *SJC*



C: *HAQ*



F: *TJC*



Conclusions: Across the Nordic countries the prescription pattern for biological therapies for PsA has changed significantly over time. After 2012 initiation of the first generation TNFi is decreasing both as first and second course therapy, whereas second generation TNFi are increasing both as first and second course of biologic intervention. Collaboration across registers will allow for robust assessment of the uptake of newer biological therapies. Prescription patterns for the Nordic countries have certain similarities, but because of the different guidelines between the countries health care system, there are also prescription patterns that do not show significant similarities. The secular tends show the connection between decreasing CRP scores and decreasing SJC leading to the conclusion that the treated PsA patients group, may be changing compared to what is previously observed and acknowledged. The definite truth of insignificant changes in the other parameters also shows that there are areas of disease yet insufficiently treated.

Acknowledgement:
This study was partly funded by a grant from NordForsk and Janssen Pharmaceuticals.

Disclosure of interest:
RLH: none declared., TSJ: Speakers bureau: Abbvie, Roche, Novartis, UCB, Biogen., LEK: Speakers bureau: Pfizer, AbbVie, Amgen, UCB, Celgene, BMS, MSD, Novartis, Eli Lilly, Janssen Pharmaceuticals., DN: Speakers bureau: AbbVie, BMS, Lilly, MSD, Novartis, Pfizer, Roche, UCB., LJ: Advisory Board fees from Abbvie, Celegen, MSD, Novartis and UCB., EKK: None declared., JKW: Advisory board fees from Novartis and Celgene; consultancy fees from UCB., MLH: Research grants and/or lectures: BMS, MSD, AbbVie, Roche, Eli Lilly, Pfizer, Orion, Novartis., BG: Speakers bureau: Actavis, Celgene, MSD, Pfizer., JA: Research grants: AstraZeneca, UCB, Lilly, Pfizer, Roche, Merck,Samsung, Janssen., LD: Speaking and/or consulting feest from MSD, UCB and Janssen Pharmaceuticals., DDG: None declared., KF: None declared., JJ: speaking fee from Pfizer., KA: None declared., TJL: ., AJG: None declared., ICO: None declared