on the Internet, to clarify their average age, gender distribution, comorbidity, difficulties in diagnosing and treating, to get an idea of the most relevant online requests in this cohort.

Methods: We used technology for analyzing “big data” and processing unstructured information (semantic intelligence) (the Semantic Hub platform, which scans Google and Yandex environments). For efficient processing of text corpora, several specialized converters were used. The resulting format for these converters is an XML representation of the source data. The study was based on real-life patient cases (specialized social networks, forums, and other sources of user-generated content). Messages from pts with gout and their relatives were used. Severe gout is characterized by frequent polyarticular flares or chronic arthritis, subcutaneous tophi, the presence of concomitant conditions.

Results: A total of 16253 messages were processed, with “gout” entered as a search word. A total of 1691 gout pts were identified. The average age of online-active pts - 472 years. Men 60.5%. Severe gout was identified in 194 of 1691 (11.5%) pts, with 59% of pts aged 29 to 45 years. The proportion of men among pts with severe gout is 71%. Comorbidities most often include diabetes mellitus and metabolic syndrome - 24%, CKD - 51%, arterial hypertension-14%. Pts with severe gout have 1.9 comorbidities on average, while other pts with gout -1.1. The groups are comparable by age. Among 90 links related to medical specialties that pts visited before being referred to a rheumatologist, the first three leading positions were - orthopaedic surgeon (30%), general practitioner (25.8%), surgeon (21%). Sixty percent of pts reported that the time between the first visit and the diagnosis of gout was less than six months. The remaining 40% of pts report that this period lasted from 1 to 15 years. Less than 42% of pts were prescribed urate-lowering therapy (ULT) during internal consultation of a physician, and only 23% of physicians recommended ULT to pts with gout during online consultation. According to pts' reports, treatment includes 3 main groups of drugs: NSAIDs, intra-articular corticosteroids and ULT. Compliment with life-time ULT is very low. The most commonly requested topic on the Internet - attacks during holidays - 2496 messages, the second is held by the topic of lifestyle - 1899 messages, the third place - problems of comorbidities - 1813 references, and only in the fourth position - 1662 messages- the topic of ULT.

Conclusion: The percentage of pts with severe gout is 11.5% among gout pts who are looking for information about their condition on the Internet, which is consistent with the data from the largest original papers in the RP on the prevalence of severe gout [2]. More than a half of pts with severe gout (59%) are men aged 25-45 years. The percentage of pts with severe gout over 46 years old may be due to the low motivation for treatment of this cohort. Gout pts are rather more concerned about lifestyle than medical problems. This may also indicate the absence of the consistent compliance of this patient category to life-time therapy. Inadequate long-term therapy and late diagnosis may be the main factors for severe gout in young and active pts.

References:

Disclosure of Interests: Ekaterina Ilykh: None declared, Maxim Eliseev Speaker's bureau: Novartis, Menarini Group, Alium
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AB1169 RHEUMATOLOGY PATIENT PERCEPTION OF CARDIOVASCULAR RISKS: A SURVEY AT A TEACHING HOSPITAL

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Background: It is well known that individuals with rheumatological conditions are at an increased risk for developing cardiovascular diseases (CVD) and they are the most common cause of mortality. However, there is still lack of awareness about the CVD risk among Rheumatology patients. We carried out a patient survey to assess their awareness and perception of CVD risk associated with their condition. We also assessed if the health professionals attending to these patients gave adequate education to the patients regarding the CVD risk.

Objectives: To study awareness about CVD risks among rheumatology patients

Methods: This was a prospective cross sectional survey where in multiple-choice questionnaires were distributed to consecutive patients attending rheumatology clinic. The questionnaire contained 18 questions including demographics, diagnosis, medications and their awareness of cardiovascular risks associated with their underlying rheumatic conditions. We also explored if patient attempted any Primary preventive measures for reducing the CVD risk.

Results: We collected data of 57 patients with 47% of patients were above 60 years of age with Female: Male ratio of 3:1. Rheumatoid arthritis was the most common diagnosis (60%) with others including AS (22%), SLE (5%). 32% of patients had been suffering from inflammatory disorder for >10 years and 44% believed their disease was still not fully controlled. 37% had family history of heart diseases. More than half of the patients (56%) were unaware of cardiovascular risks associated with their condition and 65% overall reported that they were not personally informed about these risks by the treating health professionals. When we analysed the newly diagnosed patients (<5years) 64% were unaware about the CVD risks which is higher compared to patients with diagnosis of >5 years. We tried to explore any ethnic differences, however the number is too small to compare. We noted that around 60% of white British with rheumatological diagnosis were not aware of CVD risk in our group. When further asked about the primary preventive measures, only 23% engage in exercise, 21% have made diet changes, 12% take aspirin, 16% have quit smoking and only 5% quit alcohol.

Conclusion: This was a small pilot study to look at the patient awareness of CVD risks associated with rheumatological conditions. Clearly there is lack of awareness among patients about CVD risks. Furthermore, most of the patients reported they were not educated about the risks from the health professionals. Majority do not engage in any of primary prevention as target. It is crucial that the health professionals actively educate patients regarding the CVS risks and the various methods through which these can be prevented. We believe patient-targeted educational programmes and behavioural interventions can be incorporated for holistic patient management.

References:

Disclosure of Interests: Nirbha Jain: None declared, Anukripa Manivannan: None declared, Aswin Mahesh: None declared, Arumugam Moorthy Speakers bureau: Abbvie, Novartis,UCB,MSD
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AB1170 THE IMPACT OF HIGH DISEASE ACTIVITY AS MEASURED BY SLEDAI AND DRUG BURDEN ON HEALTHCARE UTILIZATION, QUALITY OF LIFE AND WORK PRODUCTIVITY IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

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Background: Although there is abundant literature on healthcare utilization in SLE patients, the impact of disease activity in SLE patients is not well understood. Objective: To quantify the impact of disease activity, as measured by SLEDAI score and drug burden, in SLE patients on health care resource utilization (HCRU), health related quality of life (HRQoL) and work productivity (WP).

Methods: Data were collected from a cross-sectional survey of 754 rheumatologists in US and EUS from the Adelphi Real World 2010/2013/2015 Lupus Disease Specific Programmes (DSP). Physicians were asked to complete patient record forms (PRFs) for the next 5 prospectively consulting SLE patients; the same patients were asked to complete patient self-completion (PSC) forms describing how SLE affected them. PRFs collected data pertaining to the patient’s diagnosis, disease history, current clinical outcomes, treatment and management history. PSCs focused on similar data collection and included patient reported outcome measures (PROs). Propensity score matching was used to assess differences in HCRU and PRO scores between SLE patients who had a high disease activity and those who had a low disease activity. Low disease activity was defined as a SLEDAI score of ≤4, a steroid dose of <7.5mg/day, and not on immunosuppressant or biologic. High disease activity was a SLEDAI score of >4, or on an immunosuppressant, biologic, or steroid dose of ≥7.5mg/day. Patients were matched on age, sex, and ethnicity.

Results: Data was extracted from 1278 PRFs, and 591 PSCs. Using the estimated propensity score each low disease activity patient (n=44) was matched with a high disease activity patient (n=1187). Using 1:1 matching, with replacement and allowing for ties, matching resulted in 414 high disease activity patients being used as matches for 44 low disease activity patients. Demographic data are reported in Table 1. Patients with a low disease activity were significantly less likely to be currently flaring, lower number of flares in last 12 months, less likely to have been hospitalized in the last 12 months, had fewer consultations in the last 12 months, reported better HRQoL (EQSD), more favourable levels of fatigue (FACT-I), and lower work impairment (WPAI). (Table 2).
### Table 1. Demographic data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Low disease activity</th>
<th>High disease activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>38.1</td>
<td>40.0</td>
</tr>
<tr>
<td>Female</td>
<td>90.7</td>
<td>88.2</td>
</tr>
<tr>
<td>% White/Caucasian</td>
<td>76.7</td>
<td>67.7</td>
</tr>
<tr>
<td>Mean years diagnosed</td>
<td>5.5</td>
<td>5.0</td>
</tr>
</tbody>
</table>

### Table 2. Propensity score matching results

<table>
<thead>
<tr>
<th>Outcome variable</th>
<th>Low activity mean</th>
<th>High activity mean</th>
<th>Coefficient</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flared in the last 12 months</td>
<td>11.63</td>
<td>37.97</td>
<td>-0.26</td>
<td>[-0.38 – -0.14]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Number of flares in last 12 months</td>
<td>0.21</td>
<td>0.70</td>
<td>-0.49</td>
<td>[-0.72 – -0.26]</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hospitalised in last 12 months</td>
<td>4.65</td>
<td>14.98</td>
<td>-0.10</td>
<td>[-0.17 – 0.04]</td>
<td>0.004</td>
</tr>
<tr>
<td>Number of consults in last 12 months</td>
<td>2.84</td>
<td>3.52</td>
<td>-0.68</td>
<td>[-1.19 – -0.17]</td>
<td>0.009</td>
</tr>
<tr>
<td>EQ-SD-5L</td>
<td>0.78</td>
<td>0.88</td>
<td>0.10</td>
<td>[0.03 – 0.17]</td>
<td>0.004</td>
</tr>
<tr>
<td>FACIT Fatigue</td>
<td>34.68</td>
<td>39.86</td>
<td>5.19</td>
<td>[0.80 – 9.57]</td>
<td>0.02</td>
</tr>
<tr>
<td>WPAI overall percentage work impairment</td>
<td>14.42</td>
<td>45.35</td>
<td>-30.93</td>
<td>[-45.32 – -16.54]</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

**Conclusion:** Systemic lupus erythematosus patients with lower levels of disease activity are less burdensome to the healthcare system and experience a significantly better HRQoL and lower levels of productivity impairment. There is a need to establish a universal definition of low disease activity as a treatment goal to significantly better HRQoL and lower levels of productivity impairment. There is a need to establish a universal definition of low disease activity as a treatment goal to significantly better HRQoL and lower levels of productivity impairment.

**Disclosure of Interests:** To establish a universal definition of low disease activity as a treatment goal to significantly better HRQoL and lower levels of productivity impairment. There is a need to establish a universal definition of low disease activity as a treatment goal to significantly better HRQoL and lower levels of productivity impairment.

**AB1171**

**EFFECTS OF SUCCESSIVE SWITCHES OF TWO DIFFERENT BIOSIMILARS OF ETANERCEPT ON OUTCOMES IN INFLAMMATORY RHEUMATIC DISEASES IN DAILY PRACTICE**

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**Background:** A single switch from an originator to a biosimilar product has been shown to be safe and effective in the treatment of rheumatic musculoskeletal diseases (RMDs). The availability of biosimilars has created a financial incentive to encourage switching to cheaper products (“non-medical switch”). This is naturally associated with multiple switches. However, the effect of multiple switching between biosimilars of the same reference product has not been thoroughly investigated to date.

**Objectives:** To assess the effectiveness and safety of systematic non-medical switching from innovator etanercept (ETN) to biosimilar ETN (SB4) and successive to another biosimilar ETN (GP2015) in adult patients with rheumatoid arthritis (RA), psoriatic arthritis (PsA) or axial spondyloarthritis (axSpA) in a real-life setting.

**Methods:** This retrospective study was performed in a tertiary center in adult patients with RA, PsA or axSpA who had been treated with the innovator ETN and who had been switched to two ETN biosimilars for economic reasons thereafter. The first switch from innovator ETN to the first biosimilar ETN occurred between February-May 2017 and the second switch from the first to the second biosimilar ETN occurred between September-December 2017. The end of the observation period was October 2019.

**Results:** A total of 100 patients (54 RA, 27 axSpA, 19 PsA, mean age 54.3±15.1, 46% male) who switched twice to those ETN biosimilars over a follow-up period of 21.1±7.4 months were included. The retention rate after the second ETN biosimilar switch was 89% about 6 months after the second switch. While 2 patients were lost to follow-up and 1 patient died (cardiac arrest), 7 patients discontinued due to inefficacy or AE, including one pancreatic cancer. One patient was withdrawn due to pregnancy. Overall, 14 AEs were reported in 8 patients. Among them, 4 patients switched back to originator etanercept in month 6, 1 patient re-administered GP2015 successfully in month 3 after suffering from mucosal erosions and in 3 patients another mode of action was prescribed. The scores at week 12 of both, disease activity and function, remained unchanged (Table 1).

**AB1172**

**IMPROVEMENT OF DEPRESSION BY JOINT SURGERY ON ESTABLISHED RHEUMATOID ARTHRITIS; RESULTS FROM MULTICENTER PROSPECTIVE COHORT STUDY FOR EVALUATION OF JOINT SURGERY ON PATIENT’S REPORTED OUTCOME**

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**Background:** Total management including reconstructive joint surgery and rehabilitation should be needed for further improvements of physical function for long-standing RA patients. In these days, it is very important to evaluate the effectiveness of joint surgery as well as drug therapy based on patient-reported outcome (PRO).

**Objectives:** The purpose of this study is to explore the relationship among depression, clinical variables and other PROs including physical function and to explore whether joint surgery can improve the depression.

**Methods:** Multicenter prospective observational cohort study was conducted among patients who underwent elective joint surgery for RA from April 2012 to March 2016 (Study registration: UMIN000012649). In this study, we collected data at baseline and at 6 or 12 months after the surgery. These data were as follow: age, sex, disease duration, drug therapies, and disease activity (DAS), TUG, and patient-reported outcome [HAQ-DI, EQ-5D (QOL), pain and BDI (depression)].

**Results:** Correlation between BDI-II and other variables were determined using multiple linear regression analysis.

**Conclusion:** The improvement rate after multiple switches from innovator ETN to two ETN biosimilars was close to 90%. No major changes in disease activity and function were observed in all three indications.

**Disclosure:** Hexal funded this research

**Conclusion:** The retention rate after multiple switches from innovator ETN to two ETN biosimilars was close to 90%. No major changes in disease activity and function were observed in all three indications.

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