Giulia Region: the Database of Regional Potential health Care Beneficiaries, the Hospital Discharge Database, the Ambulatory Care Database, the Pharmaceutical Prescription Database, the Emergency Department Database, the Mortality Database, the Anatomical Pathology Database, the Database of Exemptions from Medical Charges, and the Regional Rare Disease Registry. All the databases were integrated at the individual patient level using a univocal stochastic key.

**Results:** From 2001 to 2017, 228 patients with GCA were registered. The mean identification rate of patients identified with GCA until 2017 in the population >45 years of age was 3.8/100,000 person-years (95%CI: 2.5-5.5). The maximum incidence rate was observed in the age group 70-74 years. The prevalence of GCA in the population >45 years of age as of December 31st, 2017 was 27.2/100,000 (95%CI: 23-51.4).

The mean medical observation was 4.5±5.6 years per patient, totaling 940.8 years of observation. 192 patients had at least one ambulatory specialist visit, resulting in a total of 3182 specialist visits (338 per 100 patient-years). The most frequent medical specialties involved were Rheumatology (N=610, 19.2%), Internal Medicine (N=564, 17.7%), Ophthalmology (N=292, 9.2%), and Orthopedics (N=191, 6%).

108 (52%) patients had at least one hospitalization, resulting in 287 hospitalizations (30 per 100 patient-years). Circulatory Cardiovascular diseases were the most common discharge diagnoses, followed by musculoskeletal conditions. 199 subjects were prescribed medications for a total of 9588 prescriptions (1019 per 100 patient-years). Notably, an immunosuppressive drug, usually methotrexate, was prescribed in more than half of the patients. Cardiovascular medications were prescribed to 154 (74%) patients: bisphosphonates or other anti-osteoporotic drugs to 123 patients (59%). The average annual direct cost of GCA was 2374 Euros per patient-year (61 for outpatient visits, 1661 for hospitalizations, 312 for prescribed medications and 340 for medications directly dispensed by the hospital pharmacies). The overall estimated direct healthcare cost for 940.8 patient-years was 2,234,070 Euros.

**Conclusion:** Novel epidemiological data in GCA are reported after a very long-term observation, and by integrating data from multiple databases with clinical data from a Regional network of specialists (Rheumatology being the major contributor to disease clinical follow-up).

Cost of illness is high in GCA. Both the diseases itself and cardiovascular manifestations, and, possibly, the complications of glucocorticoids, may contribute to the healthcare burden of GCA. Despite a high use of immunosuppressors in our Region, new drugs (2) and novel treatment strategies are required.

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**SAF0582**

**POOR HEALTH-RELATED QUALITY OF LIFE (HRQOL) AND FATIGUE ARE ASSOCIATED WITH A HIGHER WORK PRODUCTIVITY IMPAIRMENT IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) PATIENTS**

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**Background:** Because most patients with SLE are in their productive-age years, the ability to maintain a gainful employment is fundamental for both, the patient and society at large. It is thus quite important to determine the work and non-work factors that are associated with work productivity impairment in these patients.

**Objectives:** To determine factors associated with absenteeism (percentage of the time missed from scheduled work-time over the preceding 7 days, due to SLE), presenteeism (percentage of time from scheduled work-time where productivity was impaired while patient was at work, over the preceding 7 days, due to SLE) and overall work impairment (combination of absenteeism and presenteeism) in patients with SLE.

**Methods:** A total of 133 consecutive (1997 American College of Rheumatology (ACR) criteria) working patients with SLE were assessed between October 2017 and December 2018, using a standardized data collection form. Sociodemographic, disease and work-related variables were collected. Disease activity was ascertained with the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI); disease damage with the Systemic Lupus International Collaborating Clinics/American College of Rheumatology Damage Index (SDI); health-related quality of life was assessed with the LupusQoL and fatigue with the FACIT-Fatigue (Functional Assessment of Chronic Illness Therapy-Fatigue). Work Productivity and Activity Impairment (WPAI) was assessed with the respective questionnaire; absenteeism and presenteeism due to overall health and symptoms during the past 7 days were scored. Linear regression models were performed to determine the factors associated with absenteeism, presenteeism and overall work impairment. Potential factors included were age at diagnosis, gender, socioeconomic status, educational level, SLEDAI, SDI, FACIT- Fatigue and the components of the LupusQoL.

**Results:** The mean age at diagnosis was 32.2 years (11.8); 121 (91.7%) were female. Nearly all patients were Mezicio. Mean years of education was 14.1 (2.6). The mean disease duration was 11.9 (7.5) years. Mean SLEDAI was 2.9 (4.0), and mean SDI was 1 (1.4). The mean percent of time for absenteeism was 5.0 (12.9), it was 28.5 (26.4) for presenteeism, and it was 31.3 (27.2) for overall work impairment. In the multiple regression analysis, factors associated with absenteeism were disease duration (B = 0.34; SE = 0.12; p = 0.007); pain (B = 0.14; SE = 0.06; p = 0.046); intimate relationship (B = 0.07; SE = 0.03; p = 0.046) and emotional health (B = 0.16; SE = 0.06; p = 0.006), with presenteeism were physical health (B = 0.43; SE = 0.14; p = 0.002) and FACIT (B = 0.87; SE = 0.30; p = 0.005) and with overall work impairment were pain (B = 0.40; SE = 0.11; p = 0.001) and FACIT-Fatigue (B = 0.74; SE = 0.28; p = 0.010).

**Conclusion:** A poor HRQoL and higher levels of fatigue were associated with a higher percentage of absenteeism, presenteeism and overall work impairment in SLE patients. Addressing the factors related to HRQoL and Fatigue may have significant impact on work performance among SLE patients.

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**SAF0582**

**THE LATIN AMERICAN RHEUMATOLOGIST SURVEY: LARS STUDY**

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**Background:** Currently, Latin America does not have detailed information of rheumatologists in the region based on: education, working conditions, productivity, distribution of time between work activities and job satisfaction.

**Objectives:** The purpose of this survey was to provide more information on rheumatologists community in Latin America.

**Methods:** A digital survey was created using the Google Forms platform, it was approved and endorsed by the scientific committee of PANLAR and later sent to the different rheumatology associations of the region. The data was analyzed in the statistical programSPSS v.23.

**Results:** 456 surveys of rheumatologists from 23 countries were received. The majority were females (48%). The mean age was 47.18 ± 11.75 (25-78) years, with a majority of mixed race 58%. 63% are married, 23% are single, 8% are divorced, 5% in free union and 2% are widowed. The mean number of children was 2 [0-7]. Birthplaces included Argentina (27%), Brazil (18%). The setting of the professional practice after obtaining the title of specialists was: public hospital (35%), private (28%), private/teaching in a university hospital (12%), public/teaching in a university hospital (14%), and industry (1%). The main place of work was in public/government hospitals by 30% followed by private practice 31%, private hospital 23%, university hospital 15% and nonprofit organizations 1%. The average of weekly working hours was 39.12 ± 27.53. 89% of the sample practices adult rheumatology, 17% pediatric rheumatology, 2% immunology

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and 3% another specialty. 30% had an early arthritis care center at their workplace, 71% had an infusion unit, 17% had ultrasound, 23% had a densitometer, 17% had a resonator and 9% had X-rays, however, most work in collaboration. 30% have training in ultrasound and 9% are in training period, 75% have training in reading densitometry and 2% in training period, 54% have training in resonance reading and 11% in training period. The average satisfaction with practice as a rheumatologist was 5/7, career options/professional growth 4/7, geographic location 5/7, income 4/7, job security 4/7, colleagues and co-workers 5/7. 33% had an annual compensation of <19,000 US dollars. Only 58% have malpractice insurance and 87% have medical insurance. 40% present at least one clinical comorbidity.

Conclusion: The majority of rheumatologists in the region who responded were female and feel satisfied with their clinical practice. This survey shows a low level of income for the region, however, more data should be obtained. This is the first study of its kind in Latin America, being an initiative for similar projects.

Disclosure of Interests: None declared


**SAT0583**

DEVELOPMENT AND TESTING OF A SMARTPHONE APPLICATION TO SELF-MONITOR DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS

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Background: Several mobile applications (apps) exist to monitor symptoms of rheumatoid arthritis (RA), but high-quality apps are lacking.1 We developed an app with patients, following the Medical Research Council guidance for developing and evaluating complex interventions.2 The app facilitates telemonitoring through a weekly MDHAQ/RAPID3 questionnaire and has been integrated with the local electronic medical record.

Objectives: To evaluate the users’ satisfaction, usability and engagement of the application, as a first and preparatory step toward the ultimate goal of telemonitoring and self-initiated care.

Methods: In a first, one month, pilot study 42 RA patients used the app. User’s satisfaction was measured using an 11-point Likert scale. Usability was measured using the three concepts of the Technology Acceptance Model (TAM).3 According to TAM, perceived usefulness (PU), perceived ease of use (PEOU), (behavioral) intention to use (ITU) predict how and if a user will perform the intended behavior.4 The ITU was measured on a 11-point Likert scale. Engagement was measured by the percentage of patients completing all weekly questionnaires. General feedback was collected and implemented.

In a second, one month, pilot study, the improved app was evaluated in 24 RA patients using 5 themes derived from the Mobile App Rating Score6: “engagement”, “functionality”, “aesthetics”, “information” and “subjective quality.” Participants rated the questions on a 5 - point Likert scale. All responses were categorized into three categories: negative (1-2), neutral (3) and positive (4-5). Afterwards, nine participants (three users, three dropout users, and three non-users) agreed to participate in a semi-structured interview to get feedback on the App.

Results: In the first study, the ReumaMeter scored an overall median score of 8.0 (interquartile range (IQR) 7.0-9.0), a mean system usability score of 76 (SD 14.8) and participants intended to keep using the ReumaMeter in the future (median 7.0, IQR 5.0-9.0). Engagement decreased to 61% in week 4. During the second study, the number of positive responses for each category was at least twice as high as the number of negative responses (Figure 1). Feedback that emerged during the interviews matched these responses. In addition, several participants stated that app usage declined due to low disease activity.

Conclusion: The participants’ overall feedback was positive in terms of users’ satisfaction and usability. Engagement dropped, which may be due to lack of internal triggers to measure disease activity when patients are in remission. To assess the overall impact of the app on RA patient care, a randomized controlled trial is planned.

**SAT0584**

POORER OUTCOMES AND HIGHER HEALTHCARE UTILIZATION AFTER TOTAL HIP ARTHROPLASTY IN PATIENTS WITH LUPUS

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Background: Hip osteonecrosis and hip osteoarthritis are common causes of severe hip disease in lupus (1), both treated successfully with a total hip arthroplasty (THA). A recent systematic review of arthroplasty outcomes reported that the risk of overall complications post-THA was higher than in patients with lupus compared to those without lupus (2). However, no analyses were provided for specific outcomes such as infection, revision or associated health care utilization.

Objectives: To assess the risk of specific post-THA outcomes, i.e. infection, transfusion, revision and mortality and associated health care utilization, associated with lupus.

Methods: We used the 1998-2014 U.S. National Inpatient Sample data. Multivariable-adjusted separate Cox proportional hazard regression models assessed the association of lupus with post-operative complications (infection, transfusion, THA revision and mortality) and health care utilization outcomes (total hospital charges, discharge to inpatient facility, length of hospital stay) post-THA, adjusting for demographics, underlying diagnosis, comorbidity, insurance payer, and hospital characteristics, using hazard ratios (HR) and 95% confidence intervals (CI).

Results: Among 4,116,485 primary THA hospitalizations, 22,557 (0.5%) were in lupus patients. Patients with lupus were younger, more likely to be female, African-American or Hispanic and, have higher comorbidity, Medicaid insurance payer, lower income, or living in the South. In multivariable-adjusted analyses, lupus was associated with a significantly higher risk of infection, transfusion, hospital charges above the median.

References


Figure 1. Qualitative results of app-evaluation - 79% of participants responding

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(37,658) and discharge to inpatient facility, with respective HRs of 1.95 (95% CI, 1.28, 2.97), 1.34 (95% CI, 1.25, 1.43), 1.21 (95% CI, 1.01, 1.44) and 1.38 (95% CI, 1.30, 1.47). Lupus was not significantly associated with the risk of revision, mortality or hospital stay above the median (>3 days), the HRs were 1.10 (95% CI, 0.68, 1.78) and 0.95 (95% CI, 0.61, 1.47) and 0.10 (95% CI, 0.99, 1.13).

Conclusion: Lupus was associated with a higher risk of infection and transfusion and higher hospital charges post-primary THA. Insight into modifiable factors associated with these outcomes may improve outcomes in lupus patients undergoing THA.

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SAT0585

COMPARISON OF KNEE OSTEOARTHRITIS TREATMENT PATTERNS BY RHEUMATOLOGISTS VS. OTHER PROVIDERS IN A U.S. ADMINISTRATIVE CLAIMS DATABASE

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Background: Knee osteoarthritis (OA) is a painful, disabling condition with increasing prevalence.

Objectives: To compare characteristics and treatment patterns of patients newly diagnosed with knee OA by rheumatologists (RH) to those diagnosed by general practitioners (GP) and those diagnosed by orthopedic surgeons (OS).

Methods: U.S. administrative claims data from 2011-2018 (IBM Watson Health MarketScan Research Database) was used to perform an observational cohort study. Inclusion criteria included ≥18 years and ≥1 claim with ICD9 lower leg OA diagnosis prior to October 2015, followed by a confirmatory ICD10 knee OA diagnosis or ≥1 claim with an ICD10 knee OA diagnosis. Index date was the earliest claim/diagnosis date preceded by ≥2 years of prior continuous enrollment without these diagnoses. Demographic characteristics and diagnosing physician specialty were assessed on index date, whereas comorbid conditions and treatment patterns were observed during the variable post-index follow-up period. A two-sample t-test or a two-sample proportion test, where appropriate, was used to perform comparisons in GP vs RH and OS vs RH (P<0.05 considered statistically significant).

Results: 488,510 knee OA patients met inclusion criteria of which 76% (371,219) had physician type of interest noted on initial diagnosis claim. RH-diagnosed knee OA accounted for 3.2% (15,517), while GP and OS accounted for 96.8% (473,017). RH-diagnosed patients used HA and CS the most with the shortest initiation times; RH vs GP, P<0.001; RH vs OS, P<0.001; HA use: (RH, 73.0%, 109.6 days; GP, 43.5%, 206.6 days; OS, 75.3%, 198.7 days; RH vs GP, P<0.001; RH vs OS, P<0.001). Furthermore, RH-diagnosed patients received more NSAIDs (RH, 58.1%; GP, 51.4%; OS, 53.9%; RH vs GP, P<0.001; RH vs OS, P<0.001) and opioids with >30-day supply (RH, 27.3%; GP, 23.5%; OS, 19.9%; RH vs GP, P<0.001; RH vs OS, P<0.001) than GP- or OS-diagnosed patients.

Conclusion: This descriptive claims analysis suggests that rheumatologists saw a considerable number of knee OA patients, with different characteristics to other providers, particularly females and those with co-occurring RA. Rheumatologist-diagnosed patients received the least number of TKRs, which may represent a higher CCI patient population not suitable for surgery. However, rheumatologists prescribed pharmaceutical therapies more than general practitioners. Further research into treatment patterns and characteristics of knee OA patients treated by rheumatologists is warranted.


SAT0586

THE INFLUENCE OF THE NEW PHARMACOLOGICAL AND NON-PHARMACOLOGICAL TREATMENTS IN AXIAL SpondyloArthritis ON WORK PARTICIPATION: A SYSTEMATIC REVIEW

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Background: The concept of spondyloarthritis (SpA) comprises several chronic inflammatory joint diseases. SpA patients can be distinguished as patients with predominantly peripheral SpA (pSpA) or with predominantly axial SpA (axSpA) according to their clinical presentation. AxSpA primarily affects the axial skeleton and the sacroiliac joints. Within axSpA patients, a subdivision based on the radiographic changes of the sacroiliac joints can be made: radiographic axSpA, which corresponds to ankylosing spondylitis (AS), and non-radiographic axSpA (nr-axSpA). SpA occurs typically in young and professionally active patients. Since 2000, important improvements have been made in the management of SpA, both on a pharmacological (introduction of biological disease-modifying antirheumatic drugs (bDMARD)) and a non-pharmacological (holistic approach) level. As a result of early diagnosis followed by adequate treatment, the majority of patients achieve a state of clinical remission allowing them to function without significant problems. However, many of these persons still experience problems such as exclusion clauses, additional premiums and even contract refusals when contracting private insurances because mostly risk assessments are solely based on historical data.

Objectives: The aim of this systematic literature review was to investigate whether the work participation in patients with axSpA has significantly improved since the introduction of the bDMARD and the non-pharmacological treatment modalities. This would provide arguments for a more accurate and updated risk assessment of the expected personal and economic incapacity of axSpA patients by private insurance companies.

Methods: A systematic literature review from January 1997 until November 2017 was performed using Pubmed, Embase and Web of Science. Different search terms were used in each database: absenteeism, presenteeism, employment, sick leave, work disability and work participation. All studies assessing one of the search terms were analysed.

Results: In total, 33 studies out of 603 retrieved citations were included. Overall, the results were highly heterogeneous because of the different study designs and different use of definitions regarding work outcomes. Patients with AS were significantly confronted with restrictions on work participation compared to the general population before the availability of bDMARD. In addition, our literature review showed that, since the introduction of the bDMARD and other non-pharmacological treatments, there is no evident improvement in work disability in AS patients. In contrast, a significant improvement of the observed on absenteeism, presenteeism and work productivity. Only 6 studies included patients with nr-axSpA. In most of these studies a positive tendency towards work productivity was detected. In addition, contextual factors such as the type of job, support from employers and colleagues, adjustments in workplace,