OBJECTIVES: The aim of this study was to assess the disease activity as well as indirect costs associated to absenteeism and presenteeism generated by patients with ankylosing spondylitis (AS) in a Polish population. **METHODS:** On-line questionnaire survey was performed to obtain data on disease activity and the quality of life. We used Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) with additional questions about days missed from work (absenteeism) and decrease of on-the-job productivity (presenteeism). BASDAI score was obtained using on-line calculator. Total indirect costs were estimated with the Human Capital Approach using gross domestic product (GDP) per capita equaled €10,774 and gross value added (GVA) per worker equaled €25,838. Costs were expressed in 2014 euro. The Spearman's correlation was used to present the association between the disease activity and the indirect costs. **RESULTS:** Total 66 questionnaires were obtained. Patients reported mostly the problems with general discomfort and morning stiffness represented by 8 points on BASDAI scale, followed by tiredness and neck pain represented by 7 points and other pain represented by 5 points. Almost 30% of patients reported that morning stiffness lasts longer than two hours. The mean BASDAI score was 5.87 (SD: 1.81). Of all patients 62% were working. Mean number of days missed from work was 41 a year (SD: 94) generating indirect cost of €1,197 (SD: €2,776) calculated using GDP per capita and €2,871 (SD: €6,657) calculated using GVA per worker. Mean decrease of on-the-job productivity was 49% (SD: 24%) which was responsible for €5,287 (SD: €2,552) and €12,678 (SD: €6,120) of indirect costs, calculated using GDP per capita and GVA per worker, respectively. Disease activity was significantly correlated with indirect costs generated by absenteeism (0.271) and presenteeism (0.715). **CONCLUSIONS:** AS is a disease that generates huge economic burden. Study revealed that indirect costs are associated with the disease activity.

PMS53

EXPECTED LIFETIME NUMBERS, RISKS, AND BURDEN OF FRACTURES FOR 50-YEAR OLD CHINESE WOMEN

Jiang Y, Ni W

University of Southern California, Los Angeles, CA, USA

OBJECTIVES: To provide an estimation of expected lifetime numbers, risks, and burden of fractures for 50-year old Chinese women. **METHODS:** A discrete event simulation model was developed to simulate the lifetime fractures of 50-year old Chinese women at the average risk of osteoporotic fractures. Main events in the model included hip fracture, vertebral fracture, wrist fracture, humerus fracture, and other fracture. Input fracture risks were calculated with the FRAX® tool and the declining exponential approximation of life expectancy (DEALE) approach. Simulations of 50-year old Chinese women without fracture risks were also carried out to determine the burden of fractures. **RESULTS:** For a 50-year old Chinese woman at the average risk of fractures, there are 0.135 (95% CI: 0.134-0.137) hip fractures, 0.120 (95% CI: 0.119-0.122) vertebral fractures, 0.095 (95% CI: 0.094-0.096) wrist fractures, 0.079 (95% CI: 0.078-0.080) humerus fractures, and 0.407 (95% CI: 0.404-0.410) other fractures expected for the rest of her life. The residual lifetime risks of any fracture, hip fracture, vertebral fracture, wrist fracture, humerus fracture, and other fracture for a 50-year old Chinese woman are 37.36%, 11.77%, 10.47%, 8.61%, 7.30%, and 27.80%, respectively. The fracture-attributable excess quality-adjusted life year (QALY) loss and lifetime costs are estimated at 0.11 QALYs (95% CI: 0.00-0.22 QALYs) and US$714.61 (95% CI: US$709.20-720.02), totaling to a net monetary benefit loss of US$1,104.43 (95% CI: US$904.09-1,304.78). **CONCLUSIONS:** Chinese women at the age of 50 years old are at a high risk of any osteoporotic fracture. The expected economic and quality of life burden attributable to fractures among Chinese women is substantial.

PMS54

EPIDEMIOLOGIC AND ECONOMIC BURDEN ATTRIBUTABLE TO FIRST SPINAL FUSION SURGERY: ANALYSIS FROM AN ADMINISTRATIVE DATABASE

Cozzolino P[1], Cortesi PA[1], Assietti R[2], Cuzzocrea F[3], Prestamburgo D[4], Pluderi M[5], Mantovani LG[1], Cesana G[1]

[1]*University of Milano-Bicocca, Monza, Italy,* [2]*Ospedale Fatebenefratelli e Oftalmico, Milan, Italy,* [3]*Fondazione I.R.C.C.S. Policlinico San Matteo, Pavia, Italy,* [4]*Civile Regional Hospital, Legnano, Italy,* [5]*Fondazione I.R.C.C.S. "Ca' Granda" Ospedale Maggiore Policlinico, Milan, Italy*

OBJECTIVES: No adequate data are available about the epidemiology of spinal fusion surgery and its economic impact. The objective of this analysis was to assess the epidemiologic and economic burden of arthrodesis from a large population based-study. **METHODS:** Lombardy Region includes around 9.9 million individuals. The study population was identified through a data warehouse (DENALI), which matches with a probabilistic linkage demographic, clinical and economic data of different Healthcare Administrative databases. The study population was made by all subjects who, during the period January 2001–December 2010, underwent a spinal fusion surgery identified by one of the following codes ICD9-CM: 81.04 81.05, 81.06, 81.07 and 81.08. The first procedure was used as index event. We estimated the incidence of first spinal fusion surgery, the population and surgery characteristics and the healthcare costs from the National Health Service's perspective. **RESULTS:** During the study period, 17,772 (53.2% female) spinal fusion surgeries were detected. The results showed an increasing patients' average age during the time period considered. The incidence rate of interventions increased from 12.6 to 19.1 per 100,000 person-year in the observational period between 2001 and 2006. During the last 4 years of observation, the incidence was above 20.0 per 100,000 person-year. The average hospital length of stay reported for the index event was 17.1 days in the 2001 and decreased until 11.0 days in the 2004. The average cost of the spinal fusion surgery increased during the observational period, from € 4.381 up to € 9,388. **CONCLUSIONS:** The study showed an increasing incidence of spinal fusion surgery and costs from 2001 to 2010 in the Italian Lombardy Region. These results can be used to better understand the epidemiological and economic burden of these types of interventions, and help to optimize the resources available considering the different surgical procedures available today.

PMS55

PERSISTENCE AND ECON"MIC IMPACT OF ETANERCEPT AND ADALIMUMAB DOSE REDUCTION IN RHEUMATOID ARTHRITIS, PSORIATIC ARTHROPATHY AND ANKYLOSING SPONDYLITIS PATIENTS WITH AT LEAST 1 YEAR IN CLINICAL REMISSION: EXPERIENCE FROM 2 SPANISH TEACHING HOSPITALS DURING 5 YEARS OF FOLLOW-UP

J B[1], Anton R[2], Navarro Ruiz A[2], Castera M[1], Jd R[1], A M[2]

[1]*Hospital de Sagunto, Sagunto, Spain,* [2]*Hospital de Elx, Elx, Spain*

OBJECTIVES: Determine the persistence, clinic and economic impact of Etanercept (ETN) y Adalimumab (ADA) reduced dose in Rheumatoid Arthritis (RA), Psoriatic Arthropathy (PA) and Ankylosing Spondylitis (AS) Patients with at least 1 year in Clinical Remission **METHODS:** Observational, retrospective cohort of patients in off-label program receiving ETN or ADA at reduced dose for at least 6 months (Jan2010 to Dec2014). Inclusion Criteria: patients treated with ETN or ADA at standard dose that achieve and maintain clinical remission (DAS28<2.6 or BASDAI<2) during at least 1 year were selected to reduce their standard dose.We collected age, sex, indication, persistence of ETN or ADA at reduced dose during the study period. In these patients, we simulated the cost of treatment with ETN or ADA as if they had received ETN or ADA at standard dose during their ETN or ADA at reduced dose respective periods. Economic impact was assessed using Enbrel® and Humira® Spanish official prices. **RESULTS:** From Jan2010 to Dec2014, 144 patients (51% women; age 51±9 years; 75 RA, 37 PA, 32 AS) received ETN or ADA at reduced dose for at least 0.5 years. 80 (56%) patients received ETN reduced dose and 64 (44%) patients received ADA reduced dose. Patients with ETN reduced dose presented a persistence of 2,71±1,37years (AR 2,64±1,54, AP 2,56±0,80 y EA 3,04±1,31) and with ADA reduced dose presented a persistence of 2,07±0,96years (AR 2,37±0,92, AP 1,86±0,73y EA 1,74±0,81). Total cost of this low dose strategy throughout the observation period were 1.485.510€. If these patients had been treated with ETN or ADA standard dose, the total cost of therapy would have been 2.971.020€. The implementation of the optimized therapy of ETN or ADA saved 1.485.510€. **CONCLUSIONS:** Reducing the dosage of ETN and ADA in selected patients could make treatment more cost-effective and allow physicians to treat more patients with a fixed budget.

PMS56

HOW PRICING AND REIMBURSEMENT POLICIES AFFECT THE BUDGET IMPACT OF THE TREATMENT OF SYSTEMIC JUVENILE IDIOPATHIC ARTHRITIS IN TURKEY

Tatar M[1], Tuna E[2], Oguzhan G[3], Senturk A[2], Sozeri B[4], Aktay Ayaz N[5], Turgay S[6], Turanli M[6], Makay B[7], Demirkaya E[8], Unsal E[7], Kasapcopur O[9], Ozen S[1]

[1]*Hacettepe University, Ankara, Turkey,* [2]*Polar Health Economics and Policy Consultancy, Ankara, Turkey,* [3]*19 Mayis University, Samsun, Turkey,* [4]*Erciyes University Faculty of Medicine, Kayseri, Turkey,* [5]*Kanuni Sultan Suleyman Training and Research Hospital, Istanbul, Turkey,* [6]*Novartis Pharma, Istanbul, Turkey,* [7]*Dokuz Eylul University Hospital, Izmir, Turkey,* [8]*Gülhane Military Medical Academy, Ankara, Turkey,* [9]*Cerrahpasa Medical Faculty, Istanbul University, Istanbul, Turkey*

OBJECTIVES: The aim of this study was to explore the treatment protocol of Systemic Juvenile Idiopathic Arthritis (SJIA) in Turkey and to assess the impact of pricing and reimbursement policies on the treatment budget of SJIA. **METHODS:** Delphi panel method was used in the study. First, a group of rheumatologists answered the Delphi panel questionnaire, designed to explore the type and frequency of resources used in treatment of SJIA. This was followed by a consensus-building meeting. Budget impact was determined by using the Social Security Institution's related guidelines **RESULTS:** Treatment of SJIA starts with NSAIDs, followed by glucocorticoids and DMARDS. Then approximately 40% of the patients, who has not answered the agents stated above, continue treatment with biologic agents including anti-TNF agents (etanercept, infliksimab, adalimumab), IL-1 (canakinumab) or IL-6 inhibitors (tocilizumab). **CONCLUSIONS:** Biologic agents had the largest share in total treatment costs mainly because of their relatively higher prices. Some biologics are imported from abroad through Turkish Pharma Association as they are not included in positive list by the Social Security Institution (SSI) yet, adding to the high cost dilemma.

PMS57

A PILOT STUDY OF DIRECT COSTS FOR PATIENTS WITH RHEUMATOID ARTHRITIS IN BULGARIA

Marinov I[1], Kamusheva M[2], Mitov K[2], Nikolova I[1], Petrova G[2]

[1]*Medical University, Faculty of Pharmacy-Sofia, Sofia, Bulgaria,* [2]*Medical University - Sofia, Sofia, Bulgaria*

OBJECTIVES: To analyze the changes in pharmacotherapy and their impact on costs for 2 years period for patients with rheumatoid arthritis (RA). **METHODS:** The study is retrospective regarding to the cost for the last 1 year (May 2013 - May 2014) and prospective regarding to the costs for the current therapy (May 2014-May 2015). It is conducted in all clinical centers that periodically examine chronic RA patients. Bottom-up approach was applied using data from the patients' records during their last visit to specialists in the clinical centers. **RESULTS:** A total 11.83% men and 88.17% women with RA were observed. In the age group 51-60 years are 32.26% of all patients and in the age group over 60 years are 24.73%. 31 patients were transferred to biological therapy during their last examination. The average RA pharmacotherapy monthly costs for biological drugs, NSAIDs, disease-modifying drugs, p.o. corticosteroids and parenteral corticosteroids for 1 year and from now on are: 763.60 (SD 296.90) vs. 890.62 (SD 134.58), 5.10 (SD 4.74) vs. 3.54 (SD 3.43), 5.37 (SD 5.53) vs. 3.40 (SD 4.01), 3.30 (SD 1.40) vs. 2.59 (SD 1.15), 0.37 (SD 0.70) vs. 1.21 (SD 2.27), respectively. The costs increased significantly ($p>0.05$) when biological medicines and parenteral corticosteroids started to be prescribed, and decreased for the other therapeutic groups mostly due to price revision or new generics entrance. Combination of disease-modifying rheumatoid agents (DMRA) and biological treatment is prescribed to 35.5% of the 31 patients on biological therapy. **CONCLUSIONS:** The variations in the pharmacotherapy costs are due to wide differences in therapy regimes and significantly high costs for biological therapy. Biological treatment consumes a significant financial resources but it is an inevitable option especially for patients with no effect from disease-modifying drugs.