PMS20 COST-EFFECTIVENESS AND BUDGET IMPACT ANALYSIS OF INTRA-ARTICULAR SODIUM HYALURONATE VERSUS TOTAL ARTHROPLASTY IN THE TREATMENT OF KNEE OSTEOARTHRITIS UNDER THE BRAZILIAN PUBLIC HEALTH CARE SYSTEM PERSPECTIVE

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METHOD: A Markov model was developed to project costs and outcomes associated with knee osteoarthritis progression in 3 years. In the model all patients were eligible to surgery and could either receive SH or undergo an SA. All costs were discounted at 5% per year. A sensitivity analysis was undertaken at 18 Spanish centres. Sociodemographic characteristics and duration of the disease were collected from patient hospital clinical records, and PsA-related resources ($, year 2008 values) for patient notebooks. The following direct resources were collected: inpatient hospitalisations, surgeries, outpatient visits (specialists, general care physician, other health care professionals and alternative medicine), diagnostic procedures, laboratory tests, medical devices, and physiotherapy sessions. Indirect resources consisted of productivity losses (full or part-time), social assistance and out-of-pocket expenses paid directly by patients (formal caregivers, disease-related investments).

RESULTS: Data were available on 287 patients with PsA. The mean age was 52.40 ± 12.53 years, 55.7% were men, and the mean disease duration was 10.85 ± 9.62 years. Of these patients, 24.7% had received biologic therapy during the study period. The average annual cost per patient with PsA complications was $6,671.05 (95% confidence interval [CI], $4,949, 8,584). Direct and indirect costs represented $6,449 (95% CI, $6,167–6,957), 82.1% of total costs and $1,261 (95% CI, $1,181–1,327, 18.8% of total costs), respectively. The most important categories of costs were for medication ($3,234, 97% CI, 3,138–4,241, 56.0% of total costs), productivity losses ($1,121, 95% CI, 6,192–6,192, 17.6% of total costs), visits ($750, 95% CI, $607–943, 11.2% of total costs), and hospital day visits ($610, 95% CI, $289–632, 4.6% of total costs). CONCLUSIONS: Our data show that psoriatic arthritis is associated with a remarkable impact over society in Spain, with a mean annual cost per patient of $6,710. Direct costs represent 12.1% of total costs.

PMS21 COST OF ILLNESS IN AMYOTROPHIC LATERAL SCLEROSIS, MYASTHENIA GRAVIS AND FACIOSCAPULOHUMERAL MUSCULAR DYSTROPHY


OBJECTIVES: To evaluate the budget impact of rituximab (MABTHERA®) after failure of one or more TNF a therapies. METHODS: A cohort of 107 patients with Amyotrophic Lateral Sclerosis (ALS, n = 46), Facioscapulohumeral Muscular Dystrophy (FSHD, n = 20) or Myasthenia Gravis (MG, n = 41) were recruited consecutively in seven centers in Germany. The health-economic data were collected using a “bottom-up” approach consisting of comprehensive questionnaires and patient diaries. Bootstrap 95% confidence intervals were calculated for cost data. Cost-driving factors were identified using multiple regression analysis. RESULTS: Project costs and outcomes associated with knee osteoarthritis progression in 3 years were the expenditures of health insurance and the loss of productivity of patients and their caregivers. Following independent cost-driving factors were identified in ALS: disease severity, assistance in activities of daily living (ADL), dementia and younger age. In FSHD, they were disease severity and RTX failure after 6 months and in MG disease severity and assistance in ADL. CONCLUSIONS: Socioeconomic burden of NMDs in Germany is considerable. ALS was associated with highest costs among studied NMDs. Further studies evaluating both the health-economic and clinical effects of NMDs treatment as well as disease-management programs and benchmarking activities are necessary.

PMS22 THE SOCIAL AND ECONOMIC COSTS OF SPINA BIFIDA IN ITALY. A COST OF ILLNESS STUDY


OBJECTIVES: Costs of Spina Bifida (SB) and of its prevention with folic acid have never been estimated in Italy. We carried out a 12-month observational multicentre, prospective, cost-of-illness study of the to assess direct and indirect costs of SB from the patient, the third party payer (National Health Service- NHS) and the societal perspective. METHODS: A total of 130 patients were enrolled in this study and were eligible to be analyzed according to the study protocol during 2008. The study was conducted in three Italian centres (Milan, Rome and Parma). Inclusion criteria were: walking with motor impairment, walking with simple aid, walking with complex aid, non walking. Exclusion criteria: patients with dorsal lesion up to D5/D6, patients with spina bifida aperta with severe comorbidity RESULTS: Mean age was 13 years (min.0 – max. 29 years). The mean total cost for SB, including direct and indirect items, was €11,351 per patient per year (58% direct cost and 42% on indirect cost). The cost of medical devices for SB represents the most significant item, accounting for 48% of the total expenses. Differences in costs were analyzed by period of observation (€13,882 (for an age between 0-4 years), per SB severity (non walking, €14,323) and per lesion (€12,103 for SB aperta). The average Cost-of-Illness per year in Italy was evaluated in 60 million of euro. CONCLUSIONS: The estimate of the socio-economic burden of SP may encourage health care interventions to prevent the occurrence of the disease

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and promote services and/or treatments. This study can also help to assess the cost-benefit ratio of folate acid supplementation and the cost-benefit ratio of recommended food supplements.

**PMS25**

MEDICAL RESOURCE UTILIZATION AND WORKDAYS LOST IN PATIENTS WITH FIBROMYALGIA

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OBJECTIVES: Fibromyalgia or fibromyalgia syndrome (FMS) is characterized by chronic widespread muscular pain and generalized tender points, often accompanied by a number of associated symptoms such as fatigue, sleep disturbance, psychological distress. The objective of this study was to assess the medical resource utilization (MRU) and workdays lost (WDL) of FMS patients according to the level of pain and fatigue. METHODS: The Adelphi Fibromyalgia Disease Specific Programme is a cross-sectional survey among 2159 FMS patients in France, Germany, Italy, Spain and the UK. The survey included one questionnaire filled in by the patient and one by the physician. Patient health states were defined on the basis of items 15 and 16 (100 mm VAS scales) of FRQ (Fibromyalgia Impact Questionnaire). RESULTS: From the pool of 1881 patients, most patients (80.5%) or severe pain (95.5%) also suffered from fatigue. A total of 1341 patients had significant fatigue (cut off 50 mm), associated with mild (<40 mm; N = 154), moderate (40–70 mm; N = 187) or severe (70+ mm; N = 600) pain. The annual number of physician visits per patient varied between 5.71 (Italy) and 7.47 (respectively), co-medication costs per 4 weeks (£3.66, £5.48 and £8.11), as well as the annual hospitalisation rate (2.6%, 5.6% and 7.5%) and length of stay per patient per year (4.2, 1.69 and 1.95 days, respectively) increased following the level of pain. Similarly, the percentage of patients on sick leave and its duration were larger in patients with fatigue and moderate (11.9% and 40 weeks) or severe (20.0% and 44 weeks) pain, compared to patients with mild pain (8.4% and 3 weeks). CONCLUSIONS: In patients with FMS who present with significant fatigue, medical resource utilization and workdays lost are driven by the level of pain.

**PMS26**

HEALTH CARE RESOURCES AND COSTS OF FIBROMYALGIA: A REVIEW OF THE EVIDENCE

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OBJECTIVES: This review was performed to document and analyse the evolution of costs in Fibromyalgia (FM). METHODS: A systematic review (SR) was performed using Mesh terms (Medline 1980–2009). Articles on FM were selected if they presented direct or indirect costs. Two researchers extracted costs which were divided by 6 of them. Five studies presented direct or indirect costs. Two researchers extracted costs which were divided by a number of associated symptoms such as fatigue, sleep disturbance, psychological distress. The objective of this study was to assess the medical resource utilization (MRU) and workdays lost (WDL) of FMS patients according to the level of pain and fatigue. METHODS: The Adelphi Fibromyalgia Disease Specific Programme is a cross-sectional survey among 2159 FMS patients in France, Germany, Italy, Spain and the UK. The survey included one questionnaire filled in by the patient and one by the physician. Patient health states were defined on the basis of items 15 and 16 (100 mm VAS scales) of FRQ (Fibromyalgia Impact Questionnaire). RESULTS: From the pool of 1881 patients, most patients (80.5%) or severe pain (95.5%) also suffered from fatigue. A total of 1341 patients had significant fatigue (cut off 50 mm), associated with mild (<40 mm; N = 154), moderate (40–70 mm; N = 187) or severe (70+ mm; N = 600) pain. The annual number of physician visits per patient varied between 5.71 (Italy) and 7.47 (respectively), co-medication costs per 4 weeks (£3.66, £5.48 and £8.11), as well as the annual hospitalisation rate (2.6%, 5.6% and 7.5%) and length of stay per patient per year (4.2, 1.69 and 1.95 days, respectively) increased following the level of pain. Similarly, the percentage of patients on sick leave and its duration were larger in patients with fatigue and moderate (11.9% and 40 weeks) or severe (20.0% and 44 weeks) pain, compared to patients with mild pain (8.4% and 3 weeks). CONCLUSIONS: In patients with FMS who present with significant fatigue, medical resource utilization and workdays lost are driven by the level of pain.

**PMS27**

DIRECT AND INDIRECT COSTS OF RHEUMATOID ARTHRITIS MANAGEMENT IN POLAND

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OBJECTIVES: The purpose of this analysis was to assess the direct and indirect costs of rheumatoid arthritis (RA) treatment in Poland in the years 2003–2007. METHODS: In order to estimate the direct medical costs of RA, including the costs of medical consultation, hospitalization, rehabilitation, drugs and diagnostic tests, data for the years 2004–2007 of the National Health Fund were used. Indirect costs like costs of pensions for incapacity at work, for the cost of rehabilitation and social costs of rents for the years 2003–2007 were obtained from the Department of Social Security. RESULTS: Direct medical costs of RA in Poland ranged from 115.7 million pln in 2004 to 126.5 million pln in 2007. Costs of hospital treatment amounted up to 70% of the direct costs in 2007. Indirect costs amounted to almost 60 million pln in 2003 and rose to over 62 million pln in 2007. The largest share of these costs constitute the costs of pensions for incapacity for work, which share in indirect costs was 83% in 2007. Costs of rehabilitation were increasing in subsequent years (from 4 million in 2003 to 9.7 million pln in 2007). The total cost of treatment of RA showed an upward trend, reaching a value almost 177 million pln in 2004 and increased to almost 188 million pln in 2007. The total cost was dominated by the direct costs with share equal to 65% in 2004 to 66.8% in 2007 of the total costs. CONCLUSIONS: From year to year RA causes a growing economic burden on the health care and social insurance in Poland. The cost structure is dominated by the direct costs, which in turn largely consist of the costs of hospital treatment. Indirect costs are affected largely by rents due to the inability to work.

**PMS28**

COSTS AVOIDED BY DIAGNOSING FIBROMYALGIA

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OBJECTIVES: To estimate the costs saving in outpatient medical resource use associated with diagnosing fibromyalgia during the four years after diagnosis in five European countries (UK, France, Italy, Spain, Germany). METHODS: The UK resource use data were extracted from medical records of 2,260 patients diagnosed with FM between 1998 and 2003 in the General Practice Research Database (GPRD). For the others countries, a questionnaire was created based on the UK data and local experts, GP and rheumatologists, were asked to compare their own clinical practice to UK prescriptions in terms of tests, drugs, general practitioners and specialists visits. RESULTS: In the five countries studied, whereas costs are increasing during the years till diagnosis (+40–72% in 4 years, £394 per patient the year of diagnosis from the health care perspective in Italy to €2108 in France), after diagnosis a decrease is observed (5–10%). Compared to a diagnosed FM patient, a non-diagnosed patient represents an incremental cost that ranges between 97€ (Italy) and €421 (Spain) per patient and per year. CONCLUSIONS: Without the diagnosis of FM reduces costs gradually independent of the country studied.

**PMS29**

HEALTH ECONOMIC COMPARISON OF OUTPATIENT MANAGEMENT OF FIBROMYALGIA BEFORE AND AFTER DIAGNOSIS IN FIVE EUROPEAN COUNTRIES

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OBJECTIVES: To compare the resource use and related costs associated with the management of fibromyalgia (FM) in five European countries (UK, France, Italy, Spain, Germany). METHODS: The UK resource use data were extracted from medical records of 2,260 patients diagnosed with FM between 1998 and 2003 in the General Practice Research Database (GPRD). For the others countries, a questionnaire was created based on the UK data and local experts, GP and rheumatologists, were asked to compare their own clinical practice to UK prescriptions in terms of tests, drugs, general practitioners and specialists visits, over a period of 4 years before diagnosis to 4 years after the diagnosis. Information on paramedical and alternative care was also collected for France, Italy, Spain, Germany. Inpatient care and productivity loss were not included in GPRD and thus also not in the questionnaire. The public payer and societal perspective were used. RESULTS: Resource use and average costs related to lab tests per person-year from the public health care perspective were highest in Spain (101€) and the UK, the year of diagnosis and decrease afterwards (69€ in Spain). Drug costs are higher in Germany (€243) mainly due to the higher unit costs. Costs related to GP visits increase till diagnosis in Germany (€892) and the UK. The costs for referrals to specialists are the highest before diagnosis in the UK (€131), France, and Italy. Overall, the highest mean annual total cost per patient from the societal perspective was found in France (€454), the lowest in Italy (€454). The highest patient contribution was seen in France (54%), the lowest in Italy (16%). CONCLUSIONS: Although moderate differences between countries were found in the management of FM, once a formal FM diagnosis was made, the resource use and costs decreased independent of the countries studied.

**PMS30**

COST ANALYSIS OF BALLOON KYPHOPLASTY VERSUS NON SURGICAL MANAGEMENT FOR OSTEOPOROTIC VERTEBRAL FRACTURES IN GERMANY

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OBJECTIVES: Balloon kyphoplasty (BK) is a minimally invasive procedure for the treatment of painful vertebral compression fractures (VCFs). Superior clinical outcomes data versus non surgical management (NSM) has recently been demonstrated in a large RCT comparing BKP and VCF. Furthermore, preliminary results of a large