OBJECTIVES: A phase III clinical trial demonstrated the advantage of denosumab over placebo in delaying the first on-study and subsequent skeletal-related events (SREs) in patients with prostate cancer (PC). Recently, generic ZA became available. The purpose of this study was to examine the cost-effectiveness of denosumab vs. brand generic ZA in the prevention of SREs in Kazakhstani patients with PC. METHODS: An excellent base case model was conducted for 4-week model cycles to analyse the cost-effectiveness of the treatments from the perspective of Ministry of Health with a 10-year time horizon for PC cohort. Direct costs in 2014 terrace included costs of drug, adverse event and SRE (tumor, fracture, surgery to bone, radiation to bone, spinal cord compression) treatment. A discount rate of 3% per year was applied. Effectiveness was appraised based on the number of SREs. The health states were defined according to SRE occurrence, SRE history and death. The model assumed that a minimum of 1 SRE per patient is expected in each cycle. Transition probabilities were derived from the relevant phase III trials. Results: were present in the incremental total cost per SRE avoided. One-way sensitivity analysis was conducted to examine the determinants of the results. Over 10-year period, denosumab incurred 103091 tenge higher costs than brand ZA, 67713 tenge higher costs than generic ZA, 0.58 fewer SREs per PC patient; The estimated incremental total direct costs per SRE avoided with the use of denosumab was 17743 tenge (instead of brand ZA) and 116470 tenge (instead of generic ZA). Results were robust to one-way sensitivity analyses. CONCLUSIONS: With assumption that brand and generic ZAs are equally effective, denosumab seems to be superior alternative for brand ZA (insignificant difference in costs), and costly alternative for generic ZA from a perspective of Ministry of Health of Republic of Kazakhstan.

PMS18
COST UTILIZATION ANALYSIS OF INFliximAB IN THE TREATMENT OF SEVERE RHEUMATOID ARTHRITIS IN THAILAND
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OBJECTIVES: To evaluate the cost-utility of Infliximab plus methotrexate (MTX) compared with MTX alone, in severe rheumatoid arthritis (RA) patients who were intolerant or inadequately responded to conventional DMARDs including NSAIDs, biologic DMARDs (bDMARDs) and steroids. The cost-utility analysis was performed using the National Institute of Health and Clinical Excellence (NICE) in the UK as a reference. Cost data was extracted from the National Health Insurance Research Database (NHIRD) in Taiwan, a claims-based database covering over 99% of the population. We estimated the annual incremental health resource utilization of RA versus non-RA patients. This study provides a key piece of information to estimate the burden of the RA illness in Taiwan.

MUSCULAR-SKELETAL DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PMS20
ASSESSMENT OF MEDICATION ADHERENCE IN RHEUMATOID ARTHRITIS PATIENTS IN A TERTIARY CARE CENTER
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OBJECTIVES: To assess the medication adherence rates and quality of life in Rheumatoid Arthritis (RA) patients. METHODS: RA patients admitted in the general medicine ward of a tertiary care hospital in Karnataka, India, during August to December 2013 were enrolled in the study. Demographic data of these patients, with their medical record data and by interviews. Patients (age>18 years) with RA, irrespective of sex, fulfilling the 2010 ACR/EULAR Classification Criteria, were enrolled in the study. Patient’s assessment of adherence was performed using a self-report Medication Adherence Report Scale (MARS) and physical function using the Kannada version of the Stanford Improved Health Assessment Questionnaire (KA-HAQ) was collected. RESULTS: The mean age of 72 RA patients was 46.9 ± 12.8 years and disease durations was 5.53 years. 86% of the patients were females. Among patients, 15 (21.43%) received methotrexate alone and 28 (40%) received a combination therapy of methotrexate and hydroxychloroquine. The mean KA-HAQ score of RA patients measured by KA-HAQ was 2.70 ± 1.01. Scores on MARS ranged from 26 to 41 with a mean score of 38.65 ± 3.5. The Cronbach’s alpha for the MARS was 0.6 and KA-HAQ was 0.92. Using the mean cut-point 44% of 68 patients who completed the MARS were adherent and remaining 64% were not adherent. CONCLUSIONS: In our study we found that 64% of the patients were not adherent to the medications which lead to decreased quality of life for RA patients. Adherence to the medications is the optimal management for RA.

PMS21
A KINEATIC COMPARISON OF OVERGROUND AND TREADMILL WALKING IN PATELLAFEMORAL PAIN PATIENTS
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OBJECTIVES: The study revealed significantly kinematic difference between overground and treadmill walking. METHODS: A total of 30 healthy men, 30 healthy female aged 19-23 participated in the study. Inclusion criteria in the study were participants no back and lower extremity pain, no traumatic injury and foot deformities. Participants walked at their preferred velocity overground. The treadmill velocity was adjusted average velocity obtained in overground walking. Walking in two conditions was captured by high speed camera and analyzed by motion analyses software. RESULTS: In comparison between treadmill and overground walking was significantly different. Maximum hip flexion angle (<0.017), maximum, maximum knee flexion (0.033) maximum ankle dorsiflexion (P<0.008) and maximum ankle plantarflexion (P<0.004) were significantly different in the two conditions. In the male, maximum hip flexion (P<0.002), maximum knee flexion (P<0.019), maximum ankle dorsiflexion (P<0.018) were significantly different in the two conditions. For female, maximum hip flexion (P<0.005), maximum ankle dorsiflexion (P<0.045), maximum plan terflexion (P<0.021) were significantly different in the two conditions. Overground walking male of knee extension was associated with body mass (r=-0.05, p<0.05), hip flexion was associated with body mass (r=-0.05, p<0.05). Overground walking female of knee flexion was associated with body mass during (r=0.469, p<0.05), ankle dorsiflexion was associated with height (r=0.443, p<0.05), Treadmill walking in female, hip extension (r=-0.542, p<0.05), knee flexion (r=0.392, p<0.05), ankle dorsiflexion (r=0.469, p<0.05) was associated with body mass. Hip extension was associated with height (r=-0.542, p<0.05). CONCLUSIONS: The study revealed significantly kinematic difference between overground and treadmill walking.

PMS19
ESTIMATING HEALTH CARE RESOURCE UTILIZATION OF PATIENTS WITH RHEUMATOID ARTHRITIS IN TAIWAN USING A NATIONAL CLAIMS DATABASE
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OBJECTIVES: Rheumatoid arthritis (RA) is a chronic autoimmune disease characterized by inflammation and destruction of the joints often resulting in a significant impact on quality of life. There are limited studies estimating the resource utilization of RA patients using real-world data in Taiwan. This study aimed to estimate the direct health care utilization in Taiwanese RA patients. METHODS: We performed a retrospective database analysis using 2011 data from the National Health Insurance Research Database (NHIRD) in Taiwan, a claims-based database covering over 99% of the population. We estimated the annual incremental health care utilization of RA patients compared with a control cohort matched 1:4 on demographics and clinical covariates. Health care resources were evaluated for the following categories: surgeries, medications, wound use, medical materials and devices (MMDs), and lab tests. The percentage of patients partaking in a health care utilization category was calculated as the number of patients with the specific claim divided by the total number of patients in the cohort. RESULTS: The total health care utilization cost was 61,269 New Taiwan Dollar. The mean age was 59.4 years (SD=15.5). The average history of RA was 5.6 years (SD=2.7). When comparing RA to non-RA patients, drug utilization had some of the largest differences. RA patients had used traditional disease-modifying anti-rheumatic drugs (TDMARDs), biologic DMARDs (bDMARDs), NSAIDs, and steroids at a rate of 70.8%, 13.2%, 64.8% and 52.8% respectively. For surgeries, lab tests, and MMDs, the highest incremental differences were cataract surgeries, immunology exams, and orthopedic replacements. Health care utilization of RA was substantial in Taiwan. The NHIRD provides a comprehensive source for estimating the incremental resource utilization of RA versus non-RA patients. This study provides a key piece of information to estimate the burden of the RA illness in Taiwan.

PMS22
RELATIONSHIP BETWEEN HIP MUSCLE STRENGTH AND KINEMATICS OF THE KNEE JOINT
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OBJECTIVES: Patellofemoral pain syndrome is a common problem experienced by young adults and adolescents. Ascending stairs is one of the most painful activities of daily living in person with patellofemoral pain syndrome. However, its etiology has remained vague and is controversial. Nevertheless previous studies were reported from either the viewpoint of kinematics of the knee joint or hip muscle weakness, and in unclear whether hip and knee muscle weakness affect on knee medial displacement during physical activities. of the this study was to determine relationship between hip muscle strength and kinematics of the knee joint in female. METHODS: A total of 30 healthy female (aged between 19-23) participated in this study. Patient’s assessment of adherence was performed using a self-report Medication Adherence Report Scale (MARS) and physical function using the Kannada version of the Stanford Improved Health Assessment Questionnaire (KA-HAQ) was collected. The mean age of 72 RA patients was 46.9 ± 12.8 years and disease durations was 5.53 years. 86% of the patients were females. Among patients, 15 (21.43%) received methotrexate alone and 28 (40%) received a combination therapy of methotrexate and hydroxychloroquine. The mean KA-HAQ score of RA patients measured by KA-HAQ was 2.70 ± 1.01. Scores on MARS ranged from 26 to 41 with a mean score of 38.65 ± 3.5. The Cronbach’s alpha for the MARS was 0.6 and KA-HAQ was 0.92. Using the mean cut-point 44% of 68 patients who completed the MARS were adherent and remaining 64% were not adherent. CONCLUSIONS: In our study we found that 64% of the patients were not adherent to the medications which lead to decreased quality of life for RA patients. Adherence to the medications is the optimal management for RA.
To observe the clinical efficacy and economic value of Qin Xi-tong(QXT) during the long-term treatment for patients of RA. METHODS: Cauila Sinominen(JCS) has been recognized as an effective medicine for arthritis. The First Hospital of Xi’an developed water extract from CS to a novel kind of drug naming QXT. RA was diagnosed in 200 patients referred to Department of Rheumatology. All the patients were classified according to their different areas. They were respectively evaluated by the score of BASDAS2 and the response rates of ACR20/70. We also followed up the patients for the usage rate, treatment compliance and satisfaction of QXT. We count the cost patients and the income of self-made Chinese traditional medicine in our hospital and compared the economic value of QXT. RESULTS: We found that: 1) There were 140 out of 200 who were from 14 provinces of China with RA using QXT.2. Percentage of the satisfaction and compliance with the treatment of QXT+MTX group were higher than MTX group, satisfaction rates (94.2% vs. 67.1%, P<0.01), compliance rates (91.4% vs. 62.9%, X2=16.2, P<0.01), respectively.

3) statistical result of year 2 showed: Compared with pretherapy, QXT+MTX group scored significantly lower than VAS at higher level of ACR20 and ACR70. Q/OST was safe and well tolerated in this trial, difference of adverse events was not statistically significant. 5) The statistics showed the mean cost for QXT only occupied 9.2%(785/8568) of patient’s expenses for the treatment of RA. CONCLUSIONS: It is the first time to study the economic value of QXT in a randomized clinical trial for 2 years. It is possible to contribute to the high treatment rate of China’s Spondylitis (CD), the top four factors were safety, efficacy, patients’ affordability by following drug cost. The difference in pattern for UC and CD is likely attributed to the more severe nature of these diseases. Other factors such as injection frequency and mode of administration ranked lower for all indicators. CONCLUSIONS: Patients interview results show that ~60% of bio-naive patients were rejected biologic treatment due to cost. This confirms that affordability considerations do limit the potential benefit that biologic treatments can provide. Interestingly, ~30% of bio-experienced patients have stopped biologic treatment as it was perceived that treatment course was completed. This is attributed to how physicians perceive biologics to be used. While affordability limits biologic penetration in auto-immune diseases in China, there are other considerations e.g. the severity of diseases and physician perception of treatment paradigm.

CONCLUSIONS: The dimensions excluding Ability of act all had the higher sensitivity on AIMS2-2F scale, which means overall QOL was much more sensitive than SF-6D. Therefore, EQ-5D is more suitable for the evaluation of the QOL of patients with osteoarthritis. But the Psychological health dimension of SF-6D showed strong sensitivity, which prompts us Psychological problems are the important factors influencing the Osteoarthritis patients life quality.

PMS26

EXPLORING THE WILLINGNESS-TO-PAY FOR BIOLGIC TREATMENTS IN IMMUNOLOGY DISEASES IN CHINA

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OBJECTIVES: Biologic treatments have improved outcome for immunology diseases in the last decades globally. However, biologic penetration in China is lower compared to other countries. We aimed to count the willingness-to-pay (WTP) for biologics in immunology diseases in China by understanding decisions driving physicians’ prescribing behavior and patients’ payment.

METHODS: Primary market research was done by interviewing 160 physicians with biologic experience, and 200 patients consisting of patients with rheumatoid arthritis, ankylosing spondylitis, and psoriasis, the top four factors driving patients’ recommendation are drug cost, patients’ ability-to-pay, safety of treatment and efficacy of treatment. For rheumatoid arthritis, the four top factors in descending order of importance were: cost, safety of treatment, efficacy of treatment and physician’s recommendation. For ankylosing spondylitis, the four top factors were: cost, efficacy of treatment, physician’s recommendation and safety of treatment. For psoriasis, the four top factors driving physicians’ recommendation are drug cost, patients’ ability-to-pay, safety of treatment and efficacy of treatment. For Ulcerative Colitis (UC) and Crohn’s Disease (CD), the top four factors were: efficacy, safety, patients’ affordability by following drug cost. The difference in pattern for UC and CD is likely attributed to the more severe nature of these diseases. Other factors such as injection frequency and mode of administration ranked lower for all indicators.

CONCLUSIONS: Patients interview results show that ~60% of bio-naive patients were rejected biologic treatment due to cost. This confirms that affordability considerations do limit the potential benefit that biologic treatments can provide. Interestingly, ~30% of bio-experienced patients have stopped biologic treatment as it was perceived that treatment course was completed. This is attributed to how physicians perceive biologics to be used. While affordability limits biologic penetration in auto-immune diseases in China, there are other considerations e.g. the severity of diseases and physician perception of treatment paradigm.

PMS27

EXPLORING THE WILLINGNESS-TO-PAY FOR INNOVATIVE TREATMENTS IN IMMUNOLOGY AND ONCOLOGY IN CHINA

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OBJECTIVES: Use of innovative medicines in oncology and immunology is relatively lower in China compared to developed countries. This study aims to explore the willingness-to-pay (WTP) for these two therapeutic areas by understanding decisions driven by physicians (WTP) for biologics in immunology diseases in China by understanding decisions driving physicians’ prescribing behavior and patients’ payment.

METHODS: Primary market research was done by interviewing 160 physicians with biologic experience, and 200 patients consisting of patients with rheumatoid arthritis, ankylosing spondylitis, and psoriasis, the top four factors driving physicians’ recommendation are drug cost, patients’ ability-to-pay, safety of treatment and efficacy of treatment. For rheumatoid arthritis, the four top factors in descending order of importance were: cost, safety of treatment, efficacy of treatment and physician’s recommendation. For ankylosing spondylitis, the four top factors were: cost, efficacy of treatment, physician’s recommendation and safety of treatment. For psoriasis, the four top factors driving physicians’ recommendation are drug cost, patients’ ability-to-pay, safety of treatment and efficacy of treatment. For Ulcerative Colitis (UC) and Crohn’s Disease (CD), the top four factors were: efficacy, safety, patients’ affordability by following drug cost. The difference in pattern for UC and CD is likely attributed to the more severe nature of these diseases. Other factors such as injection frequency and mode of administration ranked lower for all indicators.

CONCLUSIONS: Patients interview results show that ~60% of bio-naive patients were rejected biologic treatment due to cost. This confirms that affordability considerations do limit the potential benefit that biologic treatments can provide. Interestingly, ~30% of bio-experienced patients have stopped biologic treatment as it was perceived that treatment course was completed. This is attributed to how physicians perceive biologics to be used. While affordability limits biologic penetration in auto-immune diseases in China, there are other considerations e.g. the severity of diseases and physician perception of treatment paradigm.

MUSCULAR-SKELETAL DISORDERS – Health Care Use & Policy Studies

PMS28

STAKEHOLDER EVIDENCE REQUIREMENTS AND PRICE EXPECTATIONS FOR BIOSIMILARS IN THREE ASIAN MARKETS

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OBJECTIVES: Between 2011 and 2015, 32 biosimilars valued at more than $55 billion are expected to lose patent protection across the world (Datamonitor 2011). The biosimilars patent cliff has presented a huge opportunity for biosimilar manufacturers. In the context of this growing biosimilars market, this research aimed to investigate the regulatory environments and the evidence (clinical, economic

PMS29

SUITABILITY RESEARCH ON THE EVALUATION OF EQ-5D AND SF-6D SCALE FOR THE QUALITY OF LIFE IN PATIENTS WITH OSTEARTHRITIS

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OBJECTIVES: As the universal scales, EQ-5D and SF-6D have been widely used in the evaluation of the quality of life(QOL) of patients with many kinds of disease including Osteoarthritis. But as to which scale is much more suitable for the Osteoarthritis patients evaluation, there is scarcely any research so far. The current study aimed to compare the correlation of the EQ-5D, SF-6D with AIMS2-2F, the specificity of scale QOL evaluation, then to determine the suitability of two scale for the QOL of patients with Osteoarthritis.

METHODS: From April to December in 2012, 100 patients with Osteoarthritis were enrolled with consent at Orthopedic Clinic in the First Affiliated Hospital of Chinese Medical University. They filled out the EQ-5D, SF-6D, and AIMS2-2F scales successively by themselves. SPSS19.0 analysis software was used to deal with the collected data, parts of the lack of data were excluded automatically. Cronbach alpha coefficient evaluated the internal consistency of scales. Pearson, Spearman and Kendall’s t-b correlation coefficient analysis were used to test the reliability between EQ-5D, SF-6D and AIMS2-2F, the specificity of QOL, we use multiple stepwise regression analysis, significant test of bilateral boundary value point. RESULTS: 77 sets of valid survey scale were analyst EQ-5D, SF-6D, and AIMS2-2F scales all had good internal consistency showing good reliability, the Cronbach coefficient are all higher than 0.6. The score of various dimensions of EQ-5D scale, Anxiety, Pain, Daily life and Self care showed the higher sensitivity on AIMS2-2F scale. Followed by Ability to act. As to SF-6D scale, Psychological health, Vitality, and Social function showed higher sensitivity on AIMS2-2F scale. And showed by Role constraints, Pain and Physical function.