AB1234 OUTCOME OF EDUCATION WITH REGARD TO INFLUENZA AND PNEUMOCCOCAL VACCINATIONS IN INFLAMMATORY ARTHRITIS PATIENTS ON DMARDS

Michela Frendo, Ntoriana Tziatzou, Daniel Debattista, Thomas Degiorgio. *Mater Dei Hospital, Rheumatology, Tal-Qroqq, Malta*

Background: Inflammatory arthritis (IA) patients on immunosuppressant disease modifying drugs (DMARDs) are at an increased risk of infections. Influenza and pneumococcal vaccines are recommended as part of the BSR and EULAR guidelines for the clinical management of these patients. Prior to commencing DMARDS, the patients are reviewed by the nurse specialist, who discusses the benefits versus risks of DMARDS, necessary monitoring and recommends the pneumococcal and influenza vaccines.
Objectives: The aim of this audit is to assess the uptake of the pneumococcal and the influenza vaccine in IA patients prior to starting biologic or synthetic DMARDs as advised by the nurse specialist during the education visit with the patient.
Methods: The study sample included 139 patients with various types of IA, including rheumatoid arthritis, psoriatic arthritis and ankylosing spondylitis, who attended the rheumatology nurse education sessions prior to starting DMARDs in a secondary care hospital in 2017. Verbal advice supported by a vaccination leaflet developed in 2016 was given by the rheumatology nurse. Data was compiled by means of a telephone questionnaire.
Results: One hundred and twenty six (90.6%) participants recalled being given advice on vaccinations. Seventy eight (62%) of these patients received the influenza vaccine. The rest (28%) did not receive the vaccine for various reasons including fear of side effects, fear of developing a worse infection, belief of inefficacy and fear of injections.
A significant improvement (p=0.0084) in the influenza vaccination rates was noted since a previous audit in 2016, where following verbal education by a rheumatologist, only 41.4% received the influenza vaccine.
A significant improvement in uptake was also noted in the pneumococcal vaccination rates since only 17.2% of the patients received the pneumococcal vaccine in 2016 compared to 62.7% in 2017 (p<0.0001). Various reasons including fear of side effects, belief of inefficacy, fear of injections and financial implications were given by patients who did not receive the pneumococcal vaccine.
Overall, 62% of the patients received both vaccines after education given by the rheumatology specialist nurse and receiving the vaccination leaflet.
Conclusion: This audit showed a significant progress in the uptake of the influenza and pneumococcal vaccinations in patients with inflammatory arthritis following verbal advice by the specialist rheumatology nurse and the introduction of a vaccinations' educational leaflet.
Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.872

AB1235 COST-SAVING FOR HEALTH SERVICES DETECTING THE MISDIAGNOSIS OF RHEUMATOID ARTHRITIS USING IMAGING IN THE PROCESS OF DIAGNOSIS: EVIDENCE FROM REAL-WORLD

Omaira Valencia[1], Pedro Santos-Moreno[2], Edwin Castillo[3], Nelson Alvis[4]. *[1]Biomab Center for Rheumatoid Arthritis, Research, Bogota, Colombia*; *[2]Biomab Center for Rheumatoid Arthritis, Scientific direction, Bogotá, Colombia*; *[3]Biomab Center for Rheumatoid Arthritis, Rheumatology, Bogotá D.C., Colombia*; *[4]Alzack Foundation, Health Economics, Bogota, Colombia*

Background: The diagnosis of rheumatoid arthritis (RA) using EULAR criteria through conventional assessments remains controversial, especially for those with seronegative results, many of patients without other diagnostic aids as imaging, could be wrong diagnosed followed by expensive treatments (1-3).
Objectives: To evidence through real-world data how the use of imaging within a screening process of diagnosis of RA can saving future costs for unnecessary treatments in patients with misdiagnosis of RA.
Methods: A retrospective real-world data (RWD) analysis was developed from medical records of patients with presumptive RA diagnosis reportedly seronegative for both rheumatoid factor (RF) and anti-cyclic citrullinated peptide antibodies (ACPA), and who met ACR/EULAR 2010 classification criteria, in the period between July 2016 and June of 2017; patients were assessed by imagenology (X-ray, ultrasound (US) or magnetic resonance imaging (MRI) according to the screening diagnosis protocol in a center of integral attention for rheumatoid arthritis (CIA-RA) in order to confirm diagnosis of RA, or classify patients in an alternative proper diagnosis. Direct costs of diagnosis was estimated in two scenarios: the conventional diagnosis and the screening process of diagnosis in the CIA-RA. To quantify the cost-savings for this process we also estimated the cost of treatment for the first year after diagnosis for patients with RA and patients with the most common diagnosis found after screening.
Results: 440 patients were referred to our center with presumptive diagnosis of RA in the period, who were assessed for ACPA and RF obtaining a seronegative result for both. After screening process just 115 patients were classified as RA, 99 as SRA and 16 as Nonspecific RA; 12.2% were identified by X-Ray, 67.7% were identified by US and 20% by MRI. The most frequently misdiagnosis found was Osteoarthritis in the 72.5% of patients assessed by the screening process. In that way, the conventional diagnosis cost $54.4, while the CIA-RA screening diagnosis cost was $247.1 per patient, however there was found a potential cost-saving from using the CIA-RA screening process of diagnosis of $1,440,494 per year due to the pharmacological cost saving of 325 patients who requires treatment for OA and not for RA.
Conclusion: According with our findings the use of imaging within a diagnostic screening process combining conventional criteria is a useful tool to discard false positive diagnosis of RA. Despite the fact that at first sight, the cost of screening process of diagnosis is more expensive than conventional diagnosis, after one year of treatment it can be assumed potential cost-savings using the proposed approach.

REFERENCES

[1] Hu H, Luan L, Yang K, Li S-C. Burden of rheumatoid arthritis from a societal perspective: A prevalence-based study on cost of illness for patients with rheumatoid arthritis in China. Int J Rheum Dis [Internet]. 2017 Feb 17 [cited 2017 Mar 1]; Available from: http://www.ncbi.nlm.nih.gov/pubmed/28211251
[2] Cross M, Smith E, Hoy D, Carmona L, Wolfe F, Vos T, et al. The global burden of rheumatoid arthritis: estimates from the Global Burden of Disease 2010 study. Ann Rheum Dis. 2014;73(6).
[3] Østergaard M, Pedersen SJ, Døhn UM. Imaging in rheumatoid arthritis - status and recent advances for magnetic resonance imaging, ultrasonography, computed tomography and conventional radiography. Best Pract Res Clin Rheumatol [Internet]. 2008;22(6):1019–44. Available from: http://dx.doi.org/10.1016/j.berh.2008.09.014

Disclosure of Interests: Omaira Valencia: None declared, Pedro Santos-Moreno Grant/research support from: Dr Santos has received research grants from Janssen, Abbvie and UCB, Speakers bureau: Dr Santos has received speaker fees from Sanofi, Lilly, Bristol, Pfizer, Abbvie, Janssen and UCB, Edwin Castillo: None declared, Nelson Alvis : None declared
DOI: 10.1136/annrheumdis-2019-eular.7623

AB1236 IMPROVING CLINICAL OUTCOME AND REDUCING COST FOR PATIENTS WITH RHEUMATIC DISEASES VIA ONLINE INTERACTION WITH RHEUMATOLOGISTS BASED ON SMART SYSTEM OF DISEASE MANAGEMENT (SSDM) MOBILE TOOL

Yong Wang[1], LI Luo2, Qin LI[3], Fen Wang[4], Anbin Huang[5], Hong Zhang[3], Peng Ji[2], Yanping Zhao[6], Lingxun Shen[5], Zhengang Wang[7], Feng Wei[8], Hui Xiao[9], Yuhua Jia[9], Fei Xiao[9], Fengchun Zhang[10], SSDM Collaboration Group, China. *[1]The first Hospital Affiliated to AMU (Southernwest Hospital), Chongqing, China*; *[2]The first affiliated hospital of xinjiang medical university, Urumchi, China*; *[3]The First People's Hospital of Yunnan Province, Kunming, China*; *[4]First Affiliated Hospital of Medical University Of Anhui, Hefei, China*; *[5]Union Hospital Affiliated Tongji Medical College of Huazhong University of Science and Technology, Wuhan, China*; *[6]First Affiliated Hospital of Harbin Medical University, Harbin, China*; *[7]TongRen hospital, Capital University, Beijing, China*; *[8]Jiangmen Central Hospital Affiliated Jiangmen Hospital of Sun Yat-Sen University, Jiangmen, China*; *[9]Shanghai Gothic Internet Technology Co., Ltd., Shanghai, China*; *[10]Peking Union Medical College hospital, Beijing, China*

Background: Without efficient primary medical care and follow-up system in China, patients can choose any hospitals or doctors they like in seeking care. As a result, most patients rush to large hospitals. Once patients left those clinics, no follow up data is available. Surveys show that over 40% of the rheumatic patients don't need to go to a hospital, only need advice from rheumatologists. SSDM is a series of applications for chronic diseases management, which strengthens the interaction between doctors and patients based on valuable clinical data. Our previous study showed that patients can master the SSDM and perform self-management after training, including evaluations on disease activity and health assessment questionnaire (HAQ), as well as medication and lab test data entries.

Objectives: To evaluate the feasibility and benefit of improving medical economics and disease activity outcomes in rheumatic patients through online consultation based on SSDM by rheumatologist.
Methods: The rheumatologists implemented the education and training programs on patients in using SSDM and assist the patients in downloading the SSDM mobile application. The SSDM includes doctors' and patients' interfaces. The patients' terminal includes serial self-assessments (DAS28, SLEDAI, HAQ), medication management, adverse events management and lab records. After data entry, data synchronizes to the mobile of the authorized doctor. On the basis of these data, the rheumatologists can accept the request from their follow-up patients and practice consultation through SSDM in the form of text or voice.
Results: From Feb 2015 to Jan 2019, 679 rheumatologists supplied 7,405 patients (RA 35%, SLE 23%, AS 9.5%, gout 8.8%, Sjogren syndrome 3.8%, OA 3.4% and other 16.5%) with 10,527 consultations. The consulting fee ranged from RMB 0 to 500 yuan (USD: RMB =1: 6.81) each in average of 78.10 ± 45.12 yuan, which match the registration fee in hospital. The total fee for consultations was 822,169 yuan RMB. 37% patients receiving online consultation lived in different cities from the rheumatologists. If the patients seek medical care in hospital, in addition to the registration fees and medical expenses, the mean cost of transportation, accommodation, and lost wages was 577.48 ± 505.21 (200 - 2,800) yuan. The total of cost for all patients would have been 6,079,135.00 yuan RMB, which is 7.39 times more compared with the cost of online. Among 2,611 RA and 1,671 SLE patients with repeat self-evaluations who were followed up for over 90 days, the treat-to-target rate improved from 28% to 45% (DAS28<=3.2) and from 41% to 70% (SLEDAI<=4), respectively. Survey shows that satisfaction rate with the consultations is 100%.
Conclusion: Through online disease management and consultations using SSDM, Chinese patients with rheumatic diseases enjoy good quality of care at lower cost with high satisfaction. Armed with data science, SSDM may supply the rest world with an option for reshaping the healthcare system.
Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.6565

AB1237 COST OF ILLNESS AND QUALITY OF LIFE IN ANKYLOSING SPONDYLITIS PATIENTS TREATED WITH ADALIMUMAB IN CHINA

Ya Xie, Liudan Tu, LV Qing, Yutong Jiang, Zetao Liao, Shuangyan Cao, Qiujing Wei, Jieruo Gu. *the Third Affiliated Hospital of Sun Yat-sen University, Rheumatology, Guangzhou, China*

Background: Ankylosing spondylitis (AS) is a chronic inflammatory disease which may lead to limited physical function, impaired quality of life and increased economic burden for society. There were many studies about the superior effects of biologic agents on symptom release, disease activity and functional remission in AS patients. However, studies on the economic burden and health-related quality of life of AS patients in China were spark.
Objectives: To access the cost of illness, work limitation and quality of life in active ankylosing spondylitis (AS) patients using adalimumab in China.
Methods: A prospective study was performed in 91 patients with active AS in China. Adult patients (aged $\geq$ 18 years) fulfilled the 1984 New York modified criteria of AS with the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) $\geq$ 4 and C reactive protein (CRP) 6 were enrolled from rheumatology center from Jan 2017 to Aug 2017. All participants received adalimumab (40mg per 2 weeks) therapy and completed questionnaires about disease characteristics, quality of life, direct and indirect costs. Only patients with pay-work completed the Work Limitation Questionnaire (WLQ) to accesses the impact of chronic health conditions on job performance and productivity. Quality of life was measured using the Ankylosing Spondylitis Quality of life (ASQoL) and EuroQol-5 Dimensions (EQ-5D).
Results: A total of 91 patients with mean age of 30 years old (87.8% males) and mean disease duration of 10 years received adalimumab treatment for 24 weeks. 78.02% of patients have a paid job with average work productivity loss of 28% measured by WLQ. The annual estimated costs of each patient were $35238.8 while the direct cost accounted for 90.2% and the cost of medication accounted for 78.6%. There were significant differences in change of ASQoL (change, 3.89 [95%CI, 3.06 to 4.71]; P<0.0001) and EQ-5D (change, -0.19 [95%CI, -0.24 to -0.31]; P<0.0001) scores from baseline and 24 weeks, with more improvements after therapy compared with baseline. Cost of illness was estimated as $21927.38 per quality-adjusted life year and $15728.16 per BASDAI unit, respectively.
Conclusion: The cost of AS patients treated with adalimumab therapy was high in China and symptoms and QoL improved significantly after therapy.
Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2019-eular.5781

AB1238 PATIENTS' PERCEPTIONS OF SUPPORT PROGRAMS FOR THE TREATMENT OF CHRONIC INFLAMMATORY DISEASES

Nelly Ziade, Dima Dgheim, Farid Stephan, Rita Slim, Khalil Honein. *Saint-Joseph University, Beirut, Lebanon*

Background: Adherence to therapy in chronic diseases such as inflammatory rheumatic diseases (CIRD), inflammatory bowel diseases (IBD) and psoriasis (Pso) is a major condition to achieve positive outcomes. Patient support programs (PSPs) were developed to improve the quality of care and enhance adherence to therapy.
Objectives: To evaluate the perception of patients treated for inflammatory chronic diseases towards PSPs.
Methods: All available PSPs were identified at the national level, and their services were classified into categories: financial, logistic, educational, and emotional support. Consecutive adult patients with CIRD, IBD and Pso, enrolled in a PSP for more than 3 months, were interviewed by a trained medical student. Demographic data, disease and treatment characteristics were collected at the physician's clinic. Global satisfaction was estimated using a 5-points Likert scale, adherence to treatment was measured by the Compliance Questionnaire for Rheumatology (CQR), PSPs services were classified according to their importance to the patient using a 5-points Likert scale. An open questionnaire identified the patients' perceptions qualitatively. Predictive factors of satisfaction were identified.
Results: Forty-seven patients were included in the study, 53% were males, with a mean age of 49.8 years (SD 15.2) (Patients' characteristics in Table 1). The majority declared that the PSP was very useful (95.7%) and were highly satisfied with the programs (97.9%). Higher attributes were assigned, by decreasing order, to: financial (copay program, providing of free samples), logistic (hotline, refrigerating box), educational (educational material) and emotional support. Nursing services and telephone reminders were rated as least important (Figure 1). Most open comments gave higher appreciation to financial support (54%), followed by education (38%) and logistics (8%). High appreciation of education was associated with lower age, type of treatment and PSP. Shorter treatment duration was associated with appreciation of educational material, emotional support and telephone reminders.
Conclusion: Patients were highly satisfied with PSP programs, and ranked the financial support as the most important followed by logistics, whereas education, nursing services and telephone reminders were found less important. Lower age and shorter treatment duration were associated with higher appreciation of education and support.

REFERENCES

[1] Rubin D, Mittal M, Davis M, et al. Impact of a Patient Support Program on Patient Adherence to Adalimumab and Direct Medical Costs in Crohn's Disease, Ulcerative Colitis, Rheumatoid Arthritis, Psoriasis, Psoriatic Arthritis, and Ankylosing Spondylitis. J Manag Care Spec Pharm. 2017;23 (8):859-67.
[2] Gangi A, Clewell J, Shillington A. The impact of patient support programs on adherence, clinical, humanistic, and economic patient outcomes: a targeted systematic review. Patient Preference and Adherence 2016:10 711–725.
[3] Van den Bosch F, Ostor A, Wassenberg S, et al. Impact of Participation in the Adalimumab (Humira) Patient Support Program on Rheumatoid Arthritis Treatment Course: Results from the PASSION Study. Rheumatol Ther (2017) 4:85–96.

Table 1. Patients characteristics:

N	47 patients
Disease, N (some patients have multiple diseases)	18
- Inflammatory Bowel Disease	17
- Axial Spondyloarthritis	17
- Peripheral Spondyloarthritis	13
- Rheumatoid Arthritis	13
- Psoriasis	
Age, mean (SD)	49.8 (15.2)