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THU0575 THE EFFECT OF PREOPERATIVE PHYSICAL ACTIVITY ON KNEE AND HIP ARTHROPLASTY OUTCOME IN PATIENTS WITH OSTEOARTHRITIS

E. Vandelli¹, C. Duflos², S. Akouete², F. Guillemin³, A. C. Rat⁴, Y. M. Pers⁵ on behalf of the KHOALA Cohort Study. ¹University Hospital of Montpellier, Clinical Immunology and Osteoarticular Diseases Therapeutic Unit, Montpellier, France; ²University Hospital of Montpellier, Clinical Research and Epidemiology Unit, Montpellier, France; ³CHRU Nancy, Inserm, Université de Lorraine, CIC 1433 Clinical Epidemiology, Vandoeuvre-les-Nancy, France; ⁴Université de Caen Normandie, Université de Lorraine, CHU Caen, Caen, France; ⁵IRMB, University of Montpellier, Inserm U1183, Montpellier, France

Background: Joint replacement is a therapeutic option increasingly widespread among osteoarthritis (OA) patients. Besides improving operating techniques and postoperative management, it is important to pursue the best preoperative conditions in order to achieve the desired result. As physical activity (PA) potentially acts on the preoperative predictors, knowing the effect of leisure and occupational PA should be of great interest to obtain a positive outcome.

Objectives: To investigate the influence of preoperative PA on the clinical outcomes of total hip arthroplasty (THA) and total knee arthroplasty (TKA) in OA patients.

Methods: Data from the Knee and Hip OsteoArthritis Long-term Assessment (KHOALA) cohort (1), a multi-regional French cohort of 878 patients with symptomatic hip and/or knee OA, were analysed. We included in our study patients undergoing THA or TKA during a 7-year-follow-up period. The level of total and leisure-time preoperative PA was measured with the Modifiable Activity Questionnaire (MAQ). Outcomes were measured one year after surgery. For the primary endpoint, quality of life (QoL) was measured with the OsteoArthritis Knee and Hip Quality Of Life questionnaire (OAKHQOL). For secondary endpoints, QoL was measured with Short Form 36 (SF-36), pain with the Visual Analogue Scale (VAS), function with the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) and with walking distance. The population characteristics were described using frequency or mean and standard deviation (SD), depending on the distribution of the variable. Association between exposures and outcomes was calculated with a multivariate linear analysis with backward selection, adjusting for confounders (age, sex, body mass index, site of joint replacement, polyarticular OA, OA duration, comorbidities, radiological grade of OA, inclusion centre, rehabilitation after surgery, previous joint issues, instruction level). A p-value <0.05 was set as statistically significant.

Results: 150 patients were included. 58.7% underwent TKA and 41.3% THA. The mean age at the time of surgery was 66.6 years (± 7.7 SD). The majority of patients were female (75%), overweight (mean BMI 29.63 kg/m², ± 5.5 SD) and had polyarticular OA (60%). 53% of patients met the World Health Organization recommendations on PA before surgery. For the primary endpoint, a high preoperative total PA was associated with a better relationship with the partner ($\beta = 0.55$, $p = 0.02$) one year after surgery. As for secondary endpoints, a high two-year preoperative total PA was associated with an impaired SF-36 Mental Component Summary score ($\beta = -0.87$, $p = 0.02$), but a longer walking distance ($\beta = 442.81$, $p < 0.01$). Leisure-time PA also showed a positive impact on walking distance ($\beta = 76.25$, $p = 0.02$), but a negative one on social functioning in SF-36 ($\beta = -0.47$, $p = 0.01$). No statistically significant association between preoperative PA and pain nor WOMAC was found.

Conclusion: In this cohort study, the preoperative level of PA demonstrated a heterogeneous effect on the various aspects of QoL one year after THA and TKA in OA patients. Preoperative PA was directly associated with gain of function, measured as walking distance, after surgery. Considering the increasing prevalence of OA and the crucial role of PA on health, further studies on this relevant topic are needed.

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Education

THU0576 EMPOWERING PEOPLE WITH RHEUMATIC AND MUSCULOSKELETAL DISEASES TO BE AT THE HEART OF MEDICAL EDUCATION: A EULAR SCHOOL OF RHEUMATOLOGY INITIATIVE

S. Grealis¹, A. Alunno², M. Bernardy³, V. Romero Pazos⁴, T. P. M. Vliet Vlieland⁵, C. Haines⁶, D. Wiek³. ¹Arthritis Ireland, Dublin, Ireland; ²Rheumatology Unit, Perugia, Italy; ³Deutsche Rheuma Liga, Bonn, Germany; ⁴LIRE, Madrid, Spain; ⁵LUMC, Leiden, Netherlands; ⁶King's College, London, United Kingdom

Background: The earliest examples of active patient involvement in teaching are interventions in which the patient was teaching students how to conduct physical examinations. Over the last two decades, educators have used the expertise of patients to enrich the education of undergraduate physicians and health professionals (HP) in several ways, mainly asking people to outline their own stories. Early patient involvement also aims to sensitise students to pursue a holistic approach and ultimately to build a trustful physician-patient relationship. Most studies report that high patient involvement brings benefits to both learners and patients. Learners report higher satisfaction. Patients report raised self-esteem and empowerment, new insights into their problems and deeper understanding of the physician-patient relationship.

Objectives: To develop a novel educational framework within the EULAR School of Rheumatology for people with rheumatic and musculoskeletal diseases (RMDs) who are willing to be involved in teaching undergraduate physicians and HPs (Patient Education Partners, PEPs).

Methods: A multidisciplinary working group including people with RMDs, 1 Rheumatologist, 1 HP in rheumatology and 1 educationalist was established. The project was developed through a questionnaire launched in May 2019, to patient associations across Europe, 2 face to face meetings and online teleconferences.

Results: Patient associations from 23 European countries responded to the questionnaire and in 10 of them (43%), there have been programmes running for up to 31 years which involve patients with RMDs in undergraduate education. To some extent, 485 people with RMDs have been trained over the years across Europe. However, there are different country and disease-specific types of training and a lack of standardised training for patients involved in these programs. The patient associations from countries that do not have the programme would be interested in taking part, if such initiative were to be developed. The topics that people would like to cover when teaching medical and other health professions students are: disease specific factors, doctor-patient communication, personal history and physical examination, the importance of education and work to the individual, the importance of disease self-management. A subsequent mapping of European countries was undertaken to identify best practice examples of existing programmes: Germany, Denmark, Belgium, Ireland and the UK were included. From these foundations, we developed a new on-line Course, to equip patients with a basic medical knowledge about their disease and effective communication strategies.

Conclusion: We established a European framework to train people with RMDs who were willing to be involved in teaching undergraduate physicians and HPs. This will allow them to gain confidence and effective communication skills to share their lived experience and become PEPs. The content of the course is currently being developed and all EULAR pillars are involved. Participation in this training course, particularly by people from countries that do not yet engage patients in undergraduate education, may facilitate the implementation of such initiatives, and ultimately improve the training of physicians and HPs across Europe.

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THU0577 INFLUENCE OF THE ROUTE OF ADMINISTRATION ON SAFETY AND ADHERENCE PRACTICES OF RHEUMATOID PATIENTS TREATED BY JAK-INHIBITORS AND OTHER DMARDS. AN ETHNOGRAPHIC STUDY FOR AN APP-BASED EDUCATION TOOL.

G. Montagu¹, S. Gleizes², T. Pham³, J. Sellam⁴, C. Beauvais⁵. ¹Unknowns, Strategic and Innovation Consulting, Sociology and Research Department, Paris, France; ²Unknowns, Strategic and Innovation Consulting, Sociology and Research Department, Paris, France; ³Hôpital Sainte-Marguerite, AP-HM, Aix-Marseille Université, Rheumatology Department, Marseille, France; ⁴Hôpital Saint-Antoine, AP-HP, Sorbonne University, Rheumatology Department, Paris, France; ⁵Hôpital Saint-Antoine, AP-HP, Sorbonne University, Rheumatology Department, Paris, France

Background: JAKi (JAK inhibitors) seem simpler of use than injected biologic agents due to their oral administration route. Safety and adherence issues remain and may need to modify patients' counseling.

Objectives: To understand the influence of the DMARDs' route of administration on these issues for both patients and physicians in order to update the Hiboot® education tool (ref1).

Methods: Hiboot® is a free smartphone application developed by the French Society of Rheumatology to enhance the patient's safety, adherence to treatment, self-assessment and to give periodic counseling messages (ref1). This ethnographic study involved i) 18 patients with rheumatoid arthritis (RA) recruited by 3 rheumatologists considering diversity of clinical and sociological profiles. The panel included i) 14 women and 4 men, median age 56 years-old, median disease duration 10 years. Four patients were treated by methotrexate (MTX) monotherapy, 5 with MTX-bDMARDs or MTX-JAKi combo, 1 by bDMARDs monotherapy, 8 by JAKi monotherapy; ii) 9 rheumatologists with hospital or mixed hospital-private practice from 6 cities in France.

The interviews were conducted by 2 anthropologists using in-depth semi-directive and biographical methods (enough to reach saturation), registered and transcribed. The semi-directive interviews dealt with: i) the patient history with RA and its treatments, ii) the daily medication management, iii) the evolution of patients' perceptions and knowledge over time.

Results: For patients, adherence and safety behaviors were guided by their representations of 3 risks: disease-related, treatment-related, physician-related. When the disease-related risk was perceived greater than the treatment-related risk, patients tended to report better adherence. Beliefs on efficacy and safety depended more on the patient's experience with RA over time (severity, activity, control) than on the route of administration (oral vs sub-cutaneous). However, patients treated with JAKi needed to update their lay knowledge and skills regarding their daily constraints and medication management.

For rheumatologists, JAKi were considered a promising therapeutic option, but rarely prescribed so far due to a lack of personal experience. Owing to their recent introduction on the market (~2 years in France), JAKi were prescribed to patients with longer disease duration and after several DMARDs lines. The rheumatologists' conservative attitude towards JAKi depended on risk perceptions similar to the patients': disease-related, treatment-related and patient-related i.e. their perception of patients' abilities to manage their care (presumed skills, autonomy...).

This study confirms the importance of patients' beliefs of the balance between medication necessity and risks regarding safety and adherence (ref2) which are shared with the rheumatologists. This study unexpectedly emphasized a doctor-related risk in patients as well as a patient-related risk in rheumatologists. One limitation is a bias in the recruitment of patients with long-standing RA.

Conclusion: Rheumatologist-patient collaboration needs a shared vision of medication risks, independently of the route of administration. However new skills are needed for patients treated with JAKi. This qualitative study will serve to modify the Hiboot application to include the JAKi issues such as the reminders or daily life management.

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THU0578

ONLINE CME IMPROVES CLINICAL DECISION-MAKING IN THE MANAGEMENT OF PATIENTS WITH PSORIATIC DISEASE

E. Bell¹, A. B. Gottlieb², P. J. Mease³, G. Littman¹, M. Via⁴. ¹Medscape LLC, New York, United States of America; ²Dept of Dermatology, Icahn School of Medicine at Mount Sinai NY, New York, United States of America; ³Swedish Medical Center/Providence St. Joseph Health and University of Washington, Seattle, United States of America; ⁴Chichester Associates Inc, Phoenix, United States of America

Background: Psoriatic arthritis can be a challenging condition for rheumatologists to manage.

Objectives: We assessed whether an online, virtual patient simulation (VPS) activity could improve the performance of rheumatologists in ordering appropriate tests, tailoring treatment options and selecting an evidence-based treatment for patients with PsA.

Methods: This CME-certified VPS consisted of 2 patient cases presented in a platform that allowed physicians to assess the patients and complete open-field entries, choosing from an extensive database of diagnostic and treatment options reflecting the scope and depth of actual practice. After each decision, learners received clinical guidance (CG) based on current evidence and faculty recommendations. Clinical decisions were compared pre- and post-CG using a 2-tailed paired t-test to determine P values ($P < .05$ is significant). Rationales for clinical decisions were collected in real time. Data were collected between 28 February 2019 and 16 May 2019 and reported here as % relative improvement, P value.

Results: Case 1 (n=48 rheumatologists):

45 yr old female patient diagnosed with PSO 5 years ago. Current treatment with MTX 15mg & folic acid once weekly plus ibuprofen. Experiencing nausea and increasing skin lesions. Recently showing signs and symptoms of PsA.

Statistically significant changes were observed for:

- Ordering appropriate tests to evaluate the patient (chemistry panel, 11%, $P=.04$; full blood count [FBC], 10%, $P=.04$; IFN γ release assay for TB, 22%, $P=.01$; liver function tests [LFTs], 13%, $P=.02$; rheumatology consult, 19%, $P=.01$ and viral hepatitis panel, 52%, $P<.001$)

- Tailoring treatment options based on individual patient characteristics and available evidence (discontinue MTX [46%] and folic acid [140%], both $P<.001$; order patient education, 24%, $P=.006$; guidance on lifestyle changes, 20%, $P=.01$; preventative vaccines prior to anti-TNF therapy, 38%, $P=.002$ and a followup appointment at an appropriate timescale, 26%, $P=.006$)

- Selecting an evidence-based therapy for a patient newly diagnosed with PsA while on MTX therapy (adalimumab, 138%, $P<.001$)

Case 2 (n=116 rheumatologists):

55 yr old male who has had PSO for 9 years. Developed joint symptoms 1 year ago. Diagnosed with PsA & treated with MTX/folic acid. Elevated liver enzymes noted after 9 months; treatment switched to adalimumab. Skin lesions much improved but ongoing issues with pain and stiffness in hands. Current medications are citalopram, adalimumab, simvastatin and triamcinolone for skin flares.

Statistically significant changes were observed for:

- Ordering appropriate tests to evaluate the patient (C-reactive protein [9%], erythrocyte sedimentation rate [9%] and FBC [17%], all $P<.01$; Beck depression inventory [51%], BSAPGA [21%], chemistry panel [15%], Global QoL [13%], Leeds enthesitis index [25%], LFTs [32%], PGA [21%], RAPID3 [63%], total BSA [137%] and X-ray of hands and feet [27%], all $P<.001$)

- Tailoring treatment options based on individual patient characteristics and available evidence (discontinue biologic DMARD [67%], order patient education [22%], physical therapy [31%] and occupational therapy 27%), preventative vaccines [35%], psychosocial counselling [31%] and a follow-up appointment at an appropriate timescale [32%], all $P<.001$)

- Selecting an evidence-based therapy for a patient with inadequate control of PsA on adalimumab (secukinumab, 152%, $P<.001$; ixekizumab, 167%, $P=.01$)

Conclusion: These results demonstrate the success of immersive, online VPS education that engages physicians in a practical learning experience in improving their performance in managing patients with PsA.

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