2010. Prospective records were kept by the SpR’s - of all inpatient referrals which they dealt with. At the end of the 15 month period, this was analysed with regard to demographic data, specialties generating the referral, final rheumatologic diagnosis, response time and the outcome. They were supported by 7.6 WTE consultants who run a separate rheumatology on call rota and a weekly rapid access clinic. Results: A total of 135 patients were seen by the registrars with the continued support from the consultants. The top four reasons for the referral were Crystal arthropathy (19.2% 26/135), Rheumatoid arthritis flare (15.5% 21/135), problems related to osteoarthritis (9.6% 13/135) and infections (septic arthritis and discitis, 8.14% 11/135). A separate category named as others (24.4% 33/135) was included. This was a heterogeneous group ranging from methotrexate pneumonitis to inflammatory myopathy. New rheumatologic diagnoses was made in 58.52 % (79/135) of patients; 41.48 % (66/135) represented complications or exacerbation of existing rheumatology patients. The Emergency Medical Unit (EMU) generated maximum referrals (85.9% 116/135) followed by surgical (7.4% 10/135) and emergency departments (2.2% 3/135). Most of them required advice on management (62.2% 64/135) and a proportion of these required interventions like joint aspirations and injections (17.0% 23/135). The care of 32.5 % (44/135) of these referrals was transferred to a rheumatology ward under a rheumatologist consultant. 75.55 % (102/135) of the referrals were seen within the same day.

Conclusions: This study highlights the range of conditions that were dealt with by rheumatology SpR’s in over a period of 15 months. All three SpR’s found it extremely valuable for their training and experience.

Disclosure statement: The authors have declared no conflicts of interest.

4.5. E-LEARNING IS WIDELY USED BY MUSCULOSKELETAL PROFESSIONALS (ESPECIALLY ACADEMICS AND TRAINEES) AND ARTHRITIS RESEARCH UK PROVIDES SOME OF THE BEST RESOURCES: RESULTS FROM A NATIONAL ELECTRONIC SURVEY

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Background: E-learning is learning facilitated by electronic means (i.e. computers). This has become a major established method of learning, especially in medicine, but there is no robust evidence for how often and in what ways E-learning is used by musculoskeletal healthcare professionals for their own or their patients’ education.

Methods: A questionnaire about use and rating (0-5) of online learning resources was designed by a working group including representatives from Arthritis Research UK and the British Society for Rheumatology. This was made available on surveymonkey.com and the link disseminated by email to all members of these organisations, plus the British Health professionals in Rheumatology, Primary Care Rheumatology, British Orthopaedic Association and trainees, including the Rheumatologists at Training and British Orthopaedic Trainees Association. Where feasible, reminders were sent electronically, either to the same mailing list, or through cascaded emails through regional administrative leads.

Results: 192 had responded by 8th November 2010 (full data and subgroup analysis will be presented at the meeting); 52% female and 48% male. Consultant rheumatologists (30%), rheumatology trainees (24%) and academic rheumatologists (11%) were the largest groups of responders. The modal age group of responders was under 40 years (24%) and academic rheumatologists (11%) were the largest groups of responders. The modal age group of responders was under 40 years (24%) and academic rheumatologists (11%) were the largest groups of responders.

Conclusions: A total of 135 patients were seen by the registrars with the continued support from the consultants. The top four reasons for the referral were Crystal arthropathy (19.2% 26/135), Rheumatoid arthritis flare (15.5% 21/135), problems related to osteoarthritis (9.6% 13/135) and infections (septic arthritis and discitis, 8.14% 11/135). A separate category named as others (24.4% 33/135) was included. This was a heterogeneous group ranging from methotrexate pneumonitis to inflammatory myopathy. New rheumatologic diagnoses was made in 58.52 % (79/135) of patients; 41.48 % (66/135) represented complications or exacerbation of existing rheumatology patients. The Emergency Medical Unit (EMU) generated maximum referrals (85.9% 116/135) followed by surgical (7.4% 10/135) and emergency departments (2.2% 3/135). Most of them required advice on management (62.2% 64/135) and a proportion of these required interventions like joint aspirations and injections (17.0% 23/135). The care of 32.5 % (44/135) of these referrals was transferred to a rheumatology ward under a rheumatologist consultant. 75.55 % (102/135) of the referrals were seen within the same day.

Conclusions: This study highlights the range of conditions that were dealt with by rheumatology SpR’s in over a period of 15 months. All three SpR’s found it extremely valuable for their training and experience.

Disclosure statement: The authors have declared no conflicts of interest.

46. LOW BACK PAIN AND OCCUPATIONAL RISK FACTORS AMONG COAL MINERS IN CHINA

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Background: Although low back pain (LBP) is one of the common reasons for absenteeism in the coal mining industry, there is little epidemiological data about LBP in workers in the developing countries. The purpose of the present study is to determine the prevalence of LBP in coal miners in China and to examine associations between work-related factors and LBP.

Methods: A cross-sectional survey was carried out to examine 1573 coal miners in Northern China. Past history of LBP was assessed using Nordic Musculoskeletal Questionnaire (NMQ). Data on occupational exposure were collected using a self-administered questionnaire derived from Dutch Musculoskeletal Questionnaire (DMQ). Odds ratios and 95% confidence intervals (CIs) were calculated to examine the associations between the occurrence of LBP and personal and occupational factors using logistic regression.

Results: Among the coal miners, the reported prevalence of LBP was 64.9% for one-year prevalence and increased with increasing age. The prevalence in underground workers was higher than in the surface workers (67.2% vs 59.4%, p < 0.001). The study showed that occurrence of LBP was associated with following physical factors: high repetitiveness of task (OR 1.3; 95% CI 1.0-1.6), high physical demand (OR 1.4; 95% CI 1.1-1.8), extreme bending posture (OR 1.4; 95% CI 1.0-1.7) and too little recovery time (OR 1.35; 95% CI 1.0-1.8).

Conclusions: The study highlights the global importance of low back pain. Among miners in China, there were moderately elevated associations with repetitiveness of task, high physical demand, extreme bending posture, and too little recover time. Further prospective etiological studies on physical factors are required to confirm these findings.

Disclosure statement: The authors have declared no conflicts of interest.

47. WORK-RELATED MUSCULOSKELETAL DISEASES AMONG SCHOOL TEACHERS IN CHINA

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Background: Work-related Musculoskeletal Diseases (WMSDs) are the second common occupational disease in the most developed countries. A few epidemiologic studies reported that occupational factors using logistic regression.

Results: Among the coal miners, the reported prevalence of LBP was 64.9% for one-year prevalence and increased with increasing age. The prevalence in underground workers was higher than in the surface workers (67.2% vs 59.4%, p < 0.001). The study showed that occurrence of LBP was associated with following physical factors: high repetitiveness of task (OR 1.3; 95% CI 1.0-1.6), high physical demand (OR 1.4; 95% CI 1.1-1.8), extreme bending posture (OR 1.4; 95% CI 1.0-1.7) and too little recovery time (OR 1.35; 95% CI 1.0-1.8).

Conclusions: The study highlights the global importance of low back pain. Among miners in China, there were moderately elevated associations with repetitiveness of task, high physical demand, extreme bending posture, and too little recover time. Further prospective etiological studies on physical factors are required to confirm these findings.

Disclosure statement: The authors have declared no conflicts of interest.
carried out. 850 teachers completed questionnaires. Data on socioeconomic status, exposure to occupational factors and musculoskeletal disorders were collected using the Modified Nordic Standard Musculoskeletal Questionnaire and the Netherlands Musculoskeletal Questionnaire. Multivariate logistic regression was used to examine the association between the risk factors and musculoskeletal diseases.

Results: The prevalence of musculoskeletal disorders in teachers was 62.9%. There were associations between WMSDs and exposure to specific risk factors in the following: graduate grades (OR 1.776, P = 0.018), experience cold and wind (OR 1.947, P = 0.006), long work-time per week (OR 1.015, P = 0.007), often work overtime (OR 1.889, P = 0.002), constant sitting (OR 1.776, P = 0.040), slightly waist twist (OR 1.703, P = 0.008), neck forward (OR 1.588, P = 0.041), work with uncomfortable posture (OR 2.044, P = 0.005), and prolonged staying in same position (OR 2.638, P = 0.001).

Conclusions: Reporting of WMSDs is common among school teachers in China and related to occupational tasks and work postures. The further study should emphasize on the importance of psychosocial, ergonomic factors and preventive measures in teachers' WMSDs.

Disclosure statement: The authors have declared no conflicts of interest.

48. THE ASSOCIATION BETWEEN HELPLESSNESS, SOCIOECONOMIC STATUS AND DISEASE OUTCOME IN PATIENTS WITH INFLAMMATORY POLYARTHRITIS

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Background: It is widely accepted that low socioeconomic status (SES) is associated with poor health outcomes. However, the mechanism for the relationship remains unclear. It has been suggested that ‘learned helplessness’ may, in whole or part, mediate the relationship between SES and disease outcome in patients with rheumatoid arthritis (RA). Our aim was to further explore this relationship, in a cohort of patients with inflammatory polyarthritis (IP), and to investigate the role of learned helplessness in conjunction with this relationship.

Methods: 2582 patients were registered with the Norfolk Arthritis Register (NOAR) between 1990 and 2008. 2030 of these patients completed the Rheumatology Attitudes Index (RAI) at least once during follow-up, and could be allocated a deprivation score (area-level SES), based on their postcode, and a social class (person-level SES), based on occupation. The RAI is a 5-item measure of learned helplessness, developed by Stein et al in the 1980s. Helplessness was defined using total RAI score (highest quartile = high, lowest quartile = normal). Disease outcome was measured using the Health Assessment Questionnaire (HAQ) and Disease Activity Score (DAS28). Median, multimomial logistic, and multivariate stepwise regression were used to model the relationships between SES, helplessness, and disease outcome, adjusting for a number of potential confounders including age, gender, symptom duration at RAI completion, DMARD/steroid treatment up to RAI completion, smoking history, and rheumatoid factor and anti-citrullinated peptide antibody status.

Results: 941 (46%) patients were of normal helplessness (NH), 518 (26%) of low helplessness (LH), and 571 (28%) of high helplessness (HH). Patients of low SES (using either measure) had a poorer disease outcome and were more likely to be HH and less likely to be LH than those of high SES. Compared to patients from the least deprived areas, those from the most deprived areas had significantly higher HAQ (difference: 0.49; 95% CI 0.39, 0.54) and DAS28 (0.57; 95% CI 0.41, 0.73) scores, and were significantly more likely to be HH (RRP 1.95; 95% CI 1.37, 2.79). Patients from the lowest social class had significantly higher HAQ scores (0.20; 95% CI 0.05, 0.35) and were significantly less likely to be LH (RRP 0.57; 95% CI 0.42, 0.78), than those from the highest. Stepwise regression showed that HH patients had higher HAQ scores than NH patients (0.66; 95% CI 0.58, 0.73), and LH patients had a better outcome than NH patients (HAQ –0.40; 95% CI –0.48, –0.33; DAS28 –0.27; 95% CI –0.41, –0.12), independently of either measure of SES and the other potential confounders.

Conclusions: We have shown that helplessness is robustly and independently associated with disease outcome in patients with IP, and that SES is associated with disease outcome. Helplessness may be a measure of the psychological component of the relationship between SES and disease outcome.

49. POLYMORPHISM IN THE PROMOTER REGION OF THE VASCULAR ENDOTHelial GROWTH FACTOR GENE IS ASSOCIATED WITH SERUM VEGF LEVEL AND DISEASE ACTIVITY IN RA

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Background: Previous studies have demonstrated that the vascular endothelial growth factor (VEGF) gene is associated with disease activity and severity in rheumatoid arthritis (RA). Polymorphism in the VEGF gene has also been associated with susceptibility to RA, but the relationship of VEGF genetic variants with RA activity and severity remains unclear. The aim of this study was to determine whether common VEGF polymorphisms (VEGF-2578/-460/-405/-936) are associated with serum levels of VEGF in patients with RA, and to assess whether these genetic variants are associated with disease activity and/or severity of RA.

Methods: Serum levels of VEGF were measured using a fluorescent bead-based assay system in a cohort (n = 410) of consecutively recruited RA patients of Caucasian origin. Genotyping of the four VEGF SNPs in the same patients was carried out using PCR-RFLP methods. RA clinical variables such as inflammatory marker (ESR, CRP, DAS28), HAQ and serum levels of CRP, MMP-1 and –3 were obtained for each patient. Demographic characteristics were also recorded. Associations were firstly analyzed using univariate statistics. Thereafter, multivariate multiple regression was applied to assess the independence of associations and to adjust for possible confounding factors.

Results: We confirmed in this patient group that serum VEGF level was correlated with various markers such as ESR (r = 0.12, p = 0.015), CRP (r = 0.14, p = 0.004), MMP-1 (r = 0.15, p = 0.003) and MMP-3 (r = 0.13, p = 0.009). It was also strongly associated with disease activity (as measured by HAQ score, p = 0.001), independent of age, sex and disease duration. Serum VEGF levels were significantly lower in patients carrying the AA genotype of VEGF-2578, compared to that in subjects with a C allele (74.0 vs 85.7 pg/ml, p = 0.033). Other VEGF SNPs or haplotypes were not associated with serum VEGF levels. VEGF-2578 AA was found to be associated with lower DAS-28 (p = 0.048) after adjustment for age, sex, RA duration, and levels of other VEGF, MMP-1 and –3. Haploype analysis demonstrated that A-G-G (-2578/-460/-405), the most frequent haplotype (48.3%), was associated with lower DAS-28 (p = 0.017). Regression analyses suggested that VEGF-2578 SNP associations were independent of VEGF serum level associations.

Conclusions: The VEGF-2578 SNP is associated with the serum VEGF level in RA, and may play an additional role in RA disease activity apart from its influence on VEGF expression.

Disclosure statement: The authors have declared no conflicts of interest.

50. INTERACTION BETWEEN SMOKING AND POLYMORPHISM IN THE VASCULAR ENDOTHELIAL GROWTH FACTOR GENE IS ASSOCIATED WITH ISCHAEMIC HEART DISEASE AND MYOCARDIAL INFARCTION IN RA

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Background: Cardiovascular disease (CVD) is a major co-morbid condition in rheumatoid arthritis (RA) with increased prevalence compared with that in the general population. Classic risk factors include smoking, hypertension, dyslipidaemia and diabetes as well as a number of RA characteristics such as autoantibodies, extra-articular disease and increased inflammatory burden. However, little about the genetic predisposition to CVD in RA is known. Vascular endothelial growth factor (VEGF) is a fundamental promoter of angiogenesis and may also play roles in atherosclerosis. Polymorphisms in the VEGF