

demonstrated that even a brief workshop appears effective for assisting and encouraging nurses in providing psychological support to patients. Further studies of training methods and of nurses' application of the skills acquired in such training are ongoing.

REFERENCES:

- [1] Hyrich K, et al. Ann Rheum Dis 2006;65:895–8.
- [2] van Eijk-Hustings Y, et al. Ann Rheum Dis 2012;71:13–9.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.4055

THU0737-HPR THE EFFECTIVENESS OF RELAXATION EXERCISES ON PAIN, FUNCTIONAL LEVEL AND MUSCLE STRENGTH IN PATIENTS WITH TOTAL KNEE ARTHROPLASTY: A PRELIMINARY RESULTS

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Background: Total Knee Arthroplasty (TKA) is a common procedure performed mainly due to advanced osteoarthritis (OA), pain, physical disability and reduced quality of life. However, approximately 20% of the patients respond poorly to the surgery and chronic pain and disability following TKA remains a major health burden for many patients. Among the most well documented predictors of poor outcome following TKA is pain catastrophizing. Inadequate pain relief can cause impaired functional performance, increased skeletal muscles tension which are close to surgery related incision site, longer length of hospital stay, unnecessary psychological distress and decreased patient satisfaction. There is high need of developing treatments aimed at improving self-management for patient with TKA at early postoperative period.

Objectives: The aim of this study is to investigate the effectiveness of progressive muscle relaxations exercises (PMR) on pain coping, physical function and muscle strength among patients with TKA due to OA.

Methods: The study group consisted of 22 patients (33 knees), who underwent primary TKA because of OA were consecutively allocated to an intervention group (n=11, with mean age; 66.18±13.29 years), and were allocated to a control group (n=11, with mean age; 62.45±7.28 years). After surgery, all patients underwent the same rehabilitation program. The intervention group also was instructed pre-operative patient education about PMR exercises, and the intervention group received PMR exercises focusing on reducing overall body tension, anxiety and pain managed by a physiotherapist. Patients were evaluated regarding the pain (Numeric Pain Rating Scale (NPRS)), muscle strength, knee function score (Hospital for Special Surgery (HSS) score), pain-related fear (Tampa Scale for Kinesiophobia (TSK)), anxiety and depressive symptoms (Hospital Anxiety and Depression Scale (HADS)) and quality of life (Short-Form 12 Health Survey (SF-12)). Functional activities were evaluated using the Iowa Level of Assistance Scale and walking speed was evaluated using the Iowa Ambulation Velocity Scale. Also functional outcomes were evaluated with timed up and go (TUG) test and 10-metre walk test (10 MWT). Patients were evaluated preoperatively and at discharge.

Results: At baseline, demographic characteristics were similar in groups and there was no statistically difference between groups ($p>0.05$). It was determined at postoperatively that; the intervention group had better results in terms of reduction of pain severity ($p=0.001$), improvement of HADS anxiety level ($p<0.030$), pain-related TKS level ($p<0.035$) and SF-12 mental component score ($p<0.011$). When the HSS knee scores and quadriceps muscle strength were compared, there was statistically difference between groups and the two outcomes scores were lower in control group after surgery ($p<0.040$, $p<0.012$, respectively). There were no statistical differences between groups for other outcomes after TKA ($p>0.05$).

Conclusions: The current results suggest that the PMR exercises at early stage after TKA might be an effective method for patient rehabilitation outcomes. However, in this comparison to obtain more comprehensive results studies on larger series are needed. In this way, a more uniform and objective data can be achieved.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5907

THU0738-HPR COMPARISON OF THE FUNCTIONAL PROFILE OF THE FOOT BETWEEN THE PATIENTS WITH PATELLOFEMORAL OSTEOARTRITIS AND TIBIOFEMORAL OSTEOARTHRITIS

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Background: The biomechanics of the patellofemoral (PF) joint are distinct from the tibiofemoral (TF) joint and hence, interventions that have been designed to reduce pain and improve function in those with tibiofemoral disease may be inappropriate for those with Patellofemoral OA (PFOA). Therefore, patients with PFOA have been recently considered a subgroup different from patients with Tibiofemoral OA (TFOA). Loading asymmetries of the foot, discrepancy in foot contact area, and excessive increase in plantar pressure are associated with knee OA patients but there is lack of information that how PFOA or TFOA affect the foot profile.

Objectives: The purpose of this study was to investigate the foot profile differences between PFOA and TFOA patients and also compare these foot profiles with healthy individuals.

Methods: Twenty-nine patients with unilateral knee OA and 14 age-matched controls (median age=42.5 years, median BMI=23.8 kg/m²) were included in the study. The patients were divided into two groups; PFOA group (n=16, median age=52.5 years, median BMI=26.7 kg/m²) if they had a radiographic Kallgren and Lawrence (KL) score grade 2 or 3 in the PF joint, which was greater than KL score for the TF compartments; TFOA group (n=13, median age=54 years, median BMI=26.6 kg/m²) if they had a radiographic KL score grade 2 or 3 in the TF joint, which was greater than KL score for the PF compartments. Plantar pressure distribution was recorded by Digital Biometry Scanning System and Milletrix software (DIASU, Italy). The static test was used to determine the maximum foot pressure (N/cm²) of the foot, forefoot weight ratio, rarefoot weight ratio, total load and foot angle axis (FAA). Kruskal Wallis test was used to compare the affected side of TFOA and PFOA groups with the control group. After application of the Bonferroni correction, Mann Whitney-U was used to compare the two-group differences.

Results: The age ($p=0.179$) and BMI ($p=0.150$) were similar between the groups. There were no differences on the affected side maximum foot pressure ($p=0.603$), forefoot weight ratio ($p=0.247$), rarefoot weight ratio ($p=0.240$) and total load ($p=0.599$) between TFOA, PFOA and control groups. FAA was higher in TFOA group [median-IQR: 17.0°(13.3°–35.4°)] when compared to PFOA ($p<0.001$) and control group ($p<0.001$). In addition, foot angle axis was lower in PFOA groups [median-IQR: 9.4°(1.5°–19.5°)] than control group [median-IQR: 13.4°(10.0°–15.8°)] ($p=0.005$). A reference value is appreciable if found to be between 12°–16°.

Conclusions: The angle of the foot plays an important role on optimal weight distribution during walking. Changing the angle of the foot may affect all other joints and create a modifying effect on the moment around the lower extremity. PFOA patients presented lower foot angle axis than normal values while TFOA patients presented higher angles. This may indicate that the intervention should be design for the joint involvement in the knee OA patients.

REFERENCES:

- [1] Hinman RS, Crossley KM. Patellofemoral joint osteoarthritis: an important subgroup of knee osteoarthritis. Rheumatology (Oxford) 2007;46(7):1057–62.
- [2] Komaat PR, Bloem JL, Ceulemans RY, Riyazi N, Rosendaal FR, Nelissen RG, Carter WO, Hellio Le Graverand MP, Kloppenburg M. Osteoarthritis of the knee: association between clinical features and MR imaging findings. Radiology 2006;239(3):811–7.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.3240

THU0739-HPR EFFECTIVE PREVENTION AND MANAGEMENT OF OSTEOPOROTIC FRACTURES: A SYSTEMATIC LITERATURE REVIEW OF NON-PHYSICIAN HEALTH PROFESSIONALS' INTERVENTIONS FOR A EULAR POINTS-TO-CONSIDER PROJECT

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Background: Osteoporotic fractures are a global concern due to associated patient mortality, morbidity and health service expenditure. Optimal care provided

by non-physician health professionals, such as dieticians, nurses, occupational therapists, pharmacists and physiotherapists, to adults at high risk of primary or secondary osteoporotic fracture, is integral in the prevention and management of minimal trauma fracture, but may not be sufficiently realised in all European countries. To address this, a commissioned task force has developed the first collaborative EULAR points to consider/recommendations for non-physician health professionals in the prevention and management of osteoporotic fractures, underpinned by a systematic literature review (SLR).

Objectives: To identify and review the scientific literature to inform the development of evidence-based EULAR points to consider/recommendations for non-physician health professionals in the prevention and management of osteoporotic fracture.

Methods: A SLR for each of eight clinical questions that were previously formulated and consensually agreed by the task force members was undertaken by a research fellow (NW), with guidance from the task force convenors and the methodologist. Four electronic databases (Medline, Embase, Cinahl and PubMed) were searched over the period 13th - 31 st October 2017. The search strategies combined MeSH terms and keywords to identify studies related to two key concepts: (i) adults ≥ 50 years of age at high risk of primary or secondary osteoporotic fracture and (ii) interventions delivered by non-physician health professionals to prevent, treat and manage osteoporotic fractures. Exclusion criteria included articles not in English and without online access. Evidence was categorised using the Oxford Centre for Evidence-based Medicine Levels of Evidence. For critical appraisal of systematic reviews, AMSTAR 2 was used. Risk of bias was assessed by the Cochrane Collaboration's tool.

Results: The eight primary searches returned a total of 15 917 citations; duplicates were removed and the remaining 11 195 citations screened for relevance by title, abstract, design and year of publication (recently published reviews and/or RCTs were prioritised). Thirty-two studies were finally selected. Overall confidence in the findings of included systematic reviews ($n=13$) ranged from low to high. Risk of bias also varied across other included studies. Strongest evidence of benefit was found for exercise in the management of osteoporotic fracture [level 1a].

Conclusions: There is a lack of high quality evidence for the role of health professionals in the prevention and management of adults at high risk of primary or secondary osteoporotic fracture. We recommend the instigation of an education and research agenda for non-physician health professionals.

REFERENCES:

- [1] Shea B, Reeves B, Wells G, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ* 2017;358:j4008.
- [2] Higgins J, Altman D, Gøtzsche P, et al. The Cochrane Collaboration's tool for assessing risk of bias in randomised trials. *BMJ* 2011;343:d5928.

Acknowledgements: We thank Vicky Fenerty, research engagement librarian at the University of Southampton for her advice.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.2271

THU0740-HPR DETERMINATION OF EXERCISE BEHAVIOUR IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: Juvenile idiopathic arthritis (JIA) is one of the most common rheumatic diseases in childhood, affecting at least 1 in 1000 children. Children with JIA experience joint inflammation and swelling, pain and tenderness, morning stiffness, limited mobility. Children with JIA complain pain and have lower functional ability and decreased quality of life compared with their peers. Many studies have reported that patients with JIA have low physical activity levels and also exercise therapy is considered an important component of the treatment of JIA. Nowadays, studies for evaluating exercise behaviours in order to cope with physical inactivity for many chronic diseases are becoming increasingly important.

Objectives: The objective of this study was to determine exercise behaviour in patients with JIA.

Methods: 34 patients with JIA (23 female and 11 male), age range 5–18 years, home exercise program being recommended, participated in this study. The survey that was created with Google Forms was sent via WhatsApp to patients after 1 week-10 days than setting home based exercise program for each patient. In the survey, disease duration, involvement joint(s), Childhood Health Assessment Questionnaire (CHAQ) for functional ability, 11-point Numeric Analogue Scale

(NRS) for satisfaction of exercising, Exercise Stages of Change Scale-Short Form (ESCS), Exercise Self-Efficacy Scale (ESES), and Decisional Balance Scale (DBS) for exercise behaviour were inquired for the patients with JIA.

Results: The mean age and disease duration were 11.38 ± 4.68 and 5.36 ± 4.16 years, respectively. The mean of the number of affected joints was 5 ± 4.41 . According to the five behavioural processes by ESCS, the patients were enrolled 38.2% of them in the stage of maintenance, 26.5% of them in the stage of action, 14.7% of them in the stage of preparation, 14.7% of them in stage of contemplation, 5.9% of them in stage of pre-contemplation. 67.5% of them was satisfaction for exercising (≥ 5 for NRS). When comparison of the patients' CHAQ scores due to satisfaction level with NRS, the mean of CHAQ scores was significantly lower in patients with high satisfaction than patients with low satisfaction ($p=0.014$). The mean of scores ESES and DBS were 17.06 ± 6.13 and 12 ± 4.61 , respectively. All of the patients represented "positive perception of exercise" due to DBS. Only a significant correlation with age of patient and DBS was found ($r=0.375$, $p=0.029$).

Conclusions: This study demonstrated that patients with JIA were in high stages participated in exercising and have high self-efficacy of exercise, decreasing of functional ability may affect the satisfaction level of exercising and as age increases, decisional balance for exercising also increases. Therefore, future researchers should investigate potential facilitators of and barriers to exercise for larger population in patients with JIA by following up long term.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6399

THU0741-HPR MAPPING THE BEHAVIOUR CHANGE TECHNIQUES USED IN A PRACTICE-BASED FIBROMYALGIA SELF-MANAGEMENT PROGRAMME: A QUALITATIVE STUDY

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Background: Fibromyalgia (FM) is a complex long-term condition affecting up to 5.4% of the UK population. It is associated with chronic widespread pain, fatigue, sleep and cognitive difficulties. FM can cause high levels of functional and work disability; with individuals making frequent use of healthcare resources. There is limited robust evidence for effective pharmacological treatments for FM, and current guidelines all recommend non-pharmacological interventions.

Allied health professionals at the Royal National Hospital for Rheumatic Diseases (RNHRD), Bath developed the Fibromyalgia Self-Management Programme (FSMP); a non-pharmacological, multidisciplinary exercise and education group.

Objectives: Main aims of the FSMP are to provide condition-specific, patient centred, education and exercise advice, to support development of core, self-management skills. The FSMP comprises of 16 hours of group treatment, spread over four or six weekly sessions. Core components include education about FM, sleep, diet and lifestyle advice, hydrotherapy and stretches.

The FSMP was developed clinically, with little opportunity for the clinical team to explore the mechanisms by which it is effective. To inform successful implementation beyond the RNHRD, this evaluation aimed to map the FSMP to the NICE recommended Michie Behaviour Change Taxonomy (BCT) to determine key behaviour change components.

Methods: Non-participatory observations were conducted of the four and six week FSMP. Detailed notes on course content, therapist delivery, and additional content not included in the manual were recorded. Semi-structured interviews were conducted with therapists ($n=4$) and patients ($n=9$). Observations and review of the therapist manual data were deductively coded in NVIVO to the Michie Behaviour Change Taxonomy using Framework Analysis. Interview data were analysed using Theoretical Thematic Analysis.

Results: Review of the course manual and course observations show the FSMP coded onto 12 of the 16 main areas of the Michie Behaviour Change Taxonomy, encompassing 22 behaviour change techniques. Patients' interviews indicated significant behaviour changes as a result of attending the course; including increased activity levels, pacing, better quality sleep, and improved communication with family members. Patients reported positive changes to symptoms as a result of attending the course.

Therapists highlighted four key challenges in delivering the course; fidelity between therapists, patient readiness and acceptance of FM, group management and patient fatigue while attending the programme.

Conclusions: The FSMP utilises a range of behaviour change techniques. Patients who attend the course make changes to their behaviour which enables them to manage their symptoms of FM more effectively.