

properties and to alleviate joint pain. The aim of the present study was to test if the powder would reduce joint pain, patient's evaluation of the severity of their disease (PGAD) and the consumption of rescue medication in a group of middle-aged women suffering from osteoarthritis of different joints.

**Methods:** The study was randomized, double-blind and placebo-controlled. Available for the evaluation was 42 women, who either received active treatment or placebo (5 gram daily) in capsules for a three months period after which the group initially treated with active treatment was changed to placebo or vice versa for another three months treatment period.

Pain and stiffness were estimated on categorical scales from 0 (no impact) to 4 (total relief of the symptom). Visual analogue scales were used to analyse patients' global assessment of their disease severity (PGAD) and the consumption of rescue medication was estimated by simply counting tablets.

**Results:** Active treatment resulted in a significant reduction in the mean pain score:  $1.85 \pm 1.4$  while on placebo vs. mean  $1.15 \pm 1.4$  while on active treatment ( $p < 0.039$ ). Joint stiffness likewise tended to decline as a result of active treatment ( $p < 0.067$ ) when comparing all women. Comparing the group initially taking placebo and then changed to active treatment ( $n=21$ ), resulted in a significant reduction in stiffness ( $p < 0.014$ ) suggesting carry-over.

In accordance with the findings on pain and stiffness PGAD also declined as a result of active treatment ( $p < 0.034$ ) when all patients were included. Evaluating the group receiving placebo first and then active treatment resulted in a ( $p < 0.0068$ ). Active treatment also significantly reduced the consumption of paracetamol ( $p < 0.024$ ).

**Conclusions:** The present data suggest that LitoZin reduces pain and disease severity. In accordance with these observations the consumption of rescue medication decline.

### P358

#### THE ROLE OF OCCUPATIONAL MECHANICAL LOAD ON PAIN AND FUNCTIONAL LIMITATION IN PERUVIAN PATIENTS WITH SYMPTOMATIC KNEE OA

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**Purpose:** Pain and functional limitation are major outcomes in knee osteoarthritis (OA). The influence of mechanical loading at work on pain and disability in knee OA patients is still difficult to estimate for various factors, including long latency before the patients develop pain and, particularly, functional and work disability. Therefore, we examined the role of occupational mechanical load on the pain experience and functional limitation in Peruvian patients with symptomatic knee OA.

**Methods:** 130 patients with knee OA from rheumatology and rehabilitation clinics in several hospitals from Lima-Perú were selected by inclusion and exclusion criteria. We used self-reported measures to estimate pain and functional impairment: a 0-10 visual analog scale for global pain (VAS-GP) and worst pain felt within the last month (VAS-WP), and pain and function subscales of Spanish version of the WOMAC index. Other variables were also studied: age, gender, body mass index (BMI), working years (WY) and WOMAC stiffness subscale. Subsequently, we divided the sample was divided in three groups: low, intermediate and high physical loading occupations. ANOVAs, Pearson's correlation, Levine test, t-student and the least significative difference

for multiple comparisons were used to study the relationships between the variables.

**Results:** Age: mean= 66.9 years old (48 - 85 years old). BMI: mean=  $29.4 \text{ kg/m}^2$  ( $19.6 - 40.4 \text{ kg/m}^2$ ). WY: mean= 38.41 y (2 - 66 y). The correlation coefficients for the relationships between VAS-GP, VAS-WP and WOMAC pain, and WOMAC function subscales were 0.45, 0.30 and 0.75, respectively. All the relationships were significant positive and linear. There was a significant difference between the means of WOMAC pain from the groups of patients with low and intermediate occupational mechanical load. No significant difference was observed between the means of age, BMI, VAS-GAP, VAS-WP, WOMAC stiffness and WOMAC function from the groups of patients with low, intermediate and high occupational mechanical load. Nevertheless, a clear increase in the mean values of WOMAC pain, WOMAC stiffness and WOMAC function was seen when comparing the groups of patients with low, intermediate and high occupational mechanical load. 52.5% of patients were still working. Among the patients no currently working, 29.7% mentioned knee pain as the cause to leave their jobs.

**Conclusions:** In this sample of Peruvian patients with symptomatic knee OA pain and disability maintained a significant positive linear relationship. There was a significant difference between the means of WOMAC pain from the groups of patients with low and intermediate occupational mechanical load. However, the means of other pain and disability measures from the groups of patients with low, intermediate and high occupational mechanical load were no significantly different, even though a clear increase in the means was observed among the three groups. Further studies are needed to evaluate precisely the role of occupational mechanical load in peruvian patients with symptomatic knee OA.

### P359

#### CONSTRUCT VALIDATION OF THE PATIONNAIRE, A PATIENT QUESTIONNAIRE FOR CLINICAL ASSESSMENT IN BONE AND JOINT DISEASES - COMPARISON OF QUESTIONNAIRE WITH PERSONAL INTERVIEWS

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**Purpose:** The aim of this study was to test the construct validity of the pationnaire with personal interviews (agreement of symptoms and disabilities) and the ability and time to fill it out without help. The pationnaire is graphic questionnaire to assess a person/patient with any disorder of the musculoskeletal system. It can be used either than a diagnostic tool or an outcome assessment tool.

**Methods:** The persons/patients were randomly selected by the interviewer. They signed an informed consent approved by the local ethical committee. After a short introduction about the pationnaire and its aims, people filled out one directly without help. The time to completion was measured. The person/patient was the personally interviewed about the items within the pationnaire to assess the correlation with their symptoms and disabilities and uncover any sources of misunderstanding or misinterpretation. At the end of the interview every person/patient was asked for a statement about their understanding, formulations, difficulties with the pationnaire, missing questions and general impression.

**Results:** 78 persons/patients (50 women) were included. Their average age was 46.3 years (range 12-93 years). 97% (76) could fill out the pationnaire without help, 2 needed help and further explanations. Average time for completion was 9.9 min (range 3-45 mins. - the longest time being taken by those who needed help. Complete agreement between the pationnaire and

the perceived symptoms/disabilities was found in 94% (n=73), it was partial in 3.8% (n=3) and no agreement occurred in 2.2% (n=2, both of whom needed support). The understanding was rated very good in 98% and difficult in 2% (both elderly persons >80 years). The formulation "my symptoms are ..." was preferred by everybody compared to "which symptoms do you have". In general the overall rating was good or very good for all persons, although older people with comorbidities needed help.

**Conclusions:** The questionnaire accurately documented the symptoms and disabilities present in people with active musculoskeletal disorders; it also revealed the range of symptoms. The agreement between the answers in the questionnaire and the perceived symptoms/disabilities is high. Older people may need help to fill it out, and this can markedly reduce the rate of misunderstanding and misinterpretation. Most people can fill it out within 15 minutes. The questionnaire and the way to perform the assessment from the standpoint of the persons/patients was welcomed by all persons.

### P360

#### PHYSICAL FUNCTION AND PROPERTIES OF QUADRICEPS FEMORIS MUSCLE IN MEN WITH AND WITHOUT KNEE OSTEOARTHRITIS

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**Purpose:** The aim of this study was to assess the subjective joint pain, stiffness and function and the objective physical function of lower extremities and the quadriceps femoris muscle thickness and density in men with knee osteoarthritis (OA) and to compare the results with those from age- and sex-matched controls.

**Methods:** Fifty-four men (aged 49-68 years) with unilateral or bilateral hip OA and 53 age-matched randomly selected healthy men were studied. According to the side of the highest radiographic score (Kellgren-Lawrence grading scale) from the patients with clinical knee OA, 22.2% had grade 1, 27.8% grade 2, 35.2% grade 3, and 14.8% grade 4 OA. The range of motion (ROM) of the hip and knee joints was measured with goniometry and the Western Ontario and McMaster Universities (WOMAC) OA index was determined. Musculoskeletal function was assessed with a test battery. The isometric knee flexion and extension strength (peak torque (Nm/kg)) was determined. The thickness and density of quadriceps femoris muscle compartments were determined with muscle ultrasonography. Differences between the radiographic OA subgroups and between OA and control groups were determined by the Kruskal-Wallis and general linear univariate model with analysis of covariances (age, knee pain, BMI and height).

**Results:** In WOMAC OA index both stiffness and function, but not pain were positively related ( $p < 0.05$ ) with radiographic severity of OA. Most of the WOMAC items were significantly ( $p < 0.05-0.001$ ) related to the performance tests. Knee flexion and hip inner rotation were 8.4% and 19.4% lower ( $p < 0.001$ ) in the OA group than in the controls, respectively. The controls were significantly ( $p < 0.001$ ) better at ascending and descending stairs, performing a 20-meter walk, 5-min walking and straight line walking (10 m) tests and in repeated sit to stand and in the timed 'up and go' tests compared to the knee OA patients. The knee isometric flexion and extension strength was 11-18% lower ( $p < 0.001$ ) in OA subjects than in controls. The thickness of rectus femoris, vastus lateralis and vastus intermedius muscle compartments were 7-14% lower ( $p < 0.001$ ) in the OA group than in the controls.

Also muscle density was significantly lower in rectus femoris and vastus intermedius, but not in vastus lateralis compartment.

**Conclusions:** The physical function tests and WOMAC OA index are useful measures in evaluation of functional severity of the knee OA patients. The decrease of muscle size may contribute to the decrease of musculoskeletal function in knee OA.

### P361

#### THE FIVE PILLARS OF PAIN MANAGEMENT: A SYSTEMATIC APPROACH TO TREATING OSTEOARTHRITIS

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**Purpose:** Increasingly pain management of osteoarthritis as carried out by arthritis specialists needs to embrace techniques used in pain management clinics. The authors have developed a comprehensive approach to pain management entitled The Five Pillars of Pain Management. This presentation demonstrates how it can be applied to the treatment of osteoarthritis

**Methods:** The author developed the Five Pillars initially for treatment of pelvic pain and also neuropathic pain. It came after years of experience in pain management and explaining the complexities to those not considered experts

**Results:** *Pillar 1:* Assessment of pain in the individual including a risk assessment as described in "Universal Precautions in Pain Management" (Gourlay et al 2005)

*Pillar 2:* Doing a history and physical exam and coming up with an anatomical diagnosis and a pathological diagnosis and then treat the underlying condition

*Pillar 3:* Making a pain diagnosis: acute or chronic; mild, moderate, severe; cancer or non-cancer; nociceptive or neuropathic and then going down the evidenced based path of treatment.

*Pillar 4:* Assessing and treating co-morbidities and complications including anxiety, depression, sleep disturbance; addiction; and sexual dysfunction

*Pillar 5:* Patient buy-in, practicing self management and appropriate expectations

**Conclusions:** Pain management is often considered a 'swamp' full of treacherous opiates, manipulative patients and many frustrations. The Five Pillars paradigm can be used to provide structure to a pain management program and allow the practitioner to use a variety of techniques to improve the condition of the patient.

### P362

#### LUMIRACOXIB SHOWS COMPARABLE EFFICACY AND A FAVOURABLE BLOOD PRESSURE PROFILE COMPARED TO INDOMETHACIN FOR THE TREATMENT OF ACUTE FLARES OF GOUT

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**Purpose:** Acute gout is a painful inflammatory disease affecting an estimated 20 million people worldwide [1]. The NSAID indomethacin is often regarded as the gold standard for treatment of acute flares of gout. Hypertension is reported as a frequent condition in patients with acute gout, therefore managing BP during treatment of acute gout needs to be considered.

In TARGET, lumiracoxib at a dose of 400 mg od has demonstrated a superior BP profile compared to the NSAIDs ibuprofen and naproxen after long-term treatment [2].

This study assessed whether the structurally distinct selective