

Conclusions: Patients with SSc have a relatively high prevalence of feet pathological deformities and a smaller range of flexion of the joints than the lowest normal range, but mostly normal curvature of the spine.

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FRI0753-HPR PAIN SPREAD AND PAIN INTENSITY IMPROVE OVER TIME IN WOMEN WITH FIBROMYALGIA AND CHRONIC WIDESPREAD PAIN. A 12 YEAR FOLLOW UP STUDY

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Background: In the Western world, the prevalence of chronic widespread pain (CWP) is about 10–15% while Fibromyalgia (FM) affects approximately 1–3% of the population. The ACR 1990 criteria define CWP as pain ≥ 3 months on the right and left side of the body, above and below the waist and axial skeletal pain. The 1990 criteria for FM are CWP in combination with pain in ≥ 11 of 18 tender points on manual palpation. Previous studies indicate that some patients with FM or CWP improve over time and the key to improvement is an important question in research and clinical practice.

Objectives: The primary objective was to investigate the change of pain intensity and pain distribution after 12 years in 166 women with FM or CWP.

The secondary objective was to compare baseline values of health related variables between patients who fulfilled the criteria for FM/CWP at the 12 year follow-up and patients who did not.

Methods: In 2004, 166 women with FM or CWP participated in a randomized controlled trial in Sweden aiming to investigate effects of patient education and pool exercise. All 166 were invited to the present study in 2016 and 126 women (75%) participated. Data was collected by a standardized interview, questionnaires of health related aspects and a physical examination.

Primary, within-group changes were calculated for pain distribution (Bergman's pain drawing 0–18) and the subscale for pain intensity (0–100 mm) included in the Fibromyalgia Impact Questionnaire (FIQ).

Secondary, the group who fulfilled criteria for FM or CWP at follow-up were compared with the group who did not fulfil the criteria for FM or CWP, in overall health status (FIQ total), symptoms of stress (Stress and Crisis Inventory – SCI-93), walking capacity (6 min walk test), hand grip force (the Grippit) and self-reported physical activity (Leisure time physical activity instrument).

Results: Primary: The 126 women with FM or CWP improved in pain distribution: mean values at baseline 12.9 (SD 3.4) vs follow-up 11.4 (SD 4.7), $p < 0.001$ and pain intensity: mean values at baseline 69 mm (SD 18.5) vs follow-up 59 mm (SD 22), $p < 0.001$.

Secondary: 18% ($n=23$) of the 126 women did not fulfil the 1990 criteria for FM or CWP at follow-up, and they showed significantly better health status, lower symptoms of stress and higher walking capacity in 2004, than the women who still had FM or CWP at follow-up. Baseline mean values FM/CWP ($n=123$) vs Not FM/CWP ($n=23$): FIQ total 66 (SD 16) vs 55 (SD 15), $p=0.006$; SCI-93 80 (SD 23) vs 59 (SD 22), $p < 0.001$; 6 min walk test 502 m (SD 86) vs 542 m (SD 80), $p=0.028$. No significant differences were found between the groups for baseline values of hand grip force and level of physical activity.

Conclusions: This study showed that distribution and severity of pain improved during 12 years in women with FM or CWP. The group that improved most (18%), reported better health status, lower stress and had better walking capacity 12 years earlier. This knowledge is important for health care professionals to motivate the patients to apply a variety of strategies, including physical activity, to improve their health and symptoms.

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FRI0754-HPR IMPACT OF CORTICOSTEROID UTILIZATION ON BIOLOGIC DISEASE-MODIFYING ANTIRHEUMATIC DRUG INITIATION AMONG PATIENTS WITH RHEUMATOID ARTHRITIS

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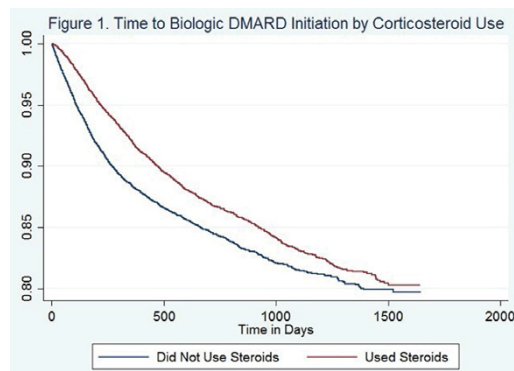
Background: Treatment guidelines recommend low dose corticosteroids (steroids) as an effective short-term (<3 months) therapy among rheumatoid arthritis (RA) patients to “bridge” patients until benefits of disease modifying anti-rheumatic drugs (DMARDs) are observed and in flare management.¹ Physician quality reporting system (PQRS) measures in the US require a documented

management plan for patients on steroids >10 mg/day and this may be a prompt to advance RA therapy. Understanding steroid treatment patterns and associated burden prior to biologic DMARD initiation can inform clinical and policy decision-makers on the appropriate use of these two drug classes in RA management.

Objectives: To examine effects of steroid treatment patterns on initiation of biologic DMARDs and adverse effects of steroid utilization before biologic DMARD initiation among patients with RA.

Methods: A retrospective analysis was conducted of adult RA patients (18 and older) in the US MarketScan Database (2011–2015). The earliest date a patient was diagnosed with RA was the index date. The following patterns of oral and injectable steroid utilization were analyzed: whether steroids were used; duration of steroid use (short/long duration defined as < or ≥ 3 months); and steroid dosage (low as <2.5 mg/day, medium as 2.5–<7.5 and high as ≥ 7.5 mg/day). Kaplan-Meier survival analysis was used to compare time to initiation of first biologic DMARD across groups of steroid utilization. The effects of steroid use on initiation of biologic DMARDs were examined using Cox proportional hazards models. Likelihood and number of adverse events were examined using logistic and negative binomial regression models. Independent variables in all models included patient demographics and health characteristics.

Results: A total of 25,537 patients were included (40.82% used steroids). Based on Kaplan-Meier survival analysis, steroid users (Figure 1), those with longer duration, and in lower dosage categories had delayed time to initiation of a biologic DMARD than their counterparts (nonusers, those with shorter duration and higher dosages, respectively) ($P < 0.001$). According to Cox proportional hazards model, lower hazard of biologic DMARD initiation was associated with steroid use (HR)=0.89, 95% Confidence Interval [CI]=0.83–0.96, compared to nonusers), longer steroid duration (HR)=0.73, 95% CI=0.60–0.89 compared to short duration) and lower dosages (HR)=1.10, 95% CI=0.99–1.23 for medium dose and HR=1.93, 95% CI=1.59–2.34 for high dose compared to low dose). Higher likelihood of adverse events was associated with steroid use (Odds Ratio [OR]=1.13, 95% CI=1.06–1.20), and longer duration (OR)=1.75, 95% CI=1.47–2.09) than their counterparts. Likelihood of adverse events did not significantly differ across dosages. Similar effects of steroid utilization were found on the number of adverse events.



Conclusions: The findings indicate that RA patients who use steroids, those with longer duration and lower dosages have delayed initiation of biologic DMARDs than their counterparts. RA patients who use steroids and those with longer duration have higher likelihood/number of adverse events prior to initiating biologic DMARDs.

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FRI0755-HPR POTENTIAL BENEFITS OF BIOLOGICS ON CARDIOVASCULAR DISEASES AND ORTHOPEDIC SURGERIES IN PATIENTS WITH RHEUMATOID ARTHRITIS: A NATIONWIDE POPULATION-BASED COHORT STUDY IN TAIWAN

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Background: Rheumatoid arthritis (RA) is a chronic, systemic inflammatory disorder, precipitating chronic inflammation of the joints, and also affects organs throughout the body, and even results in joint deterioration/disability. RA-related inflammation that is responsible for synovial lesions may be implicated in

the development of accelerated atherosclerosis, leading to increased risk of cardiovascular disease (CVD), and increased mortality.

Objectives: This study aimed at examining changes in the risk of deaths, CVD and RA-related orthopedic surgeries between the patients treated with conventional synthetic and biologic disease modifying antirheumatic drugs (csDMARD and bDMARD) for RA during 1997–2011.

Methods: Two cohorts of severe RA patients and their matched controls were identified from National Health Insurance claims database. The csDMARD cohort was patients who had medication claim for cyclosporine ≥ 50 mg/day with concomitant use of ≥ 2 csDMARDs for ≥ 28 days within 56 days after cyclosporine use during 1997–2003 (N=1,569). After csDMARD cohort was determined, the bDMARD cohort was selected if patients had ≥ 1 claim for bDMARD during 2003–2011 (N=1,530). Adjusted hazard ratios (aHRs) for the risk of death, myocardial infarction (MI), stroke, and RA-related orthopedic surgeries were assessed between the two cohorts and their controls, respectively, using Kaplan-Meier survival curves and Cox proportional hazards models.

Results: RA patients using bDMARD showed a markedly decreased risk of death (aHR:1.05; 95% CIs=0.84–1.33) compared with RA patients using csDMARD (aHR:8.75; CIs=7.43–10.31). Also, bDMARD was associated with a reduced risk of stroke (aHR:0.37; CIs=0.22–0.62) compared with csDMARD (aHR:0.73; CIs=0.51–1.05). For RA-related orthopedic surgeries, risks were slightly lower for bDMARD (aHR:4.14; CIs=3.30–5.20) compared with csDMARD (aHR:5.77; CIs=4.88–6.81).

Conclusions: The introduction of biologics in the treatment of RA has showed to have beneficial impact on improving clinical outcomes, including decreased risks of death, stroke and RA-related orthopedic surgeries.

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FRI0756-HPR EVALUATION OF MUSCULOSKELETAL COMPLAINTS ASSOCIATED WITH SMARTPHONE USE AMONG UNIVERSITY STUDENTS AND RELATED RISK FACTORS

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Background: Smartphone use for long periods in a static and unsupported arm position could bring about abnormal alignment of upper limb and could cause postural problems and musculoskeletal pain. There are very few studies in the literature that examine the effect of smartphone use on musculoskeletal problems and related factors.

Objectives: The primary aim of our study was to determine the musculoskeletal complaint associated with smartphone use among university students. other purpose of the study was to investigate the relationships with smartphone type, smartphone use frequency, smartphone use posture, smartphone use addiction level and psychological stress.

Methods: 349 university students (240 women, 109 men; mean age 20.79 \pm 1.35) were included to our study. We conducted a survey that contains questions about students' smartphone usage patterns and habits. Nordic musculoskeletal Questionnaire was used to determine the musculoskeletal complaint associated with smartphone use. Working posture while using smartphone were evaluated with Rapid Upper Limb Assessment (RULA). Smartphone addiction level were determined with Smartphone Addiction Scale (SAS). Also we use the Beck Depression Inventory (BDI) to determine the psychological distress. Pearson correlation analysis were used to associations between parameters.

Results: Our results showed that university students had a high frequency of smartphone use and that the frequency was related to the level of addiction ($r=0.199$ $p=0.00$). %43 of students were use their smartphones extremely more than 4 hours. Students specified that they use their smartphones often for messaging with smartphone applications (%86.5). the most frequent symptoms were found in the neck (%59.6), shoulder (%51.82) and upper back (%54.4) regions. Statistically significant relationship was found between daily frequency of smartphone use and RULA neck posture score ($r=0.170$, $p=0.001$). Also there were statistically significant relationships found between BDI score and upper limb ($r=0.15$, $p=0.005$) and upper back ($r=0.152$, $p=0.004$) postures while using smartphone.

Conclusions: Smartphone users complain at least one area (neck, upper extremity, upper back). The frequency of smartphone use and addiction level is associated with abnormal postures while using smartphones which associated physiological distress. Consequently, musculoskeletal rehabilitation programs should include an analysis of preventive strategies which should be multifactorial with the team work of all health professionals.

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FRI0757-HPR NATURE OF JOINT INVOLVEMENT IN OSTEOARTHRITIS IN THE POPULATION: MULTI-JOINT OSTEOARTHRITIS, THE RULE NOT THE EXCEPTION?

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Background: While population studies usually consider undifferentiated osteoarthritis (OA), cohort and other studies of OA typically focus on OA characterized by a primary joint involved, most frequently the knee, hip or hand. Relatively little attention has been paid to the involvement of other joints.

Objectives: To investigate the extent of multi-joint involvement in a representative sample of the population with OA.

Methods: Analysis of data from the Survey on Living with Chronic Diseases in Canada, Arthritis Component. This was based on a nationally representative sample of people aged 20 or older reporting arthritis as a long term health problem, diagnosed by a health professional, in the parent Canadian Community Health Survey, 2008. Respondents were asked about their type of arthritis, extent of pain on a 0–10 scale, and the extent to which arthritis affected their life (not at all; a little; moderately; quite a bit; extremely). Participants were also asked to indicate which joints were painful. The joints asked about were the right and left hands, wrists, elbows, shoulders, hips, knees, ankles, feet, back and neck. Data on other reported chronic health conditions (heart disease, respiratory, high blood pressure, migraines, mood disorders, bowel disorder/ulcers, stroke, cancer, and diabetes) and body mass index (BMI) were obtained from the parent survey. Analysis was restricted to people reporting OA (n=1749).

Results: The mean age of the sample was 65 years, with 44% aged less than 65; 74% were women. Ninety-three percent reported joint pain in the previous month. The mean "average" pain score was 5.2/10 with very little variation by age and gender. Overall, 92% reported that their arthritis affected their life at least a little, with 24% reporting quite a bit or worse, similarly with little variation by age and gender. The most frequently reported joint sites (e.g. one or both knees) were the knee (58%), hands (49%), back (47%), and hips (42%). Overall the sample was characterized by multi-joint involvement: only 10% reported only one troublesome joint, and 17% only one site. The mean number of painful joints was 5.6 (ranging from 1 to 18: median 5), and the mean number of joint sites was 3.9 (median 3). Women reported more joints than men (mean 5.9 vs 4.8) but there was no significant trend by age. There was no significant trend in number of joints by BMI, although the number of co-occurring conditions was higher in people with more painful joints; 25% of those with only 1–2 joints had a 2 or more co-occurring conditions, compared to 43% of those with 5 or more joints.

Conclusions: Although the most frequently reported painful joints were the knee, hip or hand, few people reporting OA in this representative population-based sample had joint symptoms in that joint alone, suggesting that studies that focus only on a primary joint may be missing the point. The lack of association of mean number of joints with obesity was surprising given a postulated metabolic contribution to OA. The association with co-occurring conditions needs further investigation. A reappraisal of our understanding of OA appears to be warranted given that multi-joint involvement appeared to be the rule not the exception.

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FRI0758-HPR CO-MORBIDITY PROFILE IN PATIENTS WITH RHEUMATOID ARTHRITIS. DATA FROM RHEUMATOID ARTHRITIS REGISTRY IN QATAR

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Background: Comorbid conditions are frequently associated with rheumatoid arthritis (RA) which not only increase morbidity but also has impact on treatment and may shorten the life span of those patients.

Objectives: To study the prevalence of different comorbid conditions among patients with RA.

Methods: Data was collected from rheumatoid arthritis Registry in Qatar. Patients fulfilling 2010 ACR/EULAR criteria for RA were included in this observational study from period of June 2013 to November 2015. Data about Baseline demographics, treatment pattern, disease scores and details of comorbid conditions were recorded in this observational study

Results: Data of 496 patients was analyzed. Demographic and disease characteristic of our RA cohort was as follows: 75.8% were female, 74.9% were positive for rheumatoid factor, 79.8% were positive for anti CCP and 31.3% have erosion at the time of data collection. One hundred thirty patients (26.4%) were receiving biologic drugs, 71.8 were on synthetic DMARDs (either as monotherapy or different combination) and 39.7% were receiving concomitant steroid. The most commonly associated comorbid conditions were hypertension (24.2%) followed by diabetes mellitus (20.6%), dyslipidemia 10.9%, hypothyroidism 10.9%, asthma and chronic obstructive disease 1.4%.