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Background: Land and water-based exercise intervention programs have demonstrated positive effects on fibromyalgia symptoms¹. However, research comparing the efficacy of both protocols is limited.

Objectives: The aim of this study was to assess the effect of two exercise interventions (land-based and water-based training) and a subsequent detraining period on fatigue in women with fibromyalgia.

Methods: Among the 272 participants initially randomised, a total of 161 women (age: 50.7±7.7) completed all the assessments with an attendance of at least of 70% (land-based *n*=50, water-based *n*=44, control *n*=67). The intervention groups trained 3 non-consecutive days/week (60 min/ses) during 24 weeks. Each session involved exercises to improve cardiorespiratory fitness, muscle strength, and flexibility. Four dimensions of fatigue were assessed using the Multidimensional Fatigue Inventory. Participants were evaluated at baseline (pre-test), at the end of the intervention (post-test) and following a detraining period of 12 weeks (re-test). Land-based, water-based, and control groups were comparable in sociodemographic characteristics, disease duration, drugs intake, and body mass index. Age, tenderness, and baseline outcome values were used as covariates in the comparisons (analysis of covariance) of the changes from baseline (post-test vs. pre-test and re-test vs. pre-test) between groups.

Results: The land-based exercise group reduced general fatigue (mean difference: -1.17; 95% confidence interval: -2.30 to -0.03; *P*=0.04) and physical fatigue (-2.48; -3.80 to -1.16; *P*<0.001) compared to the control group (-1.61; -3.04 to -0.19; *P*=0.02). No significant reductions were observed in other dimensions of fatigue in either group compared to the control group and no differences between intervention groups were observed (all comparisons, *P*>0.05). The reductions in fatigue were not sustained after the detraining period in any of the intervention groups (all comparisons, *P*>0.05).

Conclusion: Twenty-four weeks of land or water-based exercise were both effective in reducing physical fatigue of women with fibromyalgia. Furthermore, land-based exercise led to additional reductions in general fatigue. Reductions in fatigue were not sustained after a 12-week detraining period. Participation in regular exercise, specially land-based, might be an easily accessible treatment option to manage fatigue in this population.

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HPR Service developments, innovation and economics in healthcare

FRI0648-HPR

OUTPATIENT FOLLOW-UP ON DEMAND IN RHEUMATOID ARTHRITIS HAS SAME CLINICAL AND RADIOGRAPHIC OUTCOMES BUT FEWER VISITS THAN SCHEDULED ROUTINE CARE

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Background: Medical treatment and care are often life-long in patients with rheumatoid arthritis (RA). During periods of stable disease, patients typically attend routine visits every 3–8 months at the rheumatology outpatient clinic. Between scheduled medical visits, it may be difficult to get acute appointments with the rheumatologist. Scheduled routine visits may be in a stable period without any symptoms and with no need for control and adjustment of treatment. Consequently, there is a demand for developing outpatient control procedures that cater to the needs of the individual patient and which support the patient's experience of active participation in the control and treatment of their own disease.

Objectives: To compare a patient self-controlled outpatient follow up system (Open Outpatient Clinic System (OOCs)) with traditional scheduled routine visits at a rheumatology outpatient clinic.

Methods: A two-year randomised controlled trial with RA patients aged 18 to 80 years with a disease duration of at least one year. Patients were recruited consecutively from the rheumatology outpatient clinic of a major university hospital in the Copenhagen region of Denmark from February 2015 to January 2017. Patients were randomised electronically. Joints were examined by a blinded rheumatologist. Patients in the OOCs group had no scheduled appointments but

were allowed to book acute appointments with their contact rheumatologist within 5 days and had access to nurse-led consultations without pre-booking, and a nurse-led telephone helpline. Appointments for the control group were scheduled according to routine procedures. Outcome measures were collected at baseline, year 1 and year 2. Clinical parameters: DAS28, CRP, VAS pain, 28-tender and swollen joint count (28-TJC and 28-SJC), HAQ score and radiographs of hands and feet. Psychological parameters: VAS patient satisfaction (Pt satisfact) and quality of life (EQ-5D).

Results: Of 282 patients, 266 completed the first year, 239 the second year. Patient characteristics (OOCs/controls): age 61.4±10.5/60.9±12.2 years, females 77/74%, ACPA positive 66/65%, treatment with synthetic DMARDs 67/65% and/or biologics 33/35%. Clinical and psychological parameters are shown in Table 1. OOCs at year one and two was comparable to traditional scheduled routine procedures regarding clinical and psychological outcome measures. Radiographic progression was detected in 2.9% (4/138) and 2.1% (3/140) of the OOCs and control group, respectively (*p*=0.69; Chi-squared test).

Table 1. Outcome measures in patients with RA randomised to on demand Open Outpatient Clinic System (OOCs) or traditional follow-up (control group) in a rheumatology out-patient clinic. Results are shown as mean±SD.

	OOCs	Controls	OOCs	Controls	OOCs	Controls
Time	Baseline	Baseline	Year 1	Year 1	Year 2	Year 2
Visits			3.2±1.9	3.8±1.6*	2.6±1.6	3.5±2.2**
Phone calls			1.8±3.3	0.4±0.8**	0.7±1.4	0.1±0.3**
DAS28	3.0±1.2	2.9±1.0	2.6±1.1	2.6±1.0	2.7±1.2	2.5±1.0
CRP	10.2±7.2	10.1±8.0	8.2±9.9	5.7±5.1*	9.6±8.8	5.5±8.9*
28-SJC	0.6±1.5	0.6±1.2	0.2±0.5	0.3±1.0	0.3±0.9	0.4±1.2
28-TJC	3.3±5.7	2.4±4.2	2.4±4.7	2.1±3.7	2.4±4.9	2.3±4.7
VAS pain	27±25	26±21	28±26	28±24	32±27	29±25
HAQ-score	0.6±0.6	0.6±0.6	0.7±0.6	0.6±0.6	0.8±0.7	0.6±0.7
EQ-5D	0.8±0.2	0.8±0.1	0.8±0.2	0.8±0.2	0.8±0.2	0.8±0.1
Pt satisfact	88±21	87±19	84±25	82±23	82±24	83±23

p*<0.05; *p*<0.0005, OOCs vs. control group (Student's *t*-test).

Conclusion: The patient self-controlled outpatient follow up system OOCs was associated with fewer visits, but more phone calls to the nurse, and was comparable with traditional scheduled routine procedures regarding clinical, psychological and radiographic outcomes after two years. Thus, organisation of outpatient care according to OOCs may be applied to strengthen patient-centred care in patients with RA.

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HYDROXYCHLOROQUINE PRESCRIBING AND OPHTHALMOLOGY SCREENING WITHIN RHEUMATOLOGY DEPARTMENTS IN THE NORTH-WEST OF THE UNITED KINGDOM: A PROSPECTIVE REGIONAL AUDIT

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Background: Hydroxychloroquine (HCQ) is widely used in the management of rheumatoid arthritis and connective tissue disease. The prevalence of retinopathy in patients taking long-term HCQ is approximately 7.5%, increasing to 20–50% after 20 years of therapy. Hydroxychloroquine prescribed at ≤5mg/kg poses a toxicity risk of <1% up to five years and <2% up to ten years, but increases sharply to almost 20% after 20 years. Risk factors for retinopathy include doses >5mg/kg/day, concomitant tamoxifen or chloroquine use and renal impairment. The UK Royal College of Ophthalmologists (RCOphth) 2018 guidelines for HCQ screening recommend optimal treatment dosage and timing for both baseline and follow-up ophthalmology review for patients on HCQ, with the aim of preventing iatrogenic visual loss. This is similar to recommendations made by the American Academy of Ophthalmology (2016).

Objectives: To determine adherence to the RCOphth guidelines for HCQ screening within the Rheumatology departments in the North-West of the UK.

Methods: Data for patients established on HCQ and those initiated on HCQ therapy were collected over a 7 week period from 9 Rheumatology departments.

Results: 473 patients were included of which 56 (12%) were new starters and 417 (88%) were already established on HCQ. 79% of the patients were female, with median ages of 60.5 and 57 years for new and established patients respectively. The median (IQR) weight for new starters was 71 (27.9) kg and for established patients, 74 (24.7) kg.

20% of new starters exceeded 5mg/kg daily HCQ dose. 16% were identified as high risk (9% had previously taken chloroquine, 5% had an eGFR <60ml/min/m² and 2% had retinal co-pathology). Of the high-risk group, 44% were taking <5mg/kg. In total, 36% of new starters were referred for a formal baseline Ophthalmology review. In the established patients, 74% were taking ≤5mg/kg/day HCQ dose and 16% were categorized as high risk (10% had an eGFR less than 60ml/min/m², 3% had previous chloroquine or tamoxifen use and 2% had retinal co-pathology). In the high-risk group, 75% were not referred for spectral domain optical coherence tomography (SD-OCT). 41% of patients established on HCQ for <5 years, and 33% of patients on HCQ for >5 years were not referred for SD-OCT. Reasons for not referring included; awaiting 5 year review, previous screening already performed and optician review advised.

Since the introduction of the RCOphth guidelines, 29% patients already established on HCQ had an alteration in the dosage of HCQ in accordance with the guidelines. In the high-risk group, 16% were not on the recommended HCQ dose.

Conclusion: This audit demonstrates inconsistencies in adherence to the RCOphth guidelines for HCQ prescribing and ophthalmology screening within Rheumatology departments in the North-West of the UK for both new starters and established patients. Plans to improve this include wider dissemination of the guidelines to Rheumatology departments and strict service level agreements with ophthalmology teams to help optimize HCQ prescribing and screening for retinopathy.

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HPR Epidemiology and public health (including prevention)

FRI0650-HPR SEXUAL DYSFUNCTION IN WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Sexual dysfunction is the alteration in one or several phases of sexual activity (desire, excitement, plateau, orgasm and resolution), which can culminate in frustration, pain and a decrease in the frequency of sexual intercourse. There are few studies that associate sexual dysfunction with Systemic Lupus Erythematosus (SLE) due to the difficulty in assessing it and its multifactorial cause.

Objectives: Determine the frequency of sexual dysfunction and analyze associated factors in patients with SLE.

Methods: A descriptive cross-sectional study was conducted. We included patients who attended the Rheumatology unit between May and July 2019; over 18 years of age, with a diagnosis of SLE according to the ACR 1997 and / or SLICC 2012 criteria, and healthy patients matched by age as control. Demographic and disease-related variables were studied. The DASS-21 (Depression Anxiety Stress Scale) scale that evaluates depression, anxiety and stress, and the Female Sexual Function Index (FSFI) that assesses 6 domains (desire, excitement, lubrication, orgasms, satisfaction and pain) were applied with a cut-off point ≤ 26.5 to define sexual dysfunction. Women over 50 years old, with secondary Sjogren's syndrome, menopause, severe depression and illiterate patients were excluded.

Results: One hundred and twenty three women were included (60 with SLE and 63 controls), with a mean age of 34.3 ± 8.3 and 31.7 ± 4.4 years respectively. The prevalence of sexual dysfunction in the SLE group was 71.7%; 95% CI = [58.5 – 82.5], and 23.8%, 95% CI = [13.9 – 36.2] in healthy patients. There were significant differences in all domains of sexual function between women with SLE and healthy group. In the desire, excitement and pain domains the differences were notable. The total FSFI score in patients with SLE was 18.2 ± 11.2 and in healthy women 28.3 ± 6.9 (p=0.001). Stress, anxiety and depression were observed in 58.4%, 58.3% and 50% of women with SLE and 19%, 20.6% and 28.5% of healthy women respectively (p=0.001). No association was found between sexual dysfunction and age, age at diagnosis, disease activity or treatment (pNS). No association was found in patients

with SLE when analyzing the effect of sexual dysfunction in stress, depression and anxiety variables, in opposition to the healthy group (p<0.05).

Conclusion: The prevalence of sexual dysfunction in patients with SLE was high (71.7%). Depression, Anxiety, and Stress were not decisive variables in Sexual Dysfunction.

Disclosure of Interests: None declared

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HPR Service developments, innovation and economics in healthcare

FRI0651-HPR A RANDOMIZED PROSPECTIVE OPEN-LABEL CONTROLLED TRIAL COMPARING THE PERFORMANCE OF A CONNECTED MONITORING INTERFACE IN PATIENTS WITH RHEUMATOID ARTHRITIS VERSUS PHYSICAL ROUTINE MONITORING

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Background: Telemedicine has found wider application in chronic diseases for encouraging tight home-monitoring in order to improve patients' outcome (Smolen et al. 2017).

In previous studies, a high feasibility and high patient-satisfaction rate was found as well as the evidence for a superior or equal effectiveness of telemedicine compared to the standard face-to-face approach, however the results were weakened by some methodological biases and wide heterogeneity of interventions, thus preventing to draw definitive conclusions (Piga et al. 2017; Najm, Gossec, et al. 2019).

Objectives: In rheumatoid arthritis (RA), telemedicine may allow a tight control of disease activity while reducing hospital visits. We developed a smartphone application connected with a physician's interface to monitor RA patients. We aimed to assess the performance of this e-Health solution in comparison with routine practice in the management of patients with RA.

Methods: A 6-month pragmatic, randomized, controlled, prospective, clinical trial was conducted in RA patients with high to moderate disease activity starting a new Disease Modifying Anti-Rheumatic Drug (DMARD) therapy. Two groups were established: "connected monitoring" and "conventional monitoring". The primary outcome was the number of physical visits between baseline and 6 months. Secondary outcomes included adherence, satisfaction, changes in clinical, functional, and health status scores (SF-12).

Results: Of the 94 randomized patients, 89 completed study: 44 in the "conventional monitoring" arm and 45 in the "connected monitoring" arm. The total number of physical visits between baseline and 6 month was significantly lower in the "connected monitoring" group (0.42 ± 0.58 versus 1.93 ± 0.55; p<0.05). No differences between groups were observed in the clinical and functional scores. A better quality of life for SF-12 subscores (Role-Physical, Social-Functioning and Role-Emotional) were found in the "connected monitoring" group.

Conclusion: According to our results, a connected monitoring reduces the number of physical visits while maintaining a tight control of disease activity and improving quality of life in patients with RA starting a new treatment.

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