Objectives: To explore the feasibility and preliminary efficacy of a web-based, peer-supported exercise program for people with hip or knee OA.

Methods: This study was a single-group, pre-post feasibility study. Patients aged 40-80 years with hip or knee OA who were not candidates for surgery were eligible. The 12-week intervention was delivered through a patient-organizations (The Norwegian Association for Rheumatic Diseases) web-based platforms, and included weekly exercise programs, weekly motivational messages, an OA and exercise website and assigned peer-supporters. Feasibility was evaluated by calculating the proportion of eligible patients who were enrolled and retained at follow-up, as well as time resources used on delivery of the intervention. Acceptability was evaluated by calculating proportion of patients who had valid baseline accelerometer data and completed the maximal cardiorespiratory exercise test according to protocol. Primary efficacy measures were change in PA assessed by accelerometers and change in exercise capacity (VO₂peak) assessed by indirect maximal cardiorespiratory exercise test. Secondary efficacy measures were change in patient reported outcomes assessed by HOOS and KOOS (www.koos.nu) (a 10-point change in normalized scores was considered a minimally important change). Data was analysed using paired sample t-test, given as mean change (95% confidence interval) and p-values.

Results: We identified 49 eligible patients of which 35 (71%) consented and were enrolled. Among those who consented, 22 (63%) were retained. Time resources used on delivery of the exercise programs and motivational messages were mean (SD) 7.3±1.1 min per week/patient. Compliance with wearing the accelerometer was mean (SD) 6.1±1.0 valid days (mean (SD) 13.8±1.3 hours/day). Twenty (67%) out of 30 patients who attended baseline testing performed the maximal cardiorespiratory exercise test, of which 18 completed according to protocol. Due to Covid-19 restrictions, follow-up testing of primary efficacy measures included only eight patients. For these patients there was a significant increase from baseline to follow-up on moderate-to-vigorous PA (mean change 16.4 minutes/day; 95% CI 6.9, 25.9, p=0.005) and VO₂peak (mean change 1.83 ml/kg/min; 95% CI 0.29, 3.36, p=0.026). Across all secondary efficacy measures 30-52% of the patients (n=21) improved from baseline to follow-up (Figure 1).

Figure 1. Proportion (%) of patients with Minimally Important Change (from baseline to follow-up) in normalized scores in subdomains of Hip disability and Osteoarthritis Outcome Score (HOOS) / Knee injury and Osteoarthritis Outcome Score (KOOS).

Conclusion: Overall, the examined study processes were considered to be feasible and acceptable. Some minor amendments should be applied to improve the recruitment and retention rate before it can be carried out in a larger trial. The efficacy results should be interpreted with caution due to the small sample size. However, if the positive results in this study are confirmed in a power-calculated randomised controlled trial, our novel follow-up strategy may be implemented and recommended for long-term management of hip and knee OA.

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OP0155-HPR

REMOTE MANAGEMENT OF RHEUMATOID ARTHRITIS VS ROUTINE OUTPATIENT FOLLOW-UP: A PROSPECTIVE, LONGITUDINAL REAL-WORLD STUDY

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Background: Remote management of rheumatoid arthritis (RA) using patient self-assessment of disease and patient-reported outcomes has potential to inform timely clinical decisions on disease management, reduce burden on busy rheumatology services and promote effective self-management. However, it is unclear how patients' self-reporting relates to treatment decisions.

Objectives: To determine the agreement between remote treatment decisions based on patient self-assessment questionnaire assessed blindly by a health professional and treatment decisions based on routine outpatient monitoring appointments.

Methods: This was a prospective real-world study including patients (who gave informed consent) enrolled in an observational study of RA patients starting a new biologic therapy.

Enrolled patients continued with their usual care and usual clinic monitoring. In addition, they completed at home, self-assessment questionnaires at monthly intervals, including: two self-reported components which are collected as part of routine clinical practice (joint stiffness and flare), visual analogue scales for pain, global health and fatigue; and HAQ-DI and self-efficacy scales (Arthritis Self-Efficacy Pain and Other Symptoms subscales) at inclusion visits, 12 and 24 months. Remote treatment decisions were made by an independent (blinded) health professional, based on the self-assessment questionnaires and information collected in the study: medical history, ongoing therapies for RA, clinical outcomes, adverse events and toxicity. In this analysis, the independent blinded clinician did not have the same information as the routine hospital visit clinician (blood results and joints assessment).

The remote decisions were matched with the hospital visit decisions (within 2 weeks) and the measure of agreement between the 2 raters (independent blinded health professional and clinician at outpatient appointment) were evaluated using kappa coefficient: <0.2, 0.21-0.40, 0.41-0.60, 0.61-0.80 and 0.81-0.99 representing poor, fair, moderate, substantial and almost perfect agreement respectively.

Results: A total of 72 RA patients were recruited into the sub-study: mean (SD) age 57.8 (11.6), disease duration 11.7 (10.3) and 52 (87%) were female. The pre-categorised remote decisions were: no change to biologic, stop biologic, add concomitant DMARD, reduction/removal of a concomitant DMARD and bring in for review. There were 57 matched decisions between the independent health professional and the outpatient clinicians. The outpatient clinician made 7 changes to biologic and 18 non-biologic therapy changes, while the remote health professional made 1 change to biologic and 17 changes to a non-biologic DMARD including bringing in for review. The self-assessment questionnaires reported 34 RA flares of which 21 had resolved. In the matched decisions, there was only one adverse event that needed stopping treatment, identified by both the remote and the outpatient treatment. The independent health professional and the outpatient clinician had a 'fair' agreement on changes to biologic therapy (Kappa = 0.226, p = 0.007) and overall changes to RA therapy (Kappa = 0.24, p = 0.07).

Conclusion: Remote RA monitoring using patient self-assessment and outcome measures was feasible with fair agreement on treatment decisions. Further work is required on understanding the importance of adding blood test monitoring to remote decision-making.

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THE EFFECT OF A PERSON-CENTERED SMOKING CESSATION PROGRAM IN RHEUMATOID ARTHRITIS PATIENTS IN A RHEUMATOLOGY OUTPATIENT CLINIC SETTING – RESULTS OF AN INTERVENTIONAL FEASIBILITY STUDY

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Background: Smoking is associated with worse treatment response¹ and higher mortality² in rheumatoid arthritis (RA).

Objectives: To assess the effect of a smoking cessation intervention in a rheumatology setting.

Methods: We designed a smoking cessation interventional feasibility study. RA patients who were active smokers were asked to participate. A nurse-delivered program consisting of behavioural changes techniques and voluntary pharmacotherapy was executed. The intervention was at baseline and at several time points during a 24 month period, based on the individual patient's needs. Smoking status was collected at baseline, 6, 12, 18 and 24 months. Smoking cessation was verified by 7-days abstinence and carbon monoxide in expiratory air. The main outcome was the proportion of patients who quit smoking (QS) at 24 months.

Results: A total of 99 patients were included in the study between 2011-2020. Median (IQR) age of patients was 58 (50 - 64), 69 % were female and 82% were RF and/or ACPA positive. 59% of patients had a newly diagnosed RA, (included from the early RA-track), with a median (IQR) symptom duration of 5 (2-9.5) months. Patients with established RA 41% (included from regular rheumatology department) had a median disease duration of 4 (2-8) years. After 24 months 21% quit smoking (QS) (Table 1). At months 6, 12, 18 and 24 the proportion of QS patients was 12, 13, 15 and 21, respectively. The proportion of QS patients at month 12 and continued being in the QS group throughout the study period was 10%. In the subgroup of patients who continued smoking (CS) the median number of cigarettes per day was significantly reduced at all follow-up time points (Table 1). No significant differences were observed at baseline between CS at 24 months and QS, apart from the proportion of patients who reported anxiety (extracted from EQ-5D and defined as absent or present), which was significantly fewer in the QS group (Table). In the QS group at month 24, the proportion of females was numerically lower compared to CS (52% vs. 73%, $p=0.07$).

Table 1. Baseline demographical, clinical characteristics and number of cigarettes at specific time-points for patients who were non-smokers (QS) and smokers (CS) at month 24.

	QS N=21 (21%)	CS N=78 (79%)	Difference between QS and CS (p-value)
Age*(median, IQR)	60 (53-62)	57 (50-64)	0.94
Symptom duration in early RA patients (months) (median, IQR)	6 (2-12)	4.5 (2-8.5)	0.49
Disease duration of patients with established RA (years) (median, IQR)	8 (3.5-16.5)	3 (2-6)	0.12
% females	52	73	0.07
% RF and/or ACPA positive	85	81	0.70
DAS28* (median, IQR)	4.24 (3.13-5.72)	4.11 (2.88-5.36)	0.69
HAQ* (median, IQR)	0.75 (0.25 -1.38)	0.88 (0.38-1.25)	0.74
VAS pain* (median, IQR)	46.0 (11-60)	34.5 (12-70)	0.90
% of patients with reported anxiety* (part of EQ5D)	28	58	0.02
Smoking duration (years) (median, IQR)	40 (30-50)	40 (34-49)	0.92
Median number of cigarettes per day			
-at baseline	10 (7-15)	12 (10-20)	0.22
-at 6 months	0 (0-3)	6 (3-10)	0.006
-at 12 months	0 (0-5)	6 (3-10)	0.0003
-at 18 months	0 (0-0)	6 (2-10)	0.00
-at 24 months	0 (0-0)	6 (3-10)	0.00

*=measured at baseline

Conclusion: Smoking cessation intervention in a rheumatology clinic setting may facilitate reduced smoking or complete cessation in patients with RA. Patient who did not report anxiety were more likely to quit smoking.

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CHANGES IN PAIN AND HAND FUNCTION AFTER MULTIMODAL OCCUPATIONAL THERAPY AND/OR SURGERY IN PATIENTS WITH CARPOMETACARPAL OSTEOARTHRITIS

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Background: Carpometacarpal osteoarthritis (CMC1 OA) is a subset of hand OA, often leading to pain and functional limitations. The EULAR recommends conservative treatment as first-line management, and a recent study showed significant short-term effect of multimodal occupational therapy on pain and hand function in patients referred to surgical consultation¹. However, long-term results are lacking.

Objectives: To explore the long-term effect of multimodal occupational therapy on pain and hand function in patients with CMC1 OA, and to assess the differences between those undergoing surgery or not in the two groups.

Methods: This project presents secondary analyses of a multicentre RCT. Patients referred by their general practitioner to surgical consultation due to CMC1 OA at three Norwegian hospitals from 2013-2015 were eligible. During the waiting period between referral and surgical consultation, 180 patients were randomized to usual care (information, n=90) or a 3-month multimodal occupational therapy intervention (patient education, hand exercises, orthoses and assistive devices, n=90). Patients were assessed at baseline, and 4 (before surgical consultation), 18 and 24 months. Pain at rest was assessed using a 11-point numeric rating scale, and hand function was self-reported with the MAP-Hand (1-4, 1=no problem). The long-term within- and between-group differences on pain and hand function were assessed using repeated measure ANOVA. Sub-analyses were done among those undergoing surgery or not in the two groups. P-value <0.05.

Results: 163 patients (63 (8) years, 81% women) were included in the analyses. Both groups showed a significant reduction in pain and improvement in hand function over time ($p<0.001$), with a significant between-group difference for pain ($F(1, 161) = 8.56$, $p = 0.004$), in favour of the intervention group, but not hand function.

After 2 years, 22 patients had undergone surgery in the intervention group vs 29 in the control group. No significant difference over time were found in pain or hand function between those undergoing surgery or not in the two groups. However, at the time of the surgical consultation, significantly higher pain (Figure 1) and poorer hand function were reported among those later undergoing surgery in the control group ($p\leq 0.001$). Surgery did not lead to further improvement in pain and hand function in the intervention group.

Figure 1. Between-group difference on pain over a 2-year period. The control group is marked in light grey and the intervention group in black. Those who underwent surgery are marked with dotted lines, while those who did not are marked with solid lines (n=163)