through the 36-item Short Form Health Survey (SF-36). Participants were evaluated at baseline (pre-test), at the end of the intervention (post-test) and following a detraining period of 12 weeks after the end of the intervention (re-test). Land-based, water-based, and control groups were comparable in sex, sociodemographic characteristics, disease duration, drugs intake, and BMI. Age, tenderness, and baseline outcomes values were used as covariates in the comparisons of the changes from baseline (post-test vs. pre-test and re-test vs. pre-test) between groups.

Results: Post-intervention changes from baseline in QOL dimensions in the land-based exercise group were better for physical role (compared to the control and water-based groups; all, $p < 0.01$), bodily pain, general health, social function, emotional role, mental health, and mental component (compared to the control group; all, $p < 0.05$). Post-intervention changes from baseline in the water-based exercise group were not statistically significant compared to land-based or control groups ($p > 0.05$). After a detraining period of 12 weeks, changes in QOL from baseline in the land-based exercise group were better for physical role, bodily pain (compared to the control and water-based exercise groups; all, $p < 0.01$), physical function and physical component (compared to the water-based exercise group; all $p < 0.05$). No significant changes in QOL after the detraining period from baseline were observed in the water-based exercise group compared to land-based or control groups ($p > 0.05$).

Conclusion: A land-based exercise intervention improved FM patients' QOL, whereas a water-based exercise intervention showed no significant effect. Improvements in the physical role and bodily pain domains of QOL were sustained in a 12-week detraining period. Land-based exercise might be an easily accessible treatment option that improves QOL to a greater extent than water-based exercise for FM patients.

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Acknowledgement: Funding: This study was supported by the Spanish Ministry of Economy and Competitiveness (I+D+i DEP2010-15639; I+D+i DEP2013-40908-R; BES-2014-067612) and the Spanish Ministry of Education (FPU14/02518; FPU 15/00002).

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.2782

OP0102 INTERVERTEBRAL DISC THERAPIES FOR NON-SPECIFIC CHRONIC LOW BACK PAIN: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Intervertebral disc therapies (IDT) for the management of non-specific chronic low back (NSCLBP) pain are raising interest (1).

Objectives: To review evidence on the benefits and harms of IDT in people with NSCLBP.

Methods: We searched 4 databases and conference abstracts, from inception to July 2018, for randomized trials of IDT versus placebo interventions, active comparators or usual care. Two independent investigators extracted data and assessed the risk of bias. The primary outcome was LBP intensity at short, intermediate and long terms (2). Secondary outcomes were LBP-specific activity limitation and safety (3). Our review was registered with the International Prospective Register of Systematic Reviews (CRD42019106336).

Results: Of 17 eligible trials, 5 trials (436 patients) assessed glucocorticoid (GC) IDT and were included in a quantitative synthesis. Twelve trials assessed IDT of other products including ozone (n=2, 140 patients), methylene blue (n=1, 72 patients), stems cells (n=1, 24 patients), glycerol (n=1, 11 patients), etanercept (n=2, 96 patients), tocilizumab (n=1, 60 patients), platelet-rich plasma (n=1, 47 patients), chymopapaine (n=1, 39 patients) and rhGDF-5 (n=2, 55 patients) and were included in a narrative synthesis. Standardized mean differences (SMD) of GC IDT for LBP intensity and activity limitations were -1.33 (-2.34;0.32) and -0.76 (-1.85;0.34) at short-term, -2.22 (-5.34;0.90) and -1.60 (-3.51;0.32) at intermediate-term and -1.11 (-2.91;0.70) and -0.63 (-1.68;0.42) at long-term, respectively. OR of GC IDT for serious and minor adverse events were 1.13 (0.20; 4.59) and 0.97 (0.49;1.91).

Conclusion: GC IDT are associated with a reduction in LBP intensity at short-term in people with NSCLBP. Positive effects are not sustained. There is no effect on activity limitations.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.4492

OP0103 EFFECTS ON A FRENCH MASS MEDIA CAMPAIGN ON BACK PAIN BELIEFS AND BEHAVIORS

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Background: Low back pain (LBP) in general and chronic LBP specifically is frequent with high impact on both individuals and Society. In 2017, the French national public health insurance (CNAMTS, Caisse Nationale d'Assurance Maladie des Travailleurs Salariés) has decided to launch a countrywide mass media campaign to improve general population (POP) and general practitioners (GPs) beliefs and behaviors about LBP and tend to reduce its impact on health resource use and including sick leaves.

Objectives: To evaluate the impact on population and physician beliefs and behaviors of the nationwide population-based campaign on LBP.

Methods: A campaign was conducted by the CNAMTS with the help of health experts (rheumatologists, rehabilitation specialists, algologists, GP and physiotherapists). It ran between November 2017 and November 2018, using multi media: booklets for POP and GPs available on CNAMTS website, TV and radio spots, large size wall posters hanged in public areas, videos on social networks, publicity articles and a smartphone application. The campaign main messages were: "LBP is not a severe disease" and "rest doesn't help to heal" with a tagline: "Low back pain? The right treatment is the movement". The impact of the campaign was assessed by internet surveys conducted by a private polling company (BVA, Brulé, Ville et Associés), in random samples of the two populations (POP and GP). The respondents were selected according to the quota method, which enabled adequate representativeness based on sex, age, region of living and socio-economic status. The pre-test survey was performed on June 2017 and the post-test in May 2018, 6 months after beginning of the campaign. The questions explored different domains: 1) memorization, understanding and perception of the campaign, 2) knowledge and beliefs about LBP, and 3) repercussions on behaviors. Statistical significance at 5% was assessed with student test for means and sd, and chi2 test for categorical variables.

Results: Among the 2000 POP, 92% have already experienced LBP with mean pain intensity of 5.7/10 on VAS. Among the 400 GPs, 74% reported to be consulted for LBP almost every day. 35% of the POP and 74% of GPs saw, read or listened to the campaign. Overall, it was well perceived with an average rating of 7.0 and 7.3/10, respectively. POP and GP beliefs and behaviors about LBP are summarized in the table 1. There were statistically significant improvements in beliefs and behaviors related to activity in both populations. GPs are more confidence in preventing chronicization of back pain and declare to prescribe less sick leave superior to 5 days.

Table 1. Evolution in beliefs and behaviors concerning LBP in GPs and POP before and after campaign

Questions		% of agreement		p
		Pre-test	Post-test	
POP		n=2000	n=2000	
Beliefs	We have to maintain activity	56%	74%	<.001
	The best treatment is rest	68%	45%	<.001
Behaviors	You try to continue daily life independently of pain	46%	54%	<.001
	You practice activity to heal	15%	25%	<.001
GPs		n=400	N=400	
Beliefs	We have to maintain activity	88%	95%	=.001
	The best treatment is rest	33%	14%	<.001
Behaviors	It is easy to prevent chronicization	31%	43%	<.001
	% of sick leaves >5 days prescribed last year	51%	33%	<.001

Conclusion: The French media campaign appears to have significant impact on public and physicians beliefs, mainly related to the message of staying active. An additional campaign focused on employers and occupational therapists is

currently conducted. Other outcomes, of which health resource use and sick leave, will be assessed at the end of the program.

Disclosure of Interests: Martin Badard: None declared, Marie Hélène Certain: None declared, François Rannou: None declared, Patricia Ribinik: None declared, Xavier Dufour: None declared, Florian Bailly: None declared, Bruno Fautrel Grant/research support from: AbbVie, Lilly, MSD, Pfizer, Consultant for: AbbVie, Biogen, BMS, Celgene, Janssen, Lilly, Medac, MSD, NORDIC Pharma, Novartis, Pfizer, Roche, Sanofi-Aventis, Sanofi Genzyme, SOBI, UCB, Violaine Foltz: None declared

DOI: 10.1136/annrheumdis-2019-eular.5610

WEDNESDAY, 12 JUNE 2019

Personalised medicine in rheumatic disease

OP0104

THE PRESENCE OF BLOOD IN THE JOINT AND THE IMMEDIATE MOLECULAR RESPONSE IN SYNOVIAL FLUID ARE INDEPENDENTLY ASSOCIATED WITH WORSE CLINICAL OUTCOMES AT 2 YEARS AFTER HUMAN KNEE INJURY

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Background: Knee injury increases the risk of knee osteoarthritis at least 7 fold. We have shown an immediate inflammatory response to acute knee injury which is measurable both in mouse joint tissues and also in human synovial fluid (SF).

Objectives: We set out to test whether the measured immediate inflammatory protein response in SF or plasma/serum was associated with knee symptoms at 2 years after knee injury.

Methods: 150 individuals were recruited within 8 weeks of a significant acute knee injury to the Knee Injury Cohort at the Kennedy (KICK; REC 10/H0805/39; NCT02667756) from 2011-2014. The primary outcome was the Knee Injury and Osteoarthritis Outcome Score (KOOS)-4 at 2 years (a composite measure of 4 KOOS domains, where 100 is normal knee health). Baseline covariates were sex, age, body mass index (BMI), clinical effusion, SF blood staining, radiographic Kellgren/Lawrence (KL) Grade. 14 SF and 4 plasma/serum biomarkers were defined based on our prior translational studies. Regression models assessed association of biomarkers with 2 year KOOS4, adjusting for significant covariates.

Results: 123/150 (82%) were male, mean age (SD) 27(8) years and BMI 26(4) kg/m². Mean KOOS4 increased from 38(18) at baseline to 70(18) at 2 years. 64 (43%) had KL 0/1, 24 (16%) KL 2 and 11 (7%) KL 3, 75 (50%) medium/large effusion and 50 (39%) moderate/severe SF blood staining.

Medium/large knee effusion (-7.2(-13.5,-0.9)P=0.025) and moderate/severe SF blood staining (-10.1(-18.6,-1.6)P=0.02) were significant. Significant biomarkers adjusted for these covariates are shown in Table. MCP-1 and IL-6 were each significantly associated with 2 year KOOS4 independently in the fully adjusted model and in the multivariable model.

SF biomarker (pg/ml)	Adjusted simple linear model (by baseline KOOS4)		Fully adjusted model (by baseline KOOS4, blood staining and effusion)	
	coef (95% CI)	P	coef (95% CI)	P
MCP-1	-0.020 (-0.029, -0.011)	0.00005	-0.015 (-0.027, -0.004)	0.01
FGF-2	-0.047 (-0.087, -0.007)	0.02	-0.021 (-0.059, -0.017)	0.28
IL-6	-0.0006 (-0.0010, -0.0003)	0.001	-0.0005 (-0.0009, -0.0001)	0.02
TGFβ	-0.0028 (-0.0053, -0.0003)	0.03	-0.0018 (-0.0042, 0.0006)	0.14
IL-18	-0.078 (-0.147, -0.008)	0.03	-0.02 (-0.11, 0.08)	0.75

Conclusion: Those with higher levels of SF MCP-1 and IL-6 at the time of injury had a significantly worse outcome at 2 years. The presence of haemarthrosis, clinical effusion and impairment/pain at the time of injury were also independent predictors of outcome. In contrast, no baseline plasma/serum markers were associated with outcome. Stratifying individuals at high risk of persistent symptoms after knee injury may enable clinical trials of interventions to prevent or treat PTOA.

Disclosure of Interests: Cesar Garriga: None declared, Megan Goff: None declared, Kirsten Leyland: None declared, Erin Paterson: None declared, Renata Hrusicka: None declared, Benjamin Hamid: None declared, Lesley Honeyfield: None declared, Keshthra Satchithananda: None declared, Adrian Lim: None declared, Nigel Arden Grant/research support from: Grants from BIOIBERICA, and from MERCK., Consultant for: Personal fees from Flexion, from Regeneron, from Freshfields Bruckhaus Deringer, outside the submitted work., Andrew Judge Grant/research support from: Consortium research grants from Roche, Consultant for: Received consultancy fees, lecture fees and honoraria from Servier, UK Renal Registry, Oxford Craniofacial Unit, IDIAP Jordi Gol and Freshfields Bruckhaus. Member of Deringer Data Safety and Monitoring Board for Anthera Pharmaceuticals, Inc. Consultancy for Freshfields Bruckhaus Deringer, Andy Williams: None declared, Tonia Vincent: None declared, Fiona Watt Grant/research support from: Pfizer and Astellas clinical study grants (not in this area)

DOI: 10.1136/annrheumdis-2019-eular.7395

WEDNESDAY, 12 JUNE 2019

The riddle of adherence

OP0105-HPR

DO MOBILE APPS IMPROVE SHARED DECISION MAKING AND DISEASE MANAGEMENT IN THE RHEUMATIC DISEASES? AN EVALUATION OF APPS IN A SWISS RHEUMATOLOGY REGISTRY

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Background: From 2015 to 2018, the Swiss Clinical Quality Management in Rheumatic Diseases registry (SCQM) offered two mobile apps, iDialog and COMPASS, allowing patients to track disease and health status between rheumatology visits. Both apps are linked to the registry database, providing patients and physicians extra information to guide disease management decisions.

Objectives: To investigate the effect of SCQM app use on shared decision making (SDM) and disease management.

Methods: Patients were administered a cross sectional survey about satisfaction with SDM [1], disease management, and app use (February-December 2018). Patients' demographic data and longitudinal data on disease status, health status, and medication use was extracted from the SCQM database.

Analyses included patients diagnosed with rheumatoid arthritis (RA), psoriatic arthritis (PsA), or axial spondyloarthritis (axSpA) who had 1) used an SCQM app for at least 6 months and discussed app data with their physician (app + discussion group), 2) used an SCQM app for at least 6 months and did not discuss app data with their physician (app only group), or 3) did not use any SCQM app (non-app users).

We compared the 3 groups by conducting logistic regressions for the following dichotomized outcomes: maximum satisfaction with SDM and physician following the evolution of the disease, low disease activity at the most recent SCQM visit, disease activity improvement in the last year of followup, and treatment intensification (adding/increasing the dose of a disease-modifying antirheumatic drug) in the last 6 months of followup. Regressions were weighted using multinomial propensity scores to balance differences in baseline characteristics between the 3 groups.

Results: 1924 patients were included in the analyses. App users were younger than non-app users (Table 1). In adjusted analyses (Table 2), satisfaction rates were higher in the app + discussion group (p<0.05) compared to non-app users, but not for the app only group. The app only group had higher rates of treatment intensification in the last 6 months of followup (p=0.02) compared to non-app users. Although the app only and app + discussion groups had higher adjusted rates of other disease management outcomes compared to non-app users, the effects were not statistically significant.

Conclusion: App users who communicated with their rheumatologist about their app data were more satisfied with their physicians than app users who did not communicate about their app data and non-app users. Provision of apps that increase the frequency of disease monitoring may have limited impact on patient satisfaction with care and disease management processes without integration of app use into existing care processes.