Supplementary table 7. Summary of studies on the optimisation of self-management

1st Author, publication year	Study design	Patients (total n)	Disease activity at baseline (mean (SD))	Disease duration of RA (mean)	Self-management at baseline (mean (SD)) Self-efficacy	Anxiety	Depression	Other	Intervention group Description	n	Comparator Description	n	Outcome Description^1	Time point^2	Risk ratio (95% CI)	Mean outcome in intervention group (SD)	Mean outcome in control group (SD)	Mean difference (standard error, 95% CI)	p-value	Effect size (cohen's d, if reported or calculable)	Other	Risk of bias^3	Risk of bias of individual studies included in SLR^4
Self-efficacy																							
Self-management programs (combination of non-pharmacological interventions)																							
Albano, 2010	SLR: 7 SLRs, 10RCTs, 20 nRCTs	RA patients (9955)	NR	NR	NR				Educational programs (aiming at increasing knowledge and improving performance) and psycho-educational programs (combining teaching intervention activities to improve coping and change behaviour)	#12	NR	NR	Self-efficacy	NR							Improvement in 11 studies; no improvement in 1 study; Conclusion: A large number of studies still assess the positive effects of therapeutic patient education. Nowadays, the problems of short-term efficacy of therapeutic patient education and the cultural and social barriers to this practice have become a major issuefor research	Moderate	High
Anvar, 2018	RCT	Older women with RA (76)	NR	NR	Self-efficacy pain (ASES): 40.16; Self-efficacy function (ASES): 63.01				Self-management program: Participants in these classes followed a six week, multidisciplinary, group rehabilitation program as well as a peer education program, consisting of exercise and educational components (six weekly sessions of 1-1.5h).	39	Control: NR	37	Self-efficacy pain(according to ASES, score 10-100, higher score reflects higher self-efficacy)	6W		66.31 (3.08)	42.56 (2.66)		p<0.001	8.25			High	
													Self-efficacy function (according to ASES, score 10-100, higher score reflects higher self-efficacy)	6W		85.29 (3.26)	60.97 (3.21)		p<0.001	7.52				
Bell, 1998	RCT	Patients with active RA (150)	NR	7.5Y	Self-efficacy (according to Stanford Arthritis Self-Efficacy Scale (SES), score 0-100, higher score reflects higher self-efficacy): 49.2				Education and exercise program consisting of >3 visits of 3 hours of physical therapy	76	Wait list	74	Self-efficacy (ITT analysis, according to Stanford Arthritis Self-Efficacy Scale (SES), score 0-100, higher score reflects higher self-efficacy)	6W		63.2 (18.4)	57.7 (20.7)			0.28			High	
													Self-efficacy (ITT analysis, according to Stanford Arthritis Self-Efficacy Scale (SES), score 0-100, higher score reflects higher self-efficacy)	Change from BL until 6W		13.3 (16.4)	8.2 (20.0)	7.7%	p=0.106 (p=0.015 in protocol completers)	0.28				
Lineker, 2001; *Long-term follow-up of: Bell et al*	RCT	Patients with active RA (150)	NR	7.5Y	Self-efficacy (according to Stanford Arthritis Self-Efficacy Scale (SES), score 0-100, higher score reflects higher self-efficacy): 49.2			RA knowledge (according to Rheumatoid Arthritis Knowledge Questionnaire (KQ), score 0-31, higher score reflects higher knowledge): 15.8	Education and exercise program consisting of >3 visits of 3 hours of physical therapy	76	Wait list	74	Self-efficacy (according to Stanford Arthritis Self-Efficacy Scale (SES), score 0-100, higher score reflects higher self-efficacy)	52W		NR	NR		p<0.001 (MANOVA comparing BL, 12W and 52)				High	
Breedland, 2011	RCT	RA patients (34)	DAS28 3.0	8.0Y	Self-efficacy pain+other symptoms (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher): 3.22; Self-efficacy function (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher): 4.11			Self-reported health status psychological state (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower health state): 2.35; Self-reported health status social interaction (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower social interaction): 3.59	Group therapy: physical exercise designed to increase aerobic capacity and muscle strength together with an education programe to improve health status and self-efficacy	19	Wating list	15	Self-efficacy function (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher):	9W		4.32 (0.74)	4.31 (0.87)			0.012			High	
													Self-efficacy function (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher):	Change from BL until 9W		0.29 (0.57)	0.10 (0.38)		p=0.24	0.39				
													Self-efficacy pain+other symptoms (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher)	9W		3.54 (0.88)	3.63 (0.85)			0.10				
													Self-efficacy pain+other symptoms (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher)	Change from BL until 9W		0.42 (0.71)	0.28 (0.85)		p=0.47	0.18				
DiRenzo, 2018	SLR: 5 RCTs	RA patients (399)	NR	NR	NR				Mindfulness/vitality training program	(#1)	Wait-list/cognitive behavioural therapy/education	NR	Self-efficacy at 12M according to Arthritis Self-Efficacy Scale	12M							Significant treatment effect favouring vitality training program; Conclusion: There are few trials evaluating the effect of mindfulness-based interventions on outcomes in patients with RA. Preliminary findings suggest that mindfulness-based interventions may be a useful strategy to improve psychological distress in those with RA.	Low	Moderate-High
Feldthusen, 2016	RCT	RA patients with DAS28<3.8, VAS-fatigue >50 and disease duration >3Y (70)	NR	12.9Y	Arthritis Self-efficacy Scale (ASES, score 0-100, higher scores reflect higher self-efficacy): 59.8	Anxiety (HADS, score 0-21, higher score reflects higher anxiety): 6.0	Depression (HADS, score 0-21, higher score reflects higher depression): 6.4		Tailored health-enhancing physical activity and balancing life activities to guide participants in managing their fatigue: starting with individual person-centered meeting during which a self-care plan was developed, then follow-up meetings/phone contacts according to each participant's preferences with a physical therapist, who supported and coached each participant	36	Usual care	34	Arthritis Self-efficacy Scale (post-intervention, ASES, score 0-100, higher scores reflect higher self-efficacy)			68.7 (15.8)	60.0 (16.9)			0.53			High	
													Arthritis Self-efficacy Scale (post-intervention, ASES, score 0-100, higher scores reflect higher self-efficacy)			7.4 (15.2)	1.5 (12.3)		p=0.099	0.43				
Hammond, 2004	RCT	RA patients (328)	NR	9.5M	Self-efficacy score (according to Arthritis Self-Efficacy Scale (ASES), score 0-100, higher scores reflect higher self-efficacy): 61.23			Affect scale (according to Arthritis Impact Measurement Scale version 2, score 0-10, higher scores reflect better function): 4.13; Helplessness (according to Rheumatoid Attitudes Index, score 0-30, higher scores reflect worse helplessness): 16. 71; Perceived control (according to Rheumatoid Attitudes Index, score 0-36, higher scores reflect poorer sense of internal control): 18. 11; No of doctor visits for arthritis: 3.05	Occupational therapy: Five sessions: four 1h individual treatments and one 2h group arthritis education program, with additional sessions if needed	162	Usual care	164	Self-efficacy score (according to Arthritis Self-Efficacy Scale (ASES), score 0-100, higher scores reflect higher self-efficacy)	Change from BL until 6M		4.62 (95%CI 2.21-7.04)	3.41 (95%CI 1.12-5.71)		p=0.47				High	
Iversen, 2010	SLR: 30 RCTs	RA patients (731 (#5, only RA patients))	NR	NR	NR				Self-management interventions: educational, behavioural and cognitive approaches to influence health knowledge, attitudes, beliefs and behaviours to promote independence, maintain or adjust life roles, and address the psychological impact of diseases	#4	Same intervention without partner/Usual care/Information booklets/Lifestyle management for arthritis programme/Self-help guide only	NR	Self-efficacy	NR							Short-term benefits were found in four studies. Three had longer-term follow-up at 12 months, but only two showed benefits.	Moderate	Low-moderate
Knittle, 2015	RCT	RA patients (78)	NR	NR	Self-efficacy physical activity (according to 18-item questionnaire from Bandura et al (2006), score 0-180, higher scores reflect higher self-efficacy): 81.2		Depressive symptoms (according to BSI (Brief Symptom Inventory), score 0-4, higher scores reflect more depressive symptoms): 0.30	Autonomous motivation (according to three items from the Treatment Self-Regulation Questionnaire, score 0-7, higher scores reflect more autonomous motivation): 5.6	Education session plus a motivational interview from a physical therapist and two self-regulation coaching sessions from a rheumatology nurse	38	Group-based education session led by a physical therapist	40	Self-efficacy physical activity (according to 18-item questionnaire from Bandura et al (2006), score 0-180, higher scores reflect higher self-efficacy)	8W		92.8 (37.7)	78.8 (40.4)					Effect size (Cohen's d): 0.49; p=0.008 (main effects of group × time interaction based on repeated measures mixed ANOVAs adjusted for age, gender, and baseline level of disease activity)	High	

Lorig, 2008	RCT	RA patients (144)	NR	NR	NR					Internet-based Arthritis Self-Management Program (focused on reducation of pain and improvement of function, participants were asked to log on at least 3 times for a total of 1-2h and to participate in the weekly activities)	72	Usual care	72	Self-efficacy (follow-up, according to ASES, score 10-100, higher score reflects higher self-efficacy)	Change from BL until 1Y	0.783 (1.32)	0.242 (1.59)		p=0.282	0.37			High	
Manning , 2014	RCT	RA patients (108)	DAS28 S.1	20M	Self-efficacy pain (according to ASES, score 10-100, higher score reflects higher self-efficacy): 58.4; Self-efficacy function (according to ASES, score 10-100, higher score reflects higher self-efficacy): 63.2; Self-efficacy symptoms (according to ASES, score 10-100, higher score reflects higher self-efficacy): 61.7					Education, Self-Management, and Upper Extremity Exercise Training in People with Rheumatoid Arthritis (EXTRA) program (4 supervised groups delivered twice weekly , starting with an interactive discussion/seminar, followed by an exercise warm-up, personalised exercise circuit and exercise cool down; thereafter, participants were asked to perform the exercises at home for another 10W)	52	Usual care	56	Self-efficacy pain (according to ASES, score 10-100, higher score reflects higher self-efficacy)	Change from BL until 12W	4.8 (95%CI -3.1-12.8)	-5.7 (95%CI -13.2-1.8)	10.5 (95%CI 1.6-19.5)	p=0.021				High	
														Self-efficacy function (according to ASES, score 10-100, higher score reflects higher self-efficacy)	Change from BL until 12W	2.6 (95%CI -3.9-9.1)	-4.7 (95%CI -10.8-1.5)	7.2 (95%CI 0.0-14.5)	p=0.051					
														Self-efficacy symptoms (according to ASES, score 10-100, higher score reflects higher self-efficacy)	Change from BL until 12W	4.6 (95%CI -3.1-12.3)	-4.7 (95%CI -12.4- 3.0)	9.3 (95%CI 0.5-18.2)	p=0.039					
Srikesavan, 2019	SLR: 6 RCTs	RA patients (567)	NR	NR	NR					Web-based rehabilitation	#2	Waiting list/usual care	NR	Self-efficacy according to Arthritis Self-efficacy Scale	6W-10W						Significant treatment effect favouring intervention on short-term, medium-terum and long-term; Conclusion: The effects of web-based rehabilitation interventions on pain, function, quality of life, self-efficacy, rheumatoid arthritis knowledge, and physical activity are uncertain because of the very-low-quality of evidence mostly from small single trials. Adverse effects were not reported. Large, well-designed trials are needed to evaluate the clinical and cost-effectiveness of web-based rehabilitation	Low	High
										Web-based rehabilitation	#1, n=93	Waiting list	NR	Self-efficacy at short-term according to Arthritis Self-efficacy Scale	10W	15.4 (6.73-24.07)								
										Web-based rehabilitation	#1, n=88	Waiting list	NR	Self-efficacy at medium-term according to Arthritis Self-efficacy Scale	10W	15.5 (7.13-23.87)								
										Web-based rehabilitation	#1, n=144	Usual care	NR	Self-efficacy at long-term according to Arthritis Self-efficacy Scale	6W	0.54 (0.06-1.02)								
Siu, 2004	nRCT	RA patients (45)	NR	85.73M	Self-management behavior - Exercise (subscale of self-management behavior questionnaire, range 0-NR, higher score reflects NR): 5.33; Self-management behavior - Cognitive symptom management (subscale of self-management behavior questionnaire, range 0-5, higher score reflects NR): 1.53; Self-management behavior - Mental stress management (subscale of self-management behavior questionnaire, range 1-3, higher score reflects NR): 1.42; Self-management behavior - Use of community services (subscale of self-management behavior questionnaire, range 0-7, higher score reflects NR): 1.40; Self-management behavior - Use of commnity services for emotional support (subscale of self-management behavior questionnaire, range 0-1, higher score reflects NR): 1.89; Self-management behavior - Use of education service/support groups for health problems (subscale of self-management behavior questionnaire, range 1-6, higher score reflects NR): 1.26; Self-management behavior - Use of organised exercise programs (subscale of self-management behavior questionnaire, range 1-4, higher score reflects NR): 1.09; Self-management behavior - Communication with physician (subscale of self-management behavior questionnaire, range 0-5, higher score reflects NR): 1.91; Self-efficacy - Perform self-management behaviors (subscale of self-efficacy questionnaire, range 1-10, higher score reflects NR): 5.23; Self-efficacy -Manage disease in general (subscale of self-efficacy questionnaire, range 1-10, higher score					Community rehabiliation service: 1) orientation phase (2-4W, orientation program and hospital visits/home visits to provide information about disease, alleviate helplessness, re-establish and facilitate social contact and promote readiness for change); 2) intervention phase (2-3M, stress management group, self-help course and water exercise class to acquire self-management strategies, enhance self-efficacy and strengthen and expand social network); 3) consolidation phase (6M, re-union meetings and volunteer training program to reinforce and monitor self-efficacy, self-managent strategies, cultivate social support and encourage mutual help and facilitate self-acceptance and self-worthiness)	29	Usual care (patients who decided not to join the intervention group)	16	Self-efficacy - Perform self-management behaviors (follow-up, subscale of self-efficacy questionnaire, range 1-10, higher score reflects NR)	9M		6.87 (1.2)	5.98 (1.56)		p=0.000, adjusted by baseline value	0.67			High	
														Self-efficacy -Manage disease in general (follow-up, subscale of self-efficacy questionnaire, range 1-10, higher score reflects NR)	9M		6.47 (1.47)	6.06 (2.23)		p=0.001, adjusted by baseline value	0.23				
														Self-efficacy - Achieve health outcomes (follow-up, subscale of self-efficacy questionnaire, range 1-10, higher score reflects NR)	9M		6.79 (1.16)	6.25 (6.79)		p=0.000, adjusted by baseline value	0.13				
Education																										
Albano, 2010	SLR: 7 SLRs, 10RCTs, 20 nRCTs	RA patients (9955)	NR	NR	NR					Educational programs (aiming at increasing knowledge and improving performance) and psycho-educational programs (combining teaching intervention activities to improve coping and change behaviour)	#12	NR	NR	Self-efficacy	NR						Improvement in 11 studies; no improvement in 1 study; Conclusion: A large number of studies still assess the positive effects of therapeutic patient education. Nowadays, the problems of short-term efficacy of therapeutic patient education and the cultural and social barriers to this practice have become a major issuefor research	Moderate	High
Barlow, 1998	RCT	RA patients (108)	NR	15.85Y	Self-efficacy pain (ASE-pain, score 0-50, higher scores reflect higher self-efficacy): 20.17; Self-efficacy other (ASE-other, score 0-60, higher scores reflect higher self-efficacy): 30.47; T	Anxiety (HADS, score 0-21, higher score reflects higher anxiety): 8.33;	Depression (HADS, score 0-21, higher score reflects higher depression): 6.63;	Total knowledge score (self-developed, score -40 to +40, higher score reflects higher knowledge): 15.98		Provision of general information on RA in leaflet format	53	No intervention	55	Self-efficacy pain (ASE-pain, score 0-50, higher scores reflect higher self-efficacy)	Change from BL until 3W	2.79 (9.47)	1.13 (9.78)		p=0.199	0.17			High	
														Self-efficacy other (ASE-other, score 0-60, higher scores reflect higher self-efficacy)	Change from BL until 3W	0.65 (10.29)	0.09 (10.43)		p=0.407	0.054				
Hosseini Moghadam, 2018	RCT	Female RA patients (64)	NR	NR	Self-efficacy (according to omitted ASES (arthritis self-efficacy scale), score 0-33, higher scores reflect higher self-efficacy): 15.33					Group education program: two 30min sessions per week	32	Usual care	32	Self-efficacy (according to omitted ASES (arthritis self-efficacy scale), score 0-33, higher scores reflect higher self-efficacy)	8W	21.18 (5.10)	14.34 (5.98)		p<0.001	1.23			High	

Mollard, 2018	RCT	RA patients (36)	NR	NR	Self-efficacy (according to P-SEMS (Patient-Reported Outcomes Measurement Information System Self-Efficacy Managing Symptoms), score NR, higher scor reflects NR): 47.2; Self-efficacy (according to PAM (Patient Activation Measure), score NR, higher score reflects higher self-efficacy): 70.6				Usage of the LiveWithArthritis mobile app (supports self-management behaviours with features to monitor and manage the variables associated with RA, e.g. pain, treatment, other lifestyle and environmental data . App can provide reports that might help to identify aspect of patient lifestyle that make their arthritis better or worse and lets patients compare effectiveness of different treatment strategies)	21	Usual care	15	Self-efficacy (according to P-SEMS (Patient-Reported Outcomes Measurement Information System Self-Efficacy Managing Symptoms), score NR, higher scor reflects NR)	Change from BL until 6M	2.80	-1.66	p=0.04				High	
														Self-efficacy (according to PAM (Patient Activation Measure), score NR, higher score reflects higher self-efficacy)	Change from BL until 6M	6.37	2.30	p=0.46					
Niedermann, 2011	RCT	RA patients with difficulties and/or pain in hands that justified occupational therapy (53)	DAS28 3.71	9.25Y	Joint Protection Self-Efficacy (according to JP-SES, score 0-30, higher score reflects higher self-efficacy): 16.41; Arthritis self-efficacy (according to ASES-D, score 0-10, higher score reflects higher self-efficacy): 6.82	Anxiety (according to HADS-A (Hospital Anxiety and Depressions Scale - Anxiety subscale), score 0-21, higher score reflects higher level of anxiety): 5.60	Depression (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression): 4.79		Joint protection education according to Pictorial Representation of Illness and Self Measure (PRISM): a brief interactive hands-on tool, requiring simple instructions and little time; five 45min sessions, four over a 3W period and one booster session 2M later	26	Conventional joint protection	27	Arthritis self-efficacy post-intervention (according to ASES-D, score 0-10, higher score reflects higher self-efficacy)	3M	7.49 (1.34)	6.20 (6.13)	p=0.015	0.29			High	
														Joint Protection Self-Efficacy post-intervention (according to JP-SES, score 0-30, higher score reflects higher self-efficacy)	3M	21.64 (3.91)	19.32 (4.01)	p=0.047	0.59				
Niedermann, 2012 (Long-term follow-up)	RCT	RA patients with difficulties and/or pain in hands that justified occupational therapy (53)	DAS28 3.71	9.25Y	Joint Protection Self-Efficacy (according to JP-SES, score 0-30, higher score reflects higher self-efficacy): 16.41; Arthritis self-efficacy (according to ASES-D, score 0-10, higher score reflects higher self-efficacy): 6.82	Anxiety (according to HADS-A (Hospital Anxiety and Depressions Scale - Anxiety subscale), score 0-21, higher score reflects higher level of anxiety): 5.60	Depression (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression): 4.79		Joint protection education according to Pictorial Representation of Illness and Self Measure (PRISM): a brief interactive hands-on tool, requiring simple instructions and little time; five 45min sessions, four over a 3W period and one booster session 2M later	26	Conventional joint protection	27	Arthritis self-efficacy at follow-up (according to ASES-D, score 0-10, higher score reflects higher self-efficacy)	Change from BL until 12M	-0.1 (2.0)	-0.5 (1.6)	p=0.38	0.22			High	
														Joint Protection Self-Efficacy at follow-up (according to JP-SES, score 0-30, higher score reflects higher self-efficacy)	Change from BL until 12M	3.3 (6.9)	1.9 (5.2)	p=0.38	0.23				
Riemsma, 1997	RCT	RA patients (216)	NR	13.35Y	Self-efficacy - pain (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.12; Self-efficacy - function (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.32; Self-efficacy - other symptoms (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.63 (3.54 vs 3.88 vs 3.45, p<0.05)	Anxiety (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 3.69	Depression (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 2.99 (2.99 vs 2.45 vs 3.54, p<0.05)	RA Knowledge (self-developed questionnaire, score 0-10, higher score reflects higher knowledge): 6.50	Individual program for education under guidance of their regular providers of health care whose activities were coordinated through arthritis passports	69	Usual care	72	Self-efficacy - pain (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy)	7M	3.22	2.94	ns				High	
														Self-efficacy - function (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy)	7M	3.52	3.31	ns					
														Self-efficacy - other symptoms (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy)	7M	3.75	3.51	ns					
									Educational information without further guidance	75	Usual care	72	Self-efficacy - pain (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy)	7M	3.45	2.94	ns					
														Self-efficacy - function (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy)	7M	3.68	3.31	ns					
														Self-efficacy - other symptoms (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy)	7M	3.96	3.51	ns					
Psychological interventions																								
Hewlett, 2011	RCT	RA patients scoring ≥6 for fatigue during the past week (Visual Analogue Scale , 0-10, higher score reflects higher level of fatigue) (127)	NR	14.0Y	Self-efficacy (according to RASE (Rheumatoid Arthritis Self-Efficacy scale), score 28-140, higher scores reflect more self-efficacy): 104.8	Anxiety (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher anxiety): 8.7 (4.7)	Depression (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher depression): 7.1 (3.7)	Helplessness (according to AHI (Arthritis helplessness Index), score 5-30), higher scores reflects higher helplessness): 17.9 (4.8)	Cognitive behavioural therapy for fatigue self-management: 6 weekly sessions of 2h, 1 consolidation session at W14	65	Fatigue information: 1h didactic group session	62	Self-efficacy (according to RASE (Rheumatoid Arthritis Self-Efficacy scale), score 28-140, higher scores reflect more self-efficacy)	18W	112.12 (21.33)	104.16 (12.66)	p=0.042	0.45	Adjusted difference: 6.74 (95%CI 0.24-13.25), adjusted for baseline score		High	
Prothero, 2018	SLR: 9 SLRs	RA patients (10782)	NR	NR	NR				Psychological interventions	#2 SLRs, 8 studies	Wait-list/usual care/attention placebo/education	NR	Self-efficacy	NR					Astin et al. (2002)reported that psychological interventionshad a moderate effect on self-efficacy post intervention which wasreduced to non-significance at follow-up (average 8.5 months).Niedermann et al. reported that only 1 of the 4psychoeducational intervention studies included self-efficacy as anoutcome measure. The study, which examined the effectiveness of astress management program, found significant improvements postinterventions and at 15-month follow-up.; Small post intervention improvements in patient global assessment, functional disability, pain, fatigue, anxietyand depression were observed. The effect on coping, self-efficacy and physical activity was greater. Improvements in depression, coping and physical activity were maintained (8.5–14 months). Conclusions: Psychological interventions result in small to moderate improvements in biopsychosocial outcomesfor patients with rheumatoid arthritis in addition to those achieved by standard care. Several priorities for futureresearch were identified, including determining the cost effectiveness of non-psychologically trained healthprofessionals delivering psychological interventions.	Low	Low-moderate
									Psychological interventions	#1 SLR, 5 studies	Wait-list/usual care/attention placebo/education	NR	Self-efficacy post-intervention	NR					Pooled effect size: 0.35 (95%CI 0.11-0.59, p=0.017)			
									Psychological interventions	#1 SLR, 3 studies	Wait-list/usual care/attention placebo/education	NR	Self-efficacy after follow-up	NR					Pooled effect size: 0.20 (95%CI -0.08- -0.048, p=ns)			
Other interventions																								

Baxter, 2016	RCT	RA patients (33)	NR	7.01Y	Self-efficacy for symptoms (Arthritis Self-Efficacy scale, combination of pain and other symptoms, score 20-200, higher score reflects higher self-efficacy): 128.7; Self-efficacy for physical activity (SEPA questionnaire, score 0-25, higher score reflects higher self-efficacy): 14.3				Walking: instructions on a walking route with three loops, to be completed 3-4 times a week	11	Nutrition education session	22	Self-efficacy for symptoms (Arthritis Self-Efficacy scale, combination of pain and other symptoms, score 20-200, higher score reflects higher self-	6W	139.6 (108-179), range	155.7 (122-175), range					High		
													Self-efficacy for symptoms (Arthritis Self-Efficacy scale, combination of pain and other symptoms, score 20-200, higher score reflects higher self-	Change from BL until 6W	22.6 (24.0)	-3.5 (25.0)		p=0.82	1.06				
													Self-efficacy for physical activity (SEPA questionnaire, score 0-25, higher score reflects higher self-efficacy)	6W	19.1 (18-24), range	15.7 (16-24), range							
													Self-efficacy for physical activity (SEPA questionnaire, score 0-25, higher score reflects higher self-efficacy)	Change from BL until 6W	6.2 (5.6)	3.5 (6.3)		p=0.57	0.44				
De Thurah, 2017	SLR: 7 RCTs	RA patients (548 (#5, only RA patients))	NR	NR	NR				Nurse-led follow-up in managing disease control	184	Physician-led follow-up	183	Self-efficacy, according to Arthritis Self-Efficacy Scale	1Y			0.30 (0.07-0.53)			>0 favours nurse led follow-up; Conclusion: After 1year no difference in disease activity, indicated by DAS28, were found between embedded nurse-led follow-up compared with conventional physican-led follow-up, in RA patients with low disease activity or remission. No difference was found in patient satisfaction after 1year (standard mean difference (SMD) −0.17 (95 % CI −1.0 to 0.67), whereas a statistical significant difference in favour of nurse-led follow-up was seen after 2 years (SMD: 0.6 (95% CI −0.00 to 1.20)).	Low	Moderate
									Nurse-led follow-up in managing disease control	87	Physician-led follow-up	88	Self-efficacy, according to Arthritis Self-Efficacy Scale	2Y			0.46 (0.16-0.76)			>0 favours nurse led follow-up		
de Thurah, 2018	RCT	RA patients with disease duration >2Y (294)	DAS28 2.07	11-12Y, range of medians	NR				Patient-reported outcome based tele-health follow-up carried out by a nurse	88	Conventional outpatient followup by physicians	94	Self-efficacy (ITT analysis, according to General Self-Efficacy scale, range of score not reported)	Change from BL until 52W	-0.05 (95%CI -0.13-0.04)	-0.02 (95%CI -0.13-0.11)	-0.03 (90%CI -0.19-0.11)	p=0.67				High	
									Patient-reported outcome based tele-health follow-up carried out by a rheumatologist	93	Conventional outpatient followup by physicians	94	Self-efficacy (ITT analysis, according to General Self-Efficacy scale, range of score not reported)	Change from BL until 52W	-0.14 (95%CI -0.26- -0.03)	-0.02 (95%CI -0.13-0.11)	-0.12 (90%CI -0.30-0.03)	p=0.15					
Hewlett, 2005	RCT	RA patients (209)	NR	7.0-10.0Y, range of medians	Self-efficacy pain (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 50.0-58.0, range of medians; Self-efficacy function (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 62.2-67.3, range of medians; Self-efficacy other (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 70.0, median	Anxiety (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of anxiety): 7.0, median	Depression (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of depression): 4.5-5.0, range of medians	Helplessness (according to arthritis helplessness index subscale, score 5-30, high scores reflect more helplessness): 16.0-16.5, range of medians	Direct access to hospital review (rheumatologist, physiotherapist, occupational therapist) by patients with RA through a nurse-led telephone helpline	68	Usual care (review initiated by rheumatologists)	52	Self-efficacy pain (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy)	Change from BL until 6Y	2.0 (-12.0-16.0), median (IQR)	1.0 (-10.0-19.0), median (IQR)		p=0.49				High	
													Self-efficacy function (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy)	Change from BL until 6Y	-2.75 (-15.9-5.0), median (IQR)	-6.6 (-20.6-2.40), median (IQR)		p=0.19					
													Self-efficacy other (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy)	Change from BL until 6Y	-3.30 (-11.6-8.3), median (IQR)	-6.7 (-15.0-6.7), median (IQR)		p=0.25					
Roth, 2009	RCT	RA patients with insomnia (153)	NR	NR	Self-efficacy - overall (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy): 6.1; Self-efficacy - pain (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy): 5.2; Self-efficacy - function (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy): 6.5; Self-efficacy - other complaints (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy): 6.0				Eszopiclone 3mg, once daily at bedtime	77	Placebo at bedtime	76	Self-efficacy - overall (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	4W	6.54 (1.93)	6.23 (2.02)		p=0.05, adjusted by baseline value	0.16			Moderate	
													Self-efficacy - overall (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	Change from BL until 4W	0.61 (1.41)	0.17 (1.53)			0.30				
													Self-efficacy - pain (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	4W	5.87 (1.98)	5.22 (1.96)		p=0.006, adjusted by baseline value	0.33				
													Self-efficacy - pain (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	Change from BL until 4W	0.67 (2.09)	-0.09 (2.06)			0.37				
													Self-efficacy - function (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	4W	6.88 (2.49)	6.76 (2.65)		p=0.2, adjusted by baseline value	0.047				
													Self-efficacy - function (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	Change from BL until 4W	0.57 (1.73)	0.26 (1.63)			0.18				
													Self-efficacy - other complaints (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	4W	6.55 (2.11)	6.27 (2.19)		p=0.1, adjusted by baseline value	0.13				

														Self-efficacy - other complaints (according to Arthritis Self-Efficacy Scale (ASES), score 0-10, higher score reflects higher self-efficacy)	Change from BL until 4W	0.5 (1.75)	0.21 (1.91)						
Tuntland, 2010	SLR: 1 nRCT	RA patients with persistent dry eyes due to Sjögren's syndrome (29)	NR	NR	NR				Assistive technology (Eyedrop dispenser device to instil artificial tears)	29 (cross-over trial)	NR	29	Self-efficacy	NR					Eyedrop device improved application of eye drops; Conclusion: Since only one trial met the inclusion criteria for this review, there is very limited evidence for the effect of assistive technology for adults with rheumatoid arthritis. There is an urgent need for high-qualit yresearch in this field, in order to reach sufficient evidence on the effectiveness of this commonly used intervention.	Low	High
Anxiety																							
Self-management programs (combination of non-pharmacological interventions)																							
Feldthusen, 2016	RCT	RA patients with DAS28>3.8, VAS-fatigue >50 and disease duration >3Y (70)	NR	12.9Y	Arthritis Self-efficacy Scale (ASES, score 0-100, higher scores reflect higher self-efficacy): 59.8	Anxiety (HADS, score 0-21, higher score reflects higher anxiety): 6.0	Depression (HADS, score 0-21, higher score reflects higher depression): 6.4		Tailored health-enhancing physical activity and balancing life activities to guide participants in managing their fatigue: starting with individual person-centered meeting during which a self-care plan was developed, then follow-up meetings/phone contacts according to each participant's preferences with a physical therapist, who supported and coached each participant	36	Usual care	34	Anxiety (post-intervention, HADS, score 0-21, higher score reflects higher anxiety)	12W	4.5 (3.4)	7.2 (4.2)		0.71			High	
														Anxiety (post-intervention, HADS, score 0-21, higher score reflects higher anxiety)	Change from BL until 12W	-1.5 (2.1)	0.1 (2.5)	p=0.0099	0.69				
Education																							
Barlow, 1998	RCT	RA patients (108)	NR	15.85Y	Self-efficacy pain (ASE-pain, score 0-50, higher scores reflect higher self-efficacy): 20.17; Self-efficacy other (ASE-other, score 0-60, higher scores reflect higher self-efficacy): 30.47; T	Anxiety (HADS, score 0-21, higher score reflects higher anxiety): 8.33;	Depression (HADS, score 0-21, higher score reflects higher depression): 6.63;	Total knowledge score (self-developed, score -40 to +40, higher score reflects higher knowledge): 15.98	Provision of general information on RA in leaflet format	53	No intervention	55	Anxiety (HADS, score 0-21, higher score reflects higher anxiety)	Change from BL until 3W	0.38 (2.38)	0.16 (2.81)	p=0.960	0.08			High	
Niedermann, 2011	RCT	RA patients with difficulties and/or pain in hands that justified occupational therapy (53)	DAS28 3.71	9.25Y	Joint Protection Self-Efficacy (according to JP-SES, score 0-30, higher score reflects higher self-efficacy): 16.41; Arthritis self-efficacy (according to ASES-D, score 0-10, higher score reflects higher self-efficacy): 6.82	Anxiety (according to HADS-A (Hospital Anxiety and Depressions Scale - Anxiety subscale), score 0-21, higher score reflects higher level of anxiety): 5.60	Depression (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression): 4.79		Joint protection education according to Pictorial Representation of Illness and Self Measure (PRISM): a brief interactive hands-on tool, requiring simple instructions and little time; five 45min sessions, four over a 3W period and one booster session 2M later	26	Conventional joint protection	27	Arthritis self-efficacy post-intervention (according to ASES-D, score 0-10, higher score reflects higher self-efficacy)	3M	7.49 (1.34)	6.20 (6.13)	p=0.015	0.29			High	
Niedermann, 2012 (Long-term follow-up)	RCT	RA patients with difficulties and/or pain in hands that justified occupational therapy (53)	DAS28 3.71	9.25Y	Joint Protection Self-Efficacy (according to JP-SES, score 0-30, higher score reflects higher self-efficacy): 16.41; Arthritis self-efficacy (according to ASES-D, score 0-10, higher score reflects higher self-efficacy): 6.82	Anxiety (according to HADS-A (Hospital Anxiety and Depressions Scale - Anxiety subscale), score 0-21, higher score reflects higher level of anxiety): 5.60	Depression (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression): 4.79		Joint protection education according to Pictorial Representation of Illness and Self Measure (PRISM): a brief interactive hands-on tool, requiring simple instructions and little time; five 45min sessions, four over a 3W period and one booster session 2M later	26	Conventional joint protection	27	Anxiety at follow-up (according to HADS-A (Hospital Anxiety and Depressions Scale - Anxiety subscale), score 0-21, higher score reflects higher level of anxiety)	Change from BL until 12M	-0.1 (2.9)	0.0 (2.2)	p=0.89	0.039			High	
Riemsma, 1997	RCT	RA patients (216)	NR	13.35Y	Self-efficacy - pain (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.12; Self-efficacy - function (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.32; Self-efficacy - other symptoms (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.63 (3.54 vs 3.88 vs 3.45, p<0.05)	Anxiety (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 3.69	Depression (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 2.99 (2.99 vs 2.45 vs 3.54, p<0.05)	RA Knowledge (self-developed questionnaire, score 0-10, higher score reflects higher knowledge): 6.50	Individual program for education under guidance of their regular providers of health care whose activities were coordinated through arthritis passports	69	Usual care	72	Anxiety (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS))	7M	3.78	3.27	ns				High	
									Educational information without further guidance	75	Usual care	72	Anxiety (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS))	7M	3.27	3.27	ns					
Psychological interventions																							
Hewlett, 2011	RCT	RA patients scoring ≥6 for fatigue during the past week (Visual Analogue Scale , 0-10, higher score reflects higher level of fatigue) (127)	NR	14.0Y	Self-efficacy (according to RASE (Rheumatoid Arthritis Self-Efficacy scale), score 28-140, higher scores reflect more self-efficacy): 104.8	Anxiety (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher anxiety): 8.7 (4.7)	Depression (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher depression): 7.1 (3.7)	Helplessness (according to AHI (Arthritis helplessness Index), score 5-30), higher scores reflects higher helplessness): 17.9 (4.8)	Cognitive behavioural therapy for fatigue self-management: 6 weekly sessions of 2h, 1 consolidation session at W14	65	Fatigue information: 1h didactic group session	62	Anxiety (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher anxiety)	18W	5.32 (4.61)	7.59 (4.74)	p=0.22	0.49	Adjusted difference: -0.78 (95%CI -2.03-0.47), adjusted for baseline score		High	
Prothero, 2018	SLR: 9 SLRs	RA patients (10782)	NR	NR	NR				Psychological interventions	#3 SLRs, 14 studies	Wait-list/usual care/attention placebo/education	NR	Anxiety	NR					Knittle et al. (2010)found psychological interventions resulted in smallsignificant reductions in anxiety. Niedermann et al. (2004)includedone study which tested for anxiety. The cognitive behavioral therapygroup showed significant positive change at both 15 weeks and 6months. In comparison, the social group therapy arm showedsignificant positive change at 15 weeks, but this effect was notmaintained at 6 months. The 4 studies included in the review byCramp et al. (2013)which tested for anxiety did notfind significantchanges; Conclusion: Small post intervention improvements in patient global assessment, functional disability, pain, fatigue, anxietyand depression were observed. The effect on coping, self-efficacy and physical activity was greater. Improvements in depression, coping and physical activity were maintained (8.5–14 months). Pooled effect size: 0.17 (95%CI 0.02-0.32, p=0.03)	Low	Low-moderate
									Psychological interventions	#1SLR, 11 studies	Wait-list/usual care/attention placebo/education	NR	Anxiety post-intervention	NR								
Other interventions																							
Barsky, 2010	RCT	RA patients (168)	NR	13.4Y	Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability): 0.59;	Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety): 6.1;	Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression): 4.9		Cognitive-behaviour therapy: 12 session of 60-75min during 8-12W to help patients develop effective coping strategies, enhance self-efficacy and personal control, and midfy maladaptive behaviors that maintain sypmtoms and disability, followed by a monthly booster telephone call	68	All 3 groups were compared with eachother		Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety)	12M	6.1 (0.46)						High	
													Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety)	Change from BL until 12M	-0.26 (0.35)		Between groups: p=0.93					
									Relaxation response training: 8 sessions of 50-60min during 8-12W, including psycho-physiological and cognitive aspects, diaphragmatic breathing, progressive muscle relaxation, generalisation of relaxation response skills to symptoms management, followed by a monthly booster telephone call	44			Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety)	12M	6.1 (0.62)							

														Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety)	Change from BL until 12M	-0.05 (0.46)		Between groups: p=0.93				
									Arthritis education: 8 sessions of 50min during 8-12W including talks and printed material about RA and its treatment, followed by a monthly booster telephone call	56			Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety)	12M	5.7 (0.48)						
														Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety)	Change from BL until 12M	-0.13 (0.41)		Between groups: p=0.93				
Hewlett, 2005	RCT	RA patients (209)	NR	7.0-10.0Y, range of medians	Self-efficacy pain (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 50.0-58.0, range of medians; Self-efficacy function (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 62.2-67.3, range of medians; Self-efficacy other (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect	Anxiety (according to HADS (Hospital Anxiety and Depression Scale); score 0-21, higher score reflects higher level of anxiety): 7.0, median	Depression (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of depression): 4.5-5.0, range of medians	Helplessness (according to arthritis helplessness index subscale, score 5-30, high scores reflect more helplessness): 16.0-16.5, range of medians	Direct access to hospital review (rheumatologist, physiotherapist, occupational therapist) by patients with RA through a nurse-led telephone helpline	68	Usual care (review initiated by rheumatologists)	52	Anxiety (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of anxiety)	Change from BL until 6Y	0 (-2.0-3.0), median (IQR)	0 (-2.0-3.0), median (IQR)	p=0.95				High
Depression																						
Self-management programs (combination of non-pharmacological interventions)																						
Feldthusen, 2016	RCT	RA patients with DAS28<3.8, VAS-fatigue >50 and disease duration >3Y (70)	NR	12.9Y	Arthritis Self-efficacy Scale (ASES, score 0-100, higher scores reflect higher self-efficacy): 59.8	Anxiety (HADS, score 0-21, higher score reflects higher anxiety): 6.0	Depression (HADS, score 0-21, higher score reflects higher depression): 6.4		Tailored health-enhancing physical activity and balancing life activities to guide participants in managing their fatigue: starting with individual person-centered meeting during which a self-care plan was developed, then follow-up meetings/phone contacts according to each participant's preferences with a physical therapist, who supported and coached each participant	36	Usual care	34	Depression (post-intervention, HADS, score 0-21, higher score reflects higher depression)	12W	4.3 (2.8)	6.0 (3.5)		0.54			High
														Depression (post-intervention, HADS, score 0-21, higher score reflects higher depression)	Change from BL until 12W	-1.4 (3.0)	-0.4 (2.0)	p=0.15	0.39			
Knittle, 2015	RCT	RA patients (78)	NR	NR	Self-efficacy physical activity (according to 18-item questionnaire from Bandura et al (2006), score 0-180, higher scores reflect higher self-efficacy): 81.2		Depressive symptoms (according to BSI (Brief Symptom Inventory), score 0-4, higher scores reflect more depressive symptoms): 0.30	Autonomous motivation (according to three items from the Treatment Self-Regulation Questionnaire, score 0-7, higher scores reflect more autonomous motivation): 5.6	Education session plus a motivational interview from a physical therapist and two self-regulation coaching sessions from a rheumatology nurse	38	Group-based education session led by a physical therapist	40	Depressive symptoms (according to BSI (Brief Symptom Inventory), score 0-4, higher scores reflect more depressive symptoms)	8W	3.1 (1.7)	3.7 (1.9)		0.33	Effect size (Cohen's d): 0.08; p=0.266 (main effects of group × time interaction based on repeated measures mixed ANOVAs adjusted for age, gender, and baseline level of disease activity)		High
Education																						
Barlow, 1998	RCT	RA patients (108)	NR	15.85Y	Self-efficacy pain (ASE-pain, score 0-50, higher scores reflect higher self-efficacy): 20.17; Self-efficacy other (ASE-other, score 0-60, higher scores reflect higher self-efficacy): 30.47; T	Anxiety (HADS, score 0-21, higher score reflects higher anxiety): 8.33;	Depression (HADS, score 0-21, higher score reflects higher depression): 6.63;	Total knowledge score (self-developed, score -40 to +40, higher score reflects higher knowledge): 15.98	Provision of general information on RA in leaflet format	53	No intervention	55	Depression (HADS, score 0-21, higher score reflects higher depression)	Change from BL until 3W	-0.33 (1.99)	0.50 (3.28)	p=0.059	0.31			High
Niedermann, 2011	RCT	RA patients with difficulties and/or pain in hands that justified occupational therapy (53)	DAS28 3.71	9.25Y	Joint Protection Self-Efficacy (according to JP-SES, score 0-30, higher score reflects higher self-efficacy): 16.41; Arthritis self-efficacy (according to ASES-D, score 0-10, higher score reflects higher self-efficacy): 6.82	Anxiety (according to HADS-A (Hospital Anxiety and Depressions Scale - Anxiety subscale), score 0-21, higher score reflects higher level of anxiety): 5.60	Depression (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression): 4.79		Joint protection education according to Pictoral Representation of Illness and Self Measure (PRISM): a brief interactive hands-on tool, requiring simple instructions and little time; five 45min sessions, four over a 3W period and one booster session 2M later	26	Conventional joint protection	27	Depression post-intervention (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression)	3M	4.81 (3.27)	4.24 (3.38)	p=0.53	0.17			High
Niedermann, 2012 (Long-term follow-up)	RCT	RA patients with difficulties and/or pain in hands that justified occupational therapy (53)	DAS28 3.71	9.25Y	Joint Protection Self-Efficacy (according to JP-SES, score 0-30, higher score reflects higher self-efficacy): 16.41; Arthritis self-efficacy (according to ASES-D, score 0-10, higher score reflects higher self-efficacy): 6.82	Anxiety (according to HADS-A (Hospital Anxiety and Depressions Scale - Anxiety subscale), score 0-21, higher score reflects higher level of anxiety): 5.60	Depression (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression): 4.79		Joint protection education according to Pictoral Representation of Illness and Self Measure (PRISM): a brief interactive hands-on tool, requiring simple instructions and little time; five 45min sessions, four over a 3W period and one booster session 2M later	26	Conventional joint protection	27	Depression at follow-up (according to HADS-D (Hospital Anxiety and Depressions Scale - Depression subscale), score 0-21, higher score reflects higher level of depression)	Change from BL until 12M	0.5 (3.0)	-0.8 (2.2)	p=0.07	0.49			High
Riemsma, 1997	RCT	RA patients (216)	NR	13.35Y	Self-efficacy - pain (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.12; Self-efficacy - function (according to ASES (Arthritis Self-efficacy Scale, score 10-100, higher score reflects higher self-efficacy): 3.32; Self-efficacy - other symptoms (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.63 (3.54 vs 3.88 vs 3.45, p<0.05)	Anxiety (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 3.69	Depression (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 2.99 (2.99 vs 2.45 vs 3.54, p<0.05)	RA Knowledge (self-developed questionnaire, score 0-10, higher score reflects higher knowledge): 6.50	Individual program for education under guidance of their regular providers of health care whose activities were coordinated through arthritis passports	69	Usual care	72	Depression (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS))	7M	2.92	2.93	ns				High
									Educational information without further guidance	75	Usual care	72	Depression (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS))	7M	2.58	2.93	ns				
Psychological interventions																						
DiRenzo, 2018	SLR: 5 RCTs	RA patients (399)	NR	NR	NR				Mindfulness/vitality training program	(#2)	Wait-list/cognitive behavioural therapy/education	NR	Depressive symptoms at 6M - 36W (according to SCL-90-R/Beck depression inventory)	6M - 36W					Significant treatment effect favouring mindfulness	Low	Moderate-High
Hewlett, 2011	RCT	RA patients scoring ≥6 for fatigue during the past week (Visual Analogue Scale , 0-10, higher score reflects higher level of fatigue) (127)	NR	14.0Y	Self-efficacy (according to RASE (Rheumatoid Arthritis Self-Efficacy scale), score 28-140, higher scores reflect more self-efficacy): 104.8	Anxiety (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher anxiety): 8.7 (4.7)	Depression (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher depression): 7.1 (3.7)	Helplessness (according to AHI (Arthritis helplessness Index), score 5-30), higher scores reflects higher helplessness): 17.9 (4.8)	Cognitive behavioural therapy for fatigue self-management: 6 weekly sessions of 2h, 1 consolidation session at W14	65	Fatigue information: 1h didactic group session	62	Depression (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher depression)	18W	4.88 (3.66)	7.55 (4.51)	p=0.002	0.65	Adjusted difference: -1.98 (95%CI -3.20- -0.75), adjusted for baseline score	High	

Prothero, 2018	SLR: 9 SLRs	RA patients (10782)	NR	NR	NR					Psychological interventions	#5 SLRs, 28 studies	Wait-list/usual care/attention placebo/education	NR	Depression	NR					Astin et al. (2002) and Knittle et al. (2010)found thatpsychological interventions resulted in small reductions in depressionpost intervention.Astin et al. (2002)tested this effect at follow-up(averaged 8.5 months) which remained significant. Riesma et al. (2003)found that behaviour change interventions led to small reductions indepression which were not maintained at follow-up (3–14 months),however, a trend favouring behaviour change interventions wasobserved. Beltman et al. (2010) and Cramp et al. (2013)found that patients in 2 out of the 3 randomized controlled trials included in their reviews (both testing cognitive behavioral therapy) showed asignificant reduction in depressive symptoms post intervention. Thethird study in the review by Cramp et al. (2013) tested the effectivenessof group education and had no significant effects in relation todepression. The third study in the review by Beltman et al. (2010) (also testing cognitive behavioral therapy) reported an increase indepressive symptoms post intervention; Conclusion: Small post intervention improvements in patient global assessment, functional disability, pain, fatigue, anxietyand depression were observed. The effect on coping, self-efficacy and physical activity was greater.Improvements in depression, Pooled effect size: 0.15 (95%CI -0.01- -0.31, p=0.03); -0.14 (95%CI -0.25- -0.04, p=0.009); 0.23 (95%CI 0.06-0.39, p=0.01)	Low	Low-moderate
										Psychological interventions	#3 SLRs, 44 studies	Wait-list/usual care/attention placebo/education	NR	Depression post-intervention	NR									
										Psychological interventions	#2 SLRs, 18 studies	Wait-list/usual care/attention placebo/education	NR	Depression after follow-up	NR					Pooled effect size: 0.33 (95%CI -0.07- -0.59, p=0.01); 0.12 (95%CI -0.25-0.01, p=0.07)		
Other interventions																								
Barsky, 2010	RCT	RA patients (168)	NR	13.4Y	Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability): 0.59;	Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety): 6.1;	Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression): 4.9			Cognitive-behaviour therapy: 12 session of 60-75min during 8-12W to help patients develop effective coping strategies, enhance self-efficacy and personal control, and midfy maladaptive behaviors that maintain symtoms and disability, followed by a monthly booster telephone call	68	All 3 groups were compared with eachother		Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression)	12M	4.8 (0.47)						High	
														Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression)	Change from BL until 12M	-0.29 (0.36)		Between groups: p=0.95					
										Relaxation response training: 8 sessions of 50-60min during 8-12W, including psycho-physiological and cognitive aspects, diaphragmatic breathing, progressive muscle relaxation, generalisation of relaxation response skills to symptoms management, followed by a monthly booster telephone call	44			Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression)	12M	4.5 (0.60)							
														Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression)	Change from BL until 12M	-0.48 (0.47)		Between groups: p=0.95					
										Arthritis education: 8 sessions of 50min during 8-12W including talks and printed material about RA and its treatment, followed by a monthly booster telephone call	56			Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression)	12M	4.3 (0.55)							
														Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression)	Change from BL until 12M	-0.32 (0.41)		Between groups: p=0.95					
Hewlett, 2005	RCT	RA patients (209)	NR	7.0-10.0Y, range of medians	Self-efficacy pain (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 50.0-58.0, range of medians; Self-efficacy function (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 62.2-67.3, range of medians; Self-efficacy other (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect	Anxiety (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of anxiety): 7.0, median	Depression (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of depression): 4.5-5.0, range of medians	Helplessness (according to arthritis helplessness index subscale, score 5-30, high scores reflect more helplessness): 16.0-16.5, range of medians		Direct access to hospital review (rheumatologist, physiotherapist, occupational therapist) by patients with RA through a nurse-led telephone helpline	68	Usual care (review initiated by rheumatologists)	52	Depression (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of depression)	Change from BL until 6Y	0 (-1.0-3.0), median (IQR)	0 (-1.0-2.75), median (IQR)	p=0.80				High	
RA knowledge																								
Self-management programs (combination of non-pharmacological interventions)																								
Bell, 1998	RCT	Patients with active RA (150)	NR	7.5Y	Self-efficacy (according to Stanford Arthritis Self-Efficacy Scale (SES), score 0-100, higher score reflects higher self-efficacy): 49.2					Education and exercise program consisting of >3 visits of 3 hours of physical therapy	76	Wait list	74	RA knowledge (protocol completers, according to Rheumatoid Arthritis Knowledge Questionnaire (KQ), score 0-31, higher score reflects higher knowledge)	6W	18.5 (5.6)	16.7 (5.0)		0.34			High	
														RA knowledge (protocol completers, according to Rheumatoid Arthritis Knowledge Questionnaire (KQ), score 0-31, higher score reflects higher knowledge)	Change from BL until 6W	2.8 (3.8)	1.1 (3.5)	p=0.011	0.47				
Lineker, 2001; *Long-term follow-up of: Bell et al*	RCT	Patients with active RA (150)	NR	7.5Y	Self-efficacy (according to Stanford Arthritis Self-Efficacy Scale (SES), score 0-100, higher score reflects higher self-efficacy): 49.2				RA knowledge (according to Rheumatoid Arthritis Knowledge Questionnaire (KQ), score 0-31, higher score reflects higher knowledge): 15.8	Education and exercise program consisting of >3 visits of 3 hours of physical therapy	76	Wait list	74	RA knowledge (according to Rheumatoid Arthritis Knowledge Questionnaire (KQ), score 0-31, higher score reflects higher knowledge)	52W	NR	NR	p<0.001 (MANOVA comparing BL, 12W and 52)				High	
Education																								
Albano, 2010	SLR: 7 SLRs, 10RCTs, 20 nRCTs	RA patients (9955)	NR	NR	NR					Educational programs (aiming at increasing knowledge and improving performance) and psycho-educational programs (combining teaching intervention activities to improve coping and change behaviour)	#11	NR	NR	Knowledge	NR					Improvement in all 11 studies; Conclusion: A large number of studies still assess the positive effects of therapeutic patient education. Nowadays, the problems of short-term efficacy of therapeutic patient education and the cultural and social barriers to this practice have become a major issue for research	Moderate	High

Barlow, 1998	RCT	RA patients (108)	NR	15.85Y	Self-efficacy pain (ASE-pain, score 0-50, higher scores reflect higher self-efficacy): 20.17; Self-efficacy other (ASE-other, score 0-60, higher scores reflect higher self-efficacy): 30.47; T	Anxiety (HADS, score 0-21, higher score reflects higher anxiety): 8.33;	Depression (HADS, score 0-21, higher score reflects higher depression): 6.63;	Total knowledge score (self-developed, score -40 to +40, higher score reflects higher knowledge): 15.98	Provision of general information on RA in leaflet format	53	No intervention	55	RA knowledge (self-developed, score -40 to +40, higher score reflects higher knowledge)	Change from BL until 3W	5.86 (8.65)	0.00 (4.69)	p=0.0001	0.84			High	
Riemsma, 1997	RCT	RA patients (216)	NR	13.35Y	Self-efficacy - pain (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.12; Self-efficacy - function (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.32; Self-efficacy - other symptoms (according to ASES (Arthritis Self-efficacy Scale), score 10-100, higher score reflects higher self-efficacy): 3.63 (3.54 vs 3.88 re	Anxiety (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 3.69	Depression (according to subscale of Dutch Arthritis Impact Measurement Scales (AIMS)): 2.99 (2.99 vs 2.45 vs 3.54, p<0.05)	RA Knowledge (self-developed questionnaire, score 0-10, higher score reflects higher knowledge): 6.50	Individual program for education under guidance of their regular providers of health care whose activities were coordinated through arthritis passports	69	Usual care	72	RA Knowledge (self-developed questionnaire, score 0-10, higher score reflects higher knowledge)	7M	5.82	5.21	ns				High	
									Educational information without further guidance	75	Usual care	72	RA Knowledge (self-developed questionnaire, score 0-10, higher score reflects higher knowledge)	7M	6.20	5.21	ns					
Other interventions																					
Srikesavan, 2019	SLR: 6 RCTs	RA patients (567)	NR	NR	NR				Web-based rehabilitation	#1	No access to website	NR	RA knowledge	2M					A significant effect was noted in patient RA knowledge in most of these comparisons favouring the intervention groups at both time points; Conclusion: The effects of web-based rehabilitation interventions on pain, function, quality of life, self-efficacy, rheumatoid arthritis knowledge, and physical activity are uncertain because of the very-low-quality of evidence mostly from small single trials. Adverse effects were not reported. Large, well-designed trials are needed to evaluate the clinical and cost-effectiveness of web-based rehabilitation interventions	Low	High
Other outcomes																					
Barsky, 2010	RCT	RA patients (168)	NR	13.4Y	Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability): 0.59;	Anxiety (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of anxiety): 6.1;	Depression (according to Rand Mental Health Inventory (MHI), score 0-20, higher score reflects higher level of depression): 4.9		Cognitive-behaviour therapy: 12 session of 60-75min during 8-12W to help patients develop effective coping strategies, enhance self-efficacy and personal control, and midfy maladaptive behaviors that maintain symptoms and disability, followed by a monthly booster telephone call	68	All 3 groups were compared with eachother		Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability)	12M	0.51 (0.21)						High	
													Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability)	Change from BL until 12M	+0.04 (0.17)		Between groups: p=0.16					
									Relaxation response training: 8 sessions of 50-60min during 8-12W, including psycho-physiological and cognitive aspects, diaphragmatic breathing, progressive muscle relaxation, generalisation of relaxation response skills to symptoms management, followed by a monthly booster telephone call	44			Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability)	12M	0.21 (0.09)							
													Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability)	Change from BL until 12M	-0.51 (0.22)		Between groups: p=0.16					
									Arthritis education: 8 sessions of 50min during 8-12W including talks and printed material about RA and its treatment, followed by a monthly booster telephone call	56			Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability)	12M	0.46 (0.14)							
													Self-care (according to AIMS-2 (Arthritis Impact Measurement Scale), score 1-5, higher score reflects higher disability)	Change from BL until 12M	-0.20 (0.20)		Between groups: p=0.16					
Breedland, 2011	RCT	RA patients (34)	DAS28 3.0	8.0Y	Self-efficacy pain+other symptoms (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher): 3.22; Self-efficacy function (according to ASES (Arthritis Self-Efficacy Scale), score 1-5, higher score reflects higher): 4.11			Self-reported health status psychological state (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower health state): 2.35; Self-reported health status social interaction (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower social interaction): 3.59	Group therapy: physical exercise designed to increase aerobic capacity and muscle strength together with an education programe to improve health status and self-efficacy	19	Wating list	15	Self-reported health status psychological state (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower health state)	9W	2.12 (1.58)	2.29 (1.31)		0.12			High	
													Self-reported health status psychological state (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower health state)	Change from BL until 9W	-0.34 (1.11)	0.08 (1.37)	p=0.4	0.34				
													Self-reported health status social interaction (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower social interaction)	9W	3.26 (1.37)	2.52 (1.24)		0.57				
													Self-reported health status social interaction (according to Arthritis Impact Measurement Scales-2 (AIMS2), score 0-10, higher score reflects lower social interaction)	Change from BL until 9W	-0.48 (1.90)	-0.88 (2.03)	p=0.6	0.20				
el Miedany, 2012	RCT	RA patients (147)	NR	11.3Y				Self-helplessness (according to the modified rheumatology attitudes index, range of score NR, higher score reflects higher helplessness): 9.2	Active group: After 6 months of usual care: discussion of treatment goals based on PROMs, education, joint-fitness program (for patients aiming to a) give patients strategies and tools necessary to make daily decisions to cope with their disease; b) educate the patients about how to assess the main arthritis oucome measures regularly for their arthritis; c) help the patients to identify and manage the impact of arthritis on their personal life; d) show patients how to keep their muscles and joints fit; for health care professionals aiming to a) review the effects of	74	Usual care	73	Self-helplessness (according to the modified rheumatology attitudes index, range of score NR, higher score reflects higher helplessness)	18M	4.7 (0.4)	6.2 (0.2)		4.74			High	
													Self-helplessness (according to the modified rheumatology attitudes index, range of score NR, higher score reflects higher helplessness)	Change from BL until 18M	-4.7 (0.4)	-3.1 (0.5)	p<0.001	3.53				

Hammond, 2004	RCT	RA patients (328)	NR	9.5M	Self-efficacy score (according to Arthritis Self-Efficacy Scale (ASES), score 0-100, higher scores reflect higher self-efficacy): 61.23				Affect scale (according to Arthritis Impact Measurement Scale version 2, score 0-10, higher scores reflect better function): 4.13; Helplessness (according to Rheumatoid Attitudes Index, score 0-30, higher scores reflect worse helplessness): 16.71; Perceived control (according to Rheumatoid Attitudes Index, score 0-36, higher scores reflect poorer sense of internal control): 18.11; No of doctor visits for arthritis: 3.05	Occupational therapy: Five sessions: four 1h individual treatments and one 2h group arthritis education program, with additional sessions if needed	162	Usual care	164	Affect scale (according to Arthritis Impact Measurement Scale version 2, score 0-10, higher scores reflect better function)	Change from BL until 6M	-0.30 (95%CI -0.49- -0.12)	-0.18 (95%CI -0.36- -0.11)	p=0.36			High
															Helplessness (according to Rheumatoid Attitudes Index, score 0-30, higher scores reflect worse helplessness)	Change from BL until 6M	-1.32 (95%CI -2.05- -0.59)	-0.97 (95%CI -1.71- -0.24)	p=0.51			
															Perceived control (according to Rheumatoid Attitudes Index, score 0-36, higher scores reflect poorer sense of internal control)	Change from BL until 6M	-1.08 (95%CI -1.98- -0.17)	-1.05 (95%CI -1.83- -0.27)	p=0.96			
															No of doctor visits for arthritis	Change from BL until 6M	-0.48 (95%CI -0.83- -0.11)	-0.58 (95%CI -0.95- -0.21)	p=0.70			
Hewlett, 2005	RCT	RA patients (209)	NR	7.0-10.0Y, range of medians	Self-efficacy pain (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 50.0-58.0, range of medians; Self-efficacy function (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 62.2-67.3, range of medians; Self-efficacy other (according to ASES (arthritis self efficacy scale), score 10-100, higher scores reflect more self-efficacy): 70.0, median	Anxiety (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of anxiety): 7.0, median	Depression (according to HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher level of depression): 4.5-5.0, range of medians	Helplessness (according to arthritis helplessness index subscale, score 5-30, high scores reflect more helplessness): 16.0-16.5, range of medians	Direct access to hospital review (rheumatologist, physiotherapist, occupational therapist) by patients with RA through a nurse-led telephone helpline	68	Usual care (review initiated by rheumatologists)	52	Helplessness (according to arthritis helplessness indexsubscale, score 5-30, high scores reflect more helplessness)	Change from BL until 6Y	0.5 (-3.0-3.0), median (IQR)	1.0 (-1.75-4.0), median (IQR)	p=0.20			High
Hewlett, 2011	RCT	RA patients scoring ≥6 for fatigue during the past week (Visual Analogue Scale , 0-10, higher score reflects higher level of fatigue) (127)	NR	14.0Y	Self-efficacy (according to RASE (Rheumatoid Arthritis Self-Efficacy scale), score 28-140, higher scores reflect more self-efficacy): 104.8	Anxiety (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher anxiety): 8.7 (4.7)	Depression (HADS (Hospital Anxiety and Depression Scale), score 0-21, higher score reflects higher depression): 7.1 (3.7)	Helplessness (according to AHI (Arthritis helplessness index), score 5-30), higher scores reflects higher helplessness): 17.9 (4.8)	Cognitive behavioural therapy for fatigue self-management: 6 weekly sessions of 2h, 1 consolidation session at W14	65	Fatigue information: 1h didactic group session	62	Helplessness (according to AHI (Arthritis helplessness index), score 5-30), higher scores reflects higher helplessness)	18W	13.78 (4.23)	18.27 (4.99)	p<0.001	0.97	Adjusted difference: -3.13 (95%CI -4.73- -1.53), adjusted for baseline score	High
Knittle, 2015	RCT	RA patients (78)	NR	NR	Self-efficacy physical activity (according to 18-item questionnaire from Bandura et al (2006), score 0-180, higher scores reflect higher self-efficacy): 81.2		Depressive symptoms (according to BSI (Brief Symptom Inventory), score 0-4, higher scores reflect more depressive symptoms): 0.30	Autonomous motivation (according to three items from the Treatment Self-Regulation Questionnaire, score 0-7, higher scores reflect more autonomous motivation): 5.6	Education session plus a motivational interview from a physical therapist and two self-regulation coaching sessions from a rheumatology nurse	38	Group-based education session led by a physical therapist	40	Autonomous motivation (according to three items from the Treatment Self-Regulation Questionnaire, score 0-7, higher scores reflect more autonomous motivation)	8W	6.0 (0.8)	5.2 (1.4)		0.70	Effect size (Cohen's d): 0.26; p=0.001 (main effects of group × time interaction based on repeated measures mixed ANOVAs adjusted for age, gender, and baseline level of disease activity)	High
Lau, 2019	RCT	RA patients (21)	NR	NR				Coping (according to one question of Rheumatoid Arthritis Impact of Disease (RAID) questionnaire, score 0-10, higher scores reflect worse coping): 3.0	Neural mobilisation exercises (targeting the median, musculocutaneous, femoral and saphenous nerve, as wel as entire nervous system), twice daily	11	Gentle joint mobilisation exercises targeting the same joints	10	Coping (according to one question of Rheumatoid Arthritis Impact of Disease (RAID) questionnaire, score 0-10, higher scores reflect worse coping)	4-8W	1.64 (2.01)	2.50 (2.07)	ns	0.42		High
Siu, 2004	nRCT	RA patients (45)	NR	85.73M	Self-management behavior - Exercise (subscale of self-management behavior questionnaire, range 0-NR, higher score reflects NR): 5.33; Self-management behavior - Cognitive symptom management (subscale of self-management behavior questionnaire, range 0-5, higher score reflects NR): 1.53; Self-management behavior - Mental stress management (subscale of self-management behavior questionnaire, range 1-3, higher score reflects NR): 1.42; Self-management behavior - Use of community services (subscale of self-management behavior questionnaire, range 0-7, higher score reflects NR): 1.40; Self-management behavior - Use of commnity services for emotional support (subscale of self-management behavior questionnaire, range 0-1, higher score reflects NR): 1.89; Self-management behavior - Use of education service/support groups for health problems (subscale of self-management behavior questionnaire, range 1-6, higher score reflects NR): 1.26; Self-management behavior - Use of organised exercise programs (subscale of self-management behavior questionnaire, range 1-4, higher score reflects NR): 1.09; Self-management behavior - Communication with physician (subscale of self-management behavior questionnaire, range 0-5, higher score reflects NR): 1.91; Self-efficacy - Perform self-management behaviors (subscale of self-efficacy questionnaire, range 1-10, higher score reflects NR): 5.23; Self-efficacy -Manage disease in general (subscale of self-efficacy questionnaire, range 1-10, higher score reflects NR): 5.02; Self-efficacy - Achieve health outcomes (subscale of self-efficacy questionnaire, range 1-10, higher score reflects NR): 5.36				Community rehabilitation service: 1) orientation phase (2-4W, orientation program and hospital visits/home visits to provide information about disease, alleviate helplessness, re-establish and facilitate social contact and promote readiness for change); 2) intervention phase (2-3M, stress management group, self-help course and water exercise class to acquire self-management strategies, enhance self-efficacy and strengthen and expand social network); 3) consolidation phase (6M, re-union meetings and volunteer training program to reinforce and monitor self-efficacy, self-managent strategies, cultivate social support and encourage mutual help and facilitate self-acceptance and self-worthiness)	29	Usual care (patients who decided not to join the intervention group)	16	Self-management behavior - Exercise (follow-up, subscale of self-management behavior questionnaire, range 0-NR, higher score reflects NR)	9M	8.34 (3.48)	4.38 (2.13)	p=0.000, adjusted by baseline value	1.14		High
															Self-management behavior - Cognitive symptom management (follow-up, subscale of self-management behavior questionnaire, range 0-5, higher score reflects NR)	9M	2.50 (0.67)	1.57 (0.9)	p=0.000, adjusted by baseline value	1.39		
															Self-management behavior - Mental stress management (follow-up, subscale of self-management behavior questionnaire, range 1-3, higher score reflects NR)	9M	1.69 (0.47)	1.56 (0.51)	p=0.372, adjusted by baseline value	0.28		
															Self-management behavior - Use of community services (follow-up, subscale of self-management behavior questionnaire, range 0-7, higher score reflects NR)	9M	0.72 (1.33)	2.00 (2.22)	p=0.019, adjusted by baseline value	0.96		
															Self-management behavior - Use of commu nity services for emotional support (follow-up, subscale of self-management behavior questionnaire, range 0-1, higher score reflects NR)	9M	1.86 (0.35)	1.94 (0.25)	p=0.499, adjusted by baseline value	0.23		
															Self-management behavior - Use of education service/support groups for health problems (follow-up, subscale of self-management behavior questionnaire, range 1-	9M	2.90 (1.29)	1.13 (0.34)	p=0.000, adjusted by baseline value	1.37		
															Self-management behavior - Use of organised exercise programs (follow-up, subscale of self-management behavior questionnaire, range 1-4, higher score reflects NR)	9M	1.72 (0.7)	1.19 (0.75)	p=0.000, adjusted by baseline value	0.76		

											Self-management behavior - Communication with physician (follow-up, subscale of self-management behavior questionnaire, range 0-5, higher score reflects NR)	9M	2.66 (0.9)	2.04 (1.05)		p=0.000, adjusted by baseline value	0.69				
De Thurah, 2017	SLR: 7 RCTs	RA patients (548 (#5, only RA patients))	NR	NR	NR		Nurse-led follow-up in managing disease control	266	Physician-led follow-up	271	Patient satisfaction, according to Leeds Satisfaction Scale or VAS confidence and satisfaction scale	1Y			-0.27 (-1.38 - 0.83)			>0 favours nurse led follow-up; Conclusion: After 1year no difference in disease activity, indicated by DAS28, were found between embedded nurse-led follow-up compared with conventional physician-led follow-up, in RA patients with low disease activity or remission. No difference was found in patient satisfaction after 1year (standard mean difference (SMD) −0.17 (95 % CI −1.0 to 0.67), whereas a statistical significant difference in favour of nurse-led follow-up was seen after 2 years (SMD:	Low	Moderate
							Nurse-led follow-up in managing disease control	123	Physician-led follow-up	120	Patient satisfaction, according to Leeds Satisfaction Scale or VAS confidence and satisfaction scale	2Y			0.33 (0.03-0.62)			>0 favours nurse led follow-up		
DiRenzo, 2018	SLR: 5 RCTs	RA patients (399)	NR	NR	NR		Mindfulness/vitality training program	(#2)	Wait-list/cognitive behavioural therapy/education	NR	Psychological distress at 6-12M, according to General Health Questionnaire-20	6-12M						Significant treatment effect favouring vitality training program	Low	Moderate-High
							Mindfulness/vitality training program	(#1)	Wait-list/cognitive behavioural therapy/education	NR	Emotional processing at 12M, according to Emotion Approach Coping Scale	12M						Significant treatment effect favouring vitality training program		
							Mindfulness/vitality training program	(#2)	Wait-list/cognitive behavioural therapy/education	NR	Self-care ability at 12M (questionnaire/test not described)	12M						Significant treatment effect favouring vitality training program		
							Mindfulness/vitality training program	(#1)	Wait-list/cognitive behavioural therapy/education	NR	Psychological well-being at 6M (according to psychological well-being scale)	6M						Significant treatment effect favouring mindfulness		
Prothero, 2018	SLR: 9 SLRs	RA patients (10782)	NR	NR	NR		Psychological interventions	#2 SLRs, 12 studies	Wait-list/usual care/attention placebo/education	NR	Coping	NR							Astin et al. (2002)reported that psychological interventions had a moderate effect on improvements in coping post intervention(d = 0.46; 95% CI: = 0.09,−0.83; P = 0.007). At follow-up (average8.5 months) the effect size remained significant and had increasedslightly (d = 0.52; 95% CI:−0.07,−1.11; P = 0.04). Strong evidencefor psychoeducational programmes was found byNiedermann et al. (2004)for coping with pain. All 4 psychoeducational programs (3 ofwhich were high quality studies) showed at least 1 pain-copingbehavior that improved significantly after intervention. There was,however,limited evidence for long-term increase of coping behaviour(averaged 10 months) because of inconsistent	Low	Low-moderate
							Psychological interventions	#1 SLR, 4 studies	Wait-list/usual care/attention placebo/education	NR	Coping post-intervention	NR						Pooled effect size: 0.46 (95%CI 0.09-0.83, p=0.007)		
							Psychological interventions	#1 SLR, 3 studies	Wait-list/usual care/attention placebo/education	NR	Coping after follow-up	NR						Pooled effect size: 0.52 (95%CI -0.07- -1.11, p=0.04)		

*CI: confidence interval; DAS28: disease activity score assessing 28 joints; M: months; n: number of patients; NA: not applicable; NR: not reported; (n-)RCT: (non-)randomised controlled trial; OR: odds ratio; RA: rheumatoid arthritis; SD: standard deviation; SLR: systematic literature review; W: weeks; Y: years; *: abstract/letter; #: number of studies. 1. Composite scores: Change over time, otherwise fixed time point, otherwise LDA, otherwise remission; 2. Latest time point during treatment period that was reported; 3. According to Cochrane Collaboration's tool for individual studies: highest risk of bias as found; According to AMSTAR2 tool for SLRs: Low=zero or one non-critical weakness; Moderate=more than one non-critical weakness; High=one critical flaw with or without non-critical weaknesses; Critically high=more than one critical flaw with or without non-critical weaknesses; 4. Only applicable for SLRs: Summary of RoB of individual studies, as assessed in SLR*