Evidence report: tables with characteristics of studies included in qualitative and/or quantative analyses

Table 1: Characteristics of studies analysed with patient education

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Astin 2003 USA	8	8	Education 1x150 min/week	MBSR 1x90 min/week plus 1x90 min/week qigong	33	32
Bieber 2006 * Germany	52	None	Education 1x20 min	Education (1x20 min) and shared decision-making; 3x30 min over 1 year	33	34
Buckelew 1998 USA	6 intensive and 24 maintenance	104	Education Intensive:1x90 min/week Maintenance: 1x60 min/month group	Intensive: aerobic training (light to moderate intensity, land) plus strength training) 1x90 min plus EMG biofeedback 1x90 min Maintenance: 1x60 min/month group	30	30
Burckhardt 1994 Sweden	6	12	Psychoeducation: 1x90 min/week	Waiting list	31	30
Fontaine 2007 USA	12	No	Education 3x90 min	5x30 min/week walking; moderate intensity	18	16
Fontaine 2010 USA	12	No	Education 1x30 min	Program to promote aerobic exercise (land-based, moderate intensity) 5x30 min plus 1x30 min cognitive therapy	38	46
King 2002 USA	12	12	Education 1x90–120 min/week	Written information on stretching and weekly telephone calls	41	34
Lorig 2007 USA	6	52	Internet-based psychoeducation 3x60–120 min/week	Treatment as usual	40	46
Mannerkorpi 2000 Sweden	20	No	Education, 6x60 min total	Aerobic training (water-based; low to moderate intensity) 1x45 min plus 6x60 min total education plus relaxation	29	28
Nicassio 1997 USA	10	26	Education 1x150 min/week	Cognitive behavioral therapy 1x150 min/week	35	36
Rooks 2006 USA	16	No	Education (total 7x120 min)	Aerobic training (land-based; intensity not reported), flexibility, strength 2x30 min plus education (total 7x120 min)	27	35

Soares 2002 Sweden	10	26	Psychoeducation 1x270 min/week	Cognitive behavioral therapy 1x270 min/week	18	18
Stuifbergen 2010 USA	8	20	Education 1x120 min/week	Psycheducation 1x120 min/week*	89	98
Williams 2010 USA	13	No	Internet-based psychoeducation 1x120 min/week	Treatment as usual	59	59

* Control group not suited for meta-analysis.
EMG electromyography, *MBSR* mindfulness-based stress reduction.

Table 2: Methodology quality and external validity of studies analysed with patient education

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention -to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and /or depressive disorders
Astin	Unclear	Yes	No	No	Yes	No
Bieber	Unclear	Unclear	YES	No	No	No
Buckelew	Unclear	Yes	Unclear	No	No	Yes
Burckhart	Unclear	Unclear	Unclear	No	No	Yes
Fontaine 2007	Yes	Yes	Unclear	No	Unclear	Unclear
Fontaine 2010	Yes	Yes	Unclear	No	Unclear	Unclear
King	Yes	Yes	Yes	Yes	No	Yes
Lorig	Unclear	Unclear	Unclear	Yes	Yes	Yes
Mannerkorpi	Unclear	Unclear	Unclear	Unclear	No	No
Nicassio	Yes	Unclear	Unclear	No	No	Unclear
Rooks	Yes	Yes	Yes	Yes	No	Yes
Soares	Unclear	Yes	Unclear	No	No	Unclear
Stuifbergen	Yes	Yes	Unclear	No	Unclear	Unclear
Williams	Yes	Yes	Unclear	Yes	Yes	Yes

Table 3: Efficacy of patient education

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	7; 365 0.19 (-0.06, 0.45) 0.55: 0.13	5; 306 -0.03 (-0.26, 0.19) 0; 0.78
Sleep problems	5; 327 0.08 (-0.19, 0.36) 34; 0.57	3; 204 0.13 (-0.44, 0.70) 72; 0.85
Fatigue	5; 347 0.08 (-0.13, 0.29) 0; 0.47	Data too limited
Health-related quality of life	9; 602 0.17 (-0.09, 0.42) 58; 0.20	6; 184 0.02 (-0.16, 0.19) 0; 0.87

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 4: Characteristics of studies analysed with patient-centered communication

Author Year publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Alamo 2002 Spain	52	None	Patient-centered communication (10 physicians), frequency not reported	Treatment as usual (10 physicians)	48	33
Bieber 2006 * Germany	52	None	Education (1x20 min) and shared decision-making; 3x30 min over 1 year	Education 1x20 min	34	33

* Control group not suited for meta-analysis

Table 5: Methodology quality and external validity of studies analysed with patient-centered communication

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Alamo 2002	Unclear	Unclear	Yes	No	No	Unclear
Bieber 2006	Unclear	Yes	Yes	Yes	No	No

Table 6: Characteristics of studies analysed with aerobic exercise

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Alentorn-Geli 2008 Spain	6	No	2x60 min/week walking, low to moderate intensity	Treatment as usual	12	10
Altan 2004 Turkey	12	12	3x45 min/week, exercise in thermal bath, low intensity	3x30 min/week thermal bath without exercise	24	22
Assis 2006 Spain*	15	No	3x60 min/week aqua jogging, moderate intensity	3x60 min/week bicylce ergometer, moderate intensity	30	30
Bircan 2008 Turkey	8	4	3x40 min/week bicylce ergometer low to moderate intensity	3x40 min/week strength training	13	13
Buckelew 1998 USA	6 Intensive and 24 Maintenance	104	Education Intensive:1x90 min /week Maintenance: 1x 60 min/month group	Intensive: land-based aerobic training (light to moderate intensity) plus strength training) 1x90 min plus EMG-biofeedback 1x90 min Maintenance: 1x 60 min/month group	30	30
Carbonell-Baeza 2010 Spain	12	None	1x120 min/week dance, moderate intensity	Treatment as usual	37	32
Da Costa 2005 Canada	12	36	1x60– 120 min/week; land-based exercise; low to moderate intensity	Treatment as usual	39	40
De Andrade 2008 Brazil*	12	No	3x60 min/week pool-based exercise, low to moderate intensity	3x60 min/week sea water-based exercise, low to moderate intensity	19	19
De Melo 2006 Brazil *	3	No	3x60 min/week pool-based exercise intensity NR	3x60 min/week bicycle ergometer and infrared lamp	25	25

Ecvik 2008 Turkey	5	8	3x60 min/week pool-based exercise, intensity NR	3x60 min/week, exercise at home, intensity NR	31	30
Etnier 2009 USA	18	No	3x60 min/week walking; low intensity	Waiting list	8	8
Fontaine 2007 USA	12	No	5x30 min/week walking; moderate intensity	Education 3x90 min	16	18
Gowans 2001 Canada	23	52	3x30 min/week pool- and land-based exercise, low to moderate intensity	Treatment as usual	15	16
Gusi 2006 Spain	12	12	3x60 min/week pool-based exercise low to moderate intensity	Treatment as usual	17	17
Ide 2008 Brazil	4	No	1x60 min/week pool-based exercise, intensity NR	1x60 min/week relaxation (playing cards, music)	18	17
Isomeri 1993 Finland	15	No	Type, frequency and intensity not reported	Stretching, frequency not reported plus 25 mg/day amitriptyline	15	16
Jentoft 2001 Norway *	20	26	2x60 min/week aerobic dance, low to moderate intensity	2x60 min/week pool-based exercise	18	16
Jones 2008 USA	26	No	3x60 min/week land-based exercise, low intensity plus drug placebo	1x/week telefone call and 1x/month visit of 120 min	39	39
King 2002 Canada	12	12	3x30 min/week, pool- and land-based exercise, low to moderate intensity	Written information and 1–2 telephone calls/week	42	34
Mannerkorpi 2010 Sweden*	15	26	2x30 min/week walking moderate to high intensity	1xmin not reported/week walking, low intensity	34	33
Martin 1996 Canada	6	No	3x60 min/week walking, low to moderate intensity	3x60 min/week relaxation training	18	20
McCain 1988 Canada	20	No	3x60 min/week bicylce ergometer, moderate intensity	3x60 min/week stretching	18	20
Mengshoel 1992 Norway	6	No	2x60 min/week bicylce ergometer low to moderate intensity	Treatment as usual	18	17
Munguia-Izquierdo 2008 Spain	16	No	3x60 min/week pool-based exercise, low to moderate intensity	Treatment as usual	35	25
Nichols	8	No	3x40 min/week	Treatment as	10	9

1994 USA			walking, low to moderate intensity	usual		
Norregaard 1997 Norway	12	No	3x50 min/week dance, low intensity	2x30 min/week hot packs	5	7
Ramsay 2000 Great Britain	12	26	1x60 min/week, land-based exercise	1 session of education, duration NR	37	37
Redondo 2004 Spain	8	52	5x45 min/week, pool- and land-based exercise, intensity NR	1x150 min/wee k cognitive behavioral therapy	19	21
Richards 2002 Great Britain	12	36	2x60 min/week bicylce ergometer, intensity chosen by patient	2x60 min/week relaxation training	69	67
Rooks 2007 USA	16	No	2x60 min/week walking, intensity NR	Total 7x120 min education	35	35
Sanudo 2010 a Spain	24	No	2x45–60 min/week jogging and dance, low to moderate intensity	Treatment as usual	22	21
Sanudo 2010 b Spain *	6	None	2x60 min/week NR, moderate intensity	2x60 min/week NR, moderate intensity plus 3x10 min/week whole body vibration	12	14
Schachter 2003 Canada	16	No	a. 2x15 min/day rhythmic movements, low to moderate intensity b. 1x30 min/day rhythmic movements, low to moderate intensity	4 group meetings without education, duration NR	a. 51 b. 56	36
Sencan 2004 Turkey	6	26	3x40 min/week land-based exercise, intensity NR	3x20 min/week TENS placebo	20	20
Stephens 2008 USA	12	No	3x30 min/week dance and shadow boxing, moderate intensity	3x30min qigong, low intensity	14	16
Tomas-Carus 2007 Spain	12	12	3x60 min/week, pool-based exercise, low to moderate intensity	Treatment as usual	15	15
Tomas-Carus 2008 Spain	32	No	3x60 min/week, pool-based exercise, low to moderate intensity	Treatment as usual	16	14
Valim 2002 Brazil	20	No	3x45 min/week walking, low to moderate intensity	3x45 min stretching	32	28
ValNonen 2008 Finland	21	No	2x60 min/week walking andbicy cling, low to	Treatment as usual	13	11

			moderate intensity plus strength training, low to moderate intensity			
Van Santen 2002a The Netherlands	24	No	2x60 min/week, land-based exercise, moderate intensity	Treatment as usual	47	28
Van Santen 2002b The Netherlands *	20	No	3x60 min/week bicylce ergometer moderate intensity	2x60 min/week land-based exercise, intensity chosen by patient	17	13
Wigers 1996 Norway	14	208	3x45 min/week, land-based exercise, moderate intensity	Treatment as usual	20	20

*Control group not suited for meta-analysis.
NR not reported, *TENS* transcutaneous electrical nerve stimulation.

Table 7: Methodology quality and external validity of studies analysed with aerobic exercise

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Alentron-Geli	Unclear	Unclear	Unclear	No	No	Yes
Altan	Unclear	Unclear	Unclear	No	Yes	Yes
Assis	Unclear	Yes	Unclear	Yes	No	Yes
Bircan	Unclear	Unclear	Yes	No	No	Yes
Buckelew	Unclear	Yes	Unclear	No	No	Yes
Carbonell-Baeza	Unclear	Unclear	Unclear	Yes	No	No
Da Costa	Yes	Yes	Unclear	Yes	No	Yes
De Andrade	Yes	Yes	Yes	No	No	Yes
De Melo	No	Yes	Yes	Yes	Unclear	Unclear
Ecvik	Unclear	Unclear	Unclear	Yes	No	Yes
Etnier	Unclear	Unclear	Unclear	No	No	Yes
Fontaine	Unclear	Unclear	Unclear	No	No	No
Gowans	Unclear	Unclear	Unclear	No	No	No
Gusi	Unclear	Unclear	Unclear	No	No	No
Ide	Yes	YES	Unclear	No	No	Yes
Isomeri	Unclear	Unclear	Unclear	No	Yes	Unclear
Jentoft	Unclear	Unclear	Unclear	No	No	Yes
Jones	Unclear	Unclear	Unclear	No	No	No
King	Unclear	Unclear	Unclear	Yes	No	Yes
Mannerkorpi	Yes	Yes	Yes	Yes	Yes	Yes
Martin	Unclear	Unclear	Unclear	No	No	Yes
McCain	Unclear	Unclear	Unclear	No	Yes	Yes
Mengshoel	Yes	Unclear	Unclear	Yes	No	Yes
Munguia-Izquierdo	Yes	Yes	Unclear	Yes	No	Yes
Nichols	Unclear	Unclear	Unclear	No	Unclear	Yes
Norregaard	Yes	Unclear	Unclear	No	No	Yes
Ramsay	Unclear	Unclear	Unclear	Yes	Unclear	Unclear
Redondo	Yes	Unclear	Unclear	Yes	No	No
Richards	Yes	Unclear	Unclear	Yes	Yes	Yes
Rooks	Yes	Yes	Yes	Yes	No	Yes
Sanudo a	Yes	Yes	Yes	Yes	No	No
Sanudo b	Yes	Yes	Unclear	No	No	Yes
Schachter	Yes	Yes	Unclear	Yes	Unclear	Yes
Sencan	Unclear	Unclear	Unclear	Yes	Yes	Yes
Stephens	Yes	Yes	Yes	Yes	Yes	Yes
Tomas-Carus 2007	Unclear	Unclear	Unclear	Yes	No	No
Tomas-Carus 2008	Unclear	Yes	Unclear	No	No	No
Valim	Unclear	Unclear	Unclear	No	No	Yes
ValNonen	Unclear	Unclear	Unclear	No	No	Unclear
Van Santen a	Unclear	Unclear	Unclear	No	Yes	Unclear
Van Santen b	Unclear	Unclear	Yes	No	Yes	Unclear
Wigers	Unclear	Unclear	Unclear	Yes	Yes	Yes

Table 8: Efficacy of aerobic exercise

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	32; 1341 -0.40 (-0.55, -0.26) 41; <0.0001	10; 488 -0.27 (-0.46, -0.09) 6; 0.004
Sleep problems	13; 479 -0.15 (-0.38, 0.09) 38; 0.23	4; 170 0.17 (-0.14, 0.47) 0; 0.28
Fatigue	18; 804 -0.37 (-0.58, -0.17) 47; 0.0003	4; 179 -0.23 (-0.62, 0.17) 42; 0.26
Health-related quality of life	27; 1389 -0.38 (-0.52, -0.24) 38; <0.0001	9; 492 -0.26 (-0.44, -0.08) 0; 0.004

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 9: Characteristics of studies analysed with strength training

Author Year publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Altan 2009 Turkey	12	12	3x60 min/week Pilates training (strength training plus breathing exercises)	3x60 min/week stretching at home plus relaxation training	25	24
Häkkinen 2001 Finland	21	No	2x60 min/week strength training, high intensity	Treatment as usual	11	10
Jones 2002 USA	12	No	2x60 min/week strength training without machines low intensity	2x60 min stretching	28	28
Kingsley 2006 USA	12	No	2x30 min/week strength training with machines, moderate intensity	Waiting list	14	15
Rooks 2007 USA	16	No	2x60 min week, strength training low intensity	Education 7x120 min total	35	27
ValNonen 2008 Finland	21	No	2x60 min/week walking and bicycling (50%) and strength training (50%), both with low to moderate intensity	Treatment as usual	13	11

Low intensity 40–60% of 1 RM (one repetition maximum), *moderate intensity* 60–80%, *high intensity* >80% 1 RM.

Table 10: Methodology quality and external validity of studies analysed with strength training

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analyse	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Altan 2009	Yes	Yes	Unclear	No	No	No
Häkkinnen 2001	Unclear	Unclear	Unclear	Yes	Unclear	Unclear
Jones 2002	Unclear	Unclear	Yes	No	Yes	No
Kingsley 2005	Yes	Unclear	Yes	Yes	Yes	Yes
Panton 2009	Unclear	Unclear	Unclear	No	No	Yes
Rooks 2007	Yes	Yes	Yes	Yes	No	Yes
ValNonen 2004	Unclear	Unclear	Unclear	Yes	No	No
ValNonen 2008	Unclear	Unclear	Unclear	No	No	Unclear

Table 11: Efficacy of strength training

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	5; 219 -0.61 (-1.15, -0.06) 72; 0.03	No data available
Sleep problems	4; 171 -0.32 (-0.83, 0.19) 60; 0.23	No data available
Fatigue	4; 163 -0.57 (-0.89, -0.26) 0; 0.0004	No data available
Health-related quality of life	6; 241 -0.32 (-0.62, -0.02) 23; 0.04	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 12: Characteristics of studies analysed with balneo-, hydro- and spa therapy

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Altan 2004 Turkey	12	12	3x35 min/week thermal bath	3x35 min/week exercise in thermal bath and land-based exercise	22	24
Ammer 1999 Germany*	4	None	10 treatments, duration NR a. Whirlpool bath with valerian b. Whirlpool bath with pine oil	Whirl bath with normal water	a. 13 b. 13	13
Ardic 2007 Turkey	3	None	5x20 min/week thermal bath	Treatment as usual	12	9
Buskila 2001 Israel	10 days	12	20 min/day thermal bath	Treatment as usual	24	24
Dönmez 2005 Turkey	2	36	6x20 min/week thermal bath	Treatment as usual	16	13
Ecvik 2002 Turkey	3	21	5x20 min/week thermal bath	Treatment as usual	22	20
Fioravanti Italy 2007*	2	14	6x15 min/week mud packs (and 6x10 min/week thermal bath	Treatment as usual	40	40
KurzeYes 2003 Germany*	3	None	5x15 min/week mud bath plus hot air 5x20 min/week plus multicomponent therapy	5x1.5– 4 min/week cold chamber plus multicomponent therapy	38	28
Yurtkuran 1996 Turkey*	2	6	5x20 min/week thermal bath plus relaxation training	5x/week relaxation training	20	20

* Not used for meta-analysis.

Table 13: Methodology quality and external validity of studies analysed withwith balneo-, hydro- and spa therapy

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Altan	Unclear	Unclear	Yes	No	No	No
Ammer	Unclear	Unclear	Yes	No	No	Yes
Ardic	Unclear	Unclear	Unclear	No	No	No
Buskila	Unclear	Unclear	Yes	Yes	Unclear	Unclear
Dönmez	Yes	Yes	Unclear	No	No	Unclear
Ecvkik	Unclear	Unclear	Unclear	Yes	No	Unclear
Fioravanti	Unclear	Unclear	Yes	Yes	No	Yes
KurzeYes	Unclear	Unclear	Unclear	No	No	Yes
Yurtkuran	Unclear	Unclear	Unclear	Yes	Unclear	Unclear

Table 14: Efficacy of thermal baths

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	5; 182 -1.36 (-2.27, -0.44) 86; <0.0001	Data too limited
Sleep problems	2; 71 -0.04 (-0.51, 0.43) 0; 0.86	Data too limited
Fatigue	3; 119 -0.07 (-0.78, 0.64) 72; 0.84	Data too limited
Health-related quality of life	5; 134 -1.38 (-2.98, 0.21) 93; 0.09	Data too limited

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 15: Characteristics of studies analysed with stretching

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Altan 2009 Turkey	12	12	3x60 min/week active stretching at home plus relaxation training	3x60 min/week Pilates training (strength training plus breathing exercises)	25	24
Calandre 2009 Spain	6	12	3x60 min/week active stretching	3x60 min/week tai chi in warm pool (36°C)	42	39
Jones 2002 USA	12	No	2x60 min/week active stretching	2x60 min/week strength training, low intensity	28	28
Matsutani 2007 Brazil*	5	No	2x60 min/week stretching	2x60 min/week stretching plus laser therapy	10	10
McCain 1996 Canada	20	No	3x60 min/week active stretching	3x60 min/week bicylce ergometer moderate intensity	18	20
Valencia 2009 Spain*	12	12	2x75 min/week passive stretching (Mezières method)	2x75 min/week active stretching	10	8
Valim 2002 Brazil	20	No	3x45 min/week active stretching	3x45 min/week walking, low to moderate intensity	32	28

* Not used for meta-analysis

Table 16: Methodology quality and external validity of studies analysed with stretching

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Altan	Yes	Yes	Unclear	No	No	No
Calandre	Yes	No	Unclear	Yes	Yes	Yes
Jones	Unclear	Unclear	Yes	No	Yes	No
Matsutani	Unclear	Unclear	Unclear	No	Yes	Yes
McCain	Unclear	Unclear	Unclear	No	Yes	Yes
Valencia	Unclear	Unclear	Unclear	No	No	Unclear
Valim	Unclear	Unclear	Unclear	No	No	Yes
ValNonen	Unclear	Unclear	Unclear	No	No	Unclear

Table 17: Efficacy of stretching

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms, patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	6; 289 0.34 (0.06, 0.62) 28; 0.02	2; 115 0.29 (-0.18, 0.75) 36; 0.22
Sleep problems	4; 182 0.15 (-0.22, 0.52) 24; 0.44	Data too limited
Fatigue	3; 142 0.20 (-0.47, 0.88) 72; 0.55	Data too limited
Health-related quality of life	5; 251 0.35 (0.01, 0.70) 44; 0.05	2; 155 0.34 (-0.03, 0.71) 0; 0.07

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 18: Characteristics of studies analysed with massage

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Alnigenis 2000 Turkey	4	24	Swedish massage, total 10 sessions for 45 min each	Treatment as usual	11	13
Brattberg 1999 Sweden	10	26	Soft tissue massage, total 15 sessions, duration not reported	Waiting list	23	25
Castro-Sanchez 2011 Spain	20	26	Myofacial release technique massage, 1x90 min/week	Attention control: disconnected magnetic field therapy	30	29
Ekici 2009 Turkey	3	None	Soft tissue massage	Lymph drainage	25	25
Field 2002 USA	5	No	Swedish and Shatsu massage 2x30 min/week	Progressive muscle relaxation training 2x30 min/week	12	12
Sunshine 1996 USA	5	No	Swedish massage 2x30 min/week	Sham TENS 2x30 min/week	10	10

TENS transcutaneous electrical nerve stimulation.

Table 19: Methodology quality and external validity of studies analysed with massage

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Alnigenis	Unclear	Unclear	Unclear	No	No	Yes
Castro-Sanchez	Unclear	Unclear	Unclear	No	No	No
Brattberg	Unclear	Unclear	Unclear	No	No	Unclear
Ekici	Unclear	Yes	Unclear	No	No	No
Field	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Sunshine	Unclear	Yes	Unclear	Unclear	Unclear	Unclear

Table 20: Efficacy of massage

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	6; 216 -0.19 (-0.66, 0.28) 63; 0.42	2; 69 -0.27 (-1.55, 1.02) 68; 0.68
Sleep problems	4; 142 0.01 (-0.65, 0.67) 72; 0.97	Data too limited
Fatigue	4:144 -0.34 (-1.03, 0.35) 70,; 0.33	Data too limited
Health-related quality of life	4; 172 0.15 (-0.63, 0.93) 83; 0.71	2; 69 0.14 (-0.73, 1.01) 45; 0.75

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 21: Characteristics of studies analysed with chirotherapy

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Blunt 1997 Canada	4	No	3–5 sessions chirotherapy, duration NR/week	Waiting list	9	10
Panton 2009 USA	16	No	2xNR min/week strength training plus chirotherapy	2xNR min/week strength training	11	10
Tyers 2001 USA	3	No	3xNR/min week cranial electronic stimulation plus chirotherapy	3xNR/min chirotherapy	30	30

NR not reported.

Table 22: Methodology quality and external validity of studies analysed with chirotherapy

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory heumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Blunt	No	Unclear	Unclear	No	No	Yes
Panton	Unclear	Unclear	Unclear	No	No	Yes
Tyers	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear

Table 23: Characteristics of studies analysed with laser therapy

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Armagan 2006 Turkey	2	26	Low energy laser at tender points, 5xweek, duration not reported	Sham laser at tender points, 5xweek, duration not reported	16	16
Gür 2002a Turkey	2	No	Low energy laser at tender points, 5xweek, 50 min/session	Sham laser at tender points, 5xweek, 50 min/session	25	25
Gür 2002b Turkey	2	No	Low energy laser at tender points, 5xweek, 50 min/session	Sham laser at tender points, 5xweek, 50 min/session	20	20

Table 24: Methodology quality and external validity of studies analysed with laser therapy

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Armagan	Unclear	Unclear	Yes	Yes	No	No
Gür 2002a	Unclear	Unclear	Unclear	Yes	No	No
Gür2002b	Yes	Unclear	Unclear	Yes	No	No

Table 25: Efficacy of laser therapy

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	3; 122 -1.16 (-1.54, -0.77) 0; 0.0001	Data too limited
Sleep problems	2; 90 -0.43 (-0.85, -0.01) 0; 0.04	Data too limited
Fatigue	2; 90 -0.76 (-1.22, -0.30) 12; 0.001	Data too limited
Health-related quality of life	2; 82 -1.07 (-2.16, 0.02) 81; 0.06	Data too limited

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 26: Characteristics of studies analysed with magnetic field therapy

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Alfano 2001 USA	26	None	a. Magnetic field mat with negative polarity/each night b. Magnetic field mat with fluctuating polarity/each night	Sham magnetic field mat/each night	a. 30 b. 26	a.24
Colbert 1999 USA	16	None	Magnetic field mat/each night	Sham magnetic field mat/each night	13	12
Sutbeyaz 2009 Turkey	3	None	Magnetic field mat 2x30 min/day	Sham magnetic field mat 2x30 min/day	28	28
Thomas 2007 USA	1	3 (results not reported)	Magnetic field by portable device 2x40 min/day	Sham magnetic field by portable device 2x40 min/day	8	9

Table 27: Methodology quality and external validity of studies analysed with magnetic field therapy

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Alfano	Unclear	Unclear	Yes	No	No	Yes
Colbert	Unclear	Yes	Yes	No	Unclear	Unclear
Sutbeyaz	Yes	Yes	Yes	Yes	No	No
Thomas	Unclear	Unclear	Unclear	No	Unclear	Unclear

Table 28: Efficacy of magnetic field therapy

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	4; 202 -1.07 (-1.87, -0.28) 84; 0.008	Data too limited
Sleep problems	Data too limited	Data too limited
Fatigue	Data too limited	Data too limited
Health-related quality of life	3; 185 -1.24 (-2.30, -0.18) 90; 0.02	Data too limited

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 29: Characteristics of studies analysed with TENS

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Di Benedetto 1993 Italy	6	None	5x20 min/week 70 Hz at tender points	200 mg SAM intramuscular in the morning and 2x200 mg oral/day	15	15
Löfgren 2009 Sweden	3	None	7x30 min/day, 80 Hz at painful areas	7x45– 120 min/day, local warmth therapy	16	16
Sunshine 1996 USA	5	None	2x30 min/week, 0.5-320 Hz	TENS placebo 2x30 min/week	10	10

SAM S-adenosylmethionine, *TENS* transcutaneous electrical nerve stimulation

Table 30: Methodology quality and external validity of studies analysed with TENS (transcutaneous electrical nerve stimulation)

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
diBenedetto	Unclear	Unclear	Unclear	Unclear	No	Yes
Löfgren	Unclear	Unclear	Unclear	Yes	Unclear	No
Sunshine	Yes	Unclear	Unclear	Unclear	Unclear	Unclear

Table 31: Efficacy of TENS (transcutaneous electrical nerve stimulation)

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	3; 82 0.24 (-0.19, 0.68) 0; 0.28	No data available
Sleep problems	Data too limited	No data available
Fatigue	2;50 0.39 (-0.17, 0.96) 0; 0.17	No data available
Health-related quality of life	Data too limited	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 32: Characteristics of studies analysed with transcranial magnetic stimulation (*TMS*)

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Carretero 2009 Spain	4	4	Left dorsolateral prefrontal cortex; total 20 sessions	Sham TMS	14	12
Fregni 2006 USA	1	3	a. Left primary motoric cortex; b. Left dorsolateraler prefrontal cortex; total 5 sessions	Sham TMS	a. 11 b. 11	10
Passard 2007 France	10 days	7	Left primary motoric cortex; total 10 sessions	Sham TMS	15	15
Valle 2009 Brazil	10 days	8	a. Left primary motoric cortex b. Left dorsolateral prefrontal cortex; total 10 sessions	Sham TMS	a. 14 b. 13	14

Table 33: Methodology quality and external validity of studies analysed with transcranial magnetic stimulation

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Carretero	Unclear	Unclear	Unclear	Yes	Unclear	Yes
Fregni	Yes	Yes	Yes	Yes	Unclear	No
Passard	Unclear	Yes	Yes	Yes	No	No
Valle	Unclear	Unclear	Unclear	Yes	No	No

Table 34: Efficacy of transcranial magnetic stimulation (*TMS*)

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	6; 153 -0.46 (-1.03, 0.11) 66; 0.11	6; 153 -0.22 (-0.70, 0.26) 53; 0.37
Sleep problems	3; 72 -0.63 (-1.10, -0.15) 0; 0.01	2; 72 0.31 (-0.22, 0.83) 19; 0.15
Fatigue	3; 98 0.13 (-0.77, 1.03) 79; 0.78	3; 98 0.09 (-0.45, 0.63) 44; 0.73
Health-related quality of life	6; 153 -0.84 (-1.80, 0.13) 86; 0.09	4; 98 -0.04 (-0.55, 0.48) 39; 0.89

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 35: Characteristics of studies analysed with multicomponent therapy

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Brockow* 2007 Germany	3	26	Aerobic training (intensity NR, land- and water-based) plus cognitive behavioral therapy plus education plus occupational therapy 2x120 min/week	Aerobic training (intensity NR, land- and water-based) plus cognitive behavioral therapy plus education plus occupational therapy 2x120 min/week plus whole body hyperthermia 2x30 min/week	70	69
Buckelew 1998 USA	6 intensive and 104 maintenance	96	Intensive: aerobic training (low to moderate intensity) plus strength training 1x90 min/week plus EMG-biofeedback 1x90 min/week maintenance: 1x60 min/month	Education Intensive:1x90 min /week Maintenance: 1x60 min/month	30	30
Burckhardt 1994 Sweden	6	None	Aerobic training (intensity NR; land- and water-based) plus stretching 1x60 min/week plus cognitive behavioral therapy 1x90 min/week	Waiting list	31	31
Cedraschi 2004 Switzerland	6	26	Aerobic training (land- and water-based, low intensity, relaxation training) 1x90 min/week plus education 1x90 min/week	Waiting list	84	80
Fontaine 2010 USA	12	No	Aerobic training (land-based, moderate intensity) 5x30 min/week plus 1x30 min/week cognitive behavioral therapy	Education 1x30 min	46	38
Gowans 1999 Canada	6	No	Aerobic training (water-based) plus stretching 2x30 min/week plus 2x30 min/week education	Waiting list	22	23

Hammond 2007 USA	10	16	Tai chi, stretching, strength training (intensity not reported) plus cognitive 1x120 min/week	Relaxation trainings 1x60 min/week	71	62
Keel 1998 Switzerland	15	16	Autogenes training, aerobic training (intensity NR), stretching, strength training plus cognitive behavioral therapy 2x120 min/week	Relaxation training 2x45–60 min/week	14	13
King 2002 USA	12	12	Aerobic training (land- and water-based; low bis moderate intensity) plus cognitive behavioral therapy1x120 min/week	Waiting list (education) 1x90–120 min/week	39	37
Van Koulil 2010 The Netherlands	16	26	Relaxation, aerobic training (land- and water-based; intensity not reported), hydro therapy, muscle strength training and stretching 2x60 min/week plus 2x60 min/week tailored cognitive behavioral therapy	Waiting list	39 pain persistence and 29 pain avoidance	45 pain persistence and 45 pain avoidance
Lemstra 2005 Canada	6	No	Aerobic training (land-based, low intensity), stretching and strength training plus massage plus education 3x150 min/week	Treatment as usual	43	36
Lera* 2010 Spain	16	26 (results not reported in detail)	Aerobic training (bicylce ergometer walking, intensity not reported) total 10x60 min plus 14x60 min total education	Aerobic training (bicylce ergometer walking, intensity NR) total 10x60 min plus 14x60 min total education plus total 15x90 min cognitive behavioral therapy	31	35
Mannerkorpi 2000 Sweden	26	No	Aerobic training (land- and water-based; intensity NR), flexibility and relaxation training plus education 1x60 min/week	Treatment as usual	28	29
Mannerkorpi 2009	20	52	Aerobic training (water-based; low to	6x60 min total education plus	81	85

Sweden			moderate intensity) 1x45 min/week plus 6x60 min total education plus relaxation training	relaxation training		
Rooks 2007 USA	16	No	Aerobic training (land-based; intensity NR), flexibility, strength training 2x30 min/week plus education (total 7x120 min)	Education (total 7x120 min)	55	50
Souza 2008 Brazil	11	16	Aerobic training (land-based; low to moderate intensity) 6x15 min/week plus relaxation training 3x15 min/week plus education 1x120 min/week	Treatment as usual	29	26
Ziljstra 2006 The Netherlands	2.5	52	Aerobic training (land- and water-based; low to moderate intensity) total 7x60 min/week plus thalasso therapie (Hamam, algae therapy, massage, whirlpool) total 18x60 min plus education total 120 min	Treatment as usual	84	86

* Control group not suited for meta-analysis.
NR not reported.

Table 36: Methodology quality and external validity of studies analysed with multicomponent therapy

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Brockow	Yes	Unclear	No	Yes	No	Yes
Buckelew	Unclear	Yes	Unclear	No	No	Yes
Burckhart	Unclear	Unclear	Unclear	No	No	Yes
Cedraschi	Yes	Yes	Yes	No	No	Yes
Fontaine	Yes	Yes	Unclear	No	Unclear	Unclear
Gowans	Unclear	Unclear	Unclear	No	Yes	Yes
Hammond	Yes	Unclear	Unclear	Yes	No	No
Keel	Unclear	Unclear	Unclear	No	Yes	No
King	Yes	Yes	Yes	Yes	No	Yes
Van Koulil	Yes	Unclear	Unclear	Yes	No	No
Lemstra	Yes	Yes	Yes	Yes	Yes	Yes
Lera	Yes	Yes	Yes	No	Yes	No
Mannerkorpi	Unclear	Unclear	Unclear	Unclear	No	No
Mannerkorpi	Yes	Yes	Yes	Yes	No	No
Rooks	Yes	Yes	Yes	Yes	No	Yes
De Souza	Unclear	Unclear	Unclear	Yes	No	No
Ziljstra	Yes	Yes	Yes	Yes	No	No

Table 37: Efficacy of multicomponent therapy

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	14; 917 -0.42 (-0.58, -0.25) 34; <0.0001	9; 780 -0.20 (-0.49, 0.08) 73; 0.16
Sleep problems	2; 81 0.17 (-0.27, 0.61) 0; 0.45	2; 77 0.06 (-0.39, 0.51) 0; 0.49
Fatigue	9; 7124 -0.48 (-0.76, -0.20) 69; 0.007	6; 656 -0.34 (-0.64, -0.05) 71; 0.02
Health-related quality of life	11; 876 -0.53 (-0.67, -0.39) 0; <0.0001	7; 708 -0.44 (-0.83, -0.06) 84; 0.02

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 38: Characteristics of studies analysed with relaxation training combined with aerobic exercise

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Cedraschi 2004 Switzerland	6	26	Aerobic training (land- and water-based, low intensity, relaxation training) 1x90 min/week plus education 1x90 min/week	Waiting list	84	80
Keel 1998 Switzerland	15	16	Autogenic training, aerobic training (intensity not reported), stretching, strength training plus cognitive behavioral therapy 2x120 min/week	Relaxation training 2x45–60 min/week	14	13
Mannerkorpi 2000 Sweden	26	No	Aerobic training (land- and water-based; intensity NR), flexibility and relaxation training plus education 1x60 min/week	Treatment as usual	28	29
Mannerkorpi 2009 Sweden	20	52	Aerobic training (water-based; low to moderate intensity) 1x45 min/week plus 6x60 min total education plus relaxation training	6x60 min total education plus relaxation training	81	85

Table 39: Methodology quality and external validity of studies analysed with relaxation training combinbed with aerobic exercise

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Cedraschi	Yes	Yes	Yes	No	No	Yes
Keel	Unclear	Unclear	Unclear	No	Yes	No
Mannerkorpi	Unclear	Unclear	Unclear	Unclear	No	No
Mannerkorpi	Yes	Yes	Yes	Yes	No	No

Table 40: Efficacy of relaxation training combinbed with aerobic exercise

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	4; 217 -0.35 (-0.62, -0.08) 0; 0.01	3; 281 -0.22 (-0.46, 0.01) 0; 0.06
Sleep problems	Data too limited	Data too limited
Fatigue	2; 190 -0.10 (-0.39, 0.18) 0, 0.48	2;254 -0.22 (-0.89, 0.45) 86; 0.52
Health-related quality of life	2; 190 -0.44 (-0.76, -0.11) 16; 0.009	2; 256 -0.19 (-0.63, 0.26) 69; 0.41

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 41: Characteristics of studies analysed of cognitive behavioral therapy combined with aerobic training

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Burckhardt 1994 Sweden	6	None	Aerobic training (intensity NR; land- and water-based) plus stretching 1x60 min/week plus cognitive behavioral therapy 1x90 min/week	Waiting list	31	31
Fontaine 2010 USA	12	No	Aerobic training (land-based, moderate intensity) 5x30 min/week plus 1x30 min/week cognitive behavioral therapy	Education 1x30 min	46	38
Hammond 2007 USA	10	16	Tai chi, stretching, strength training (intensity NR) plus cognitive behavioral therapy 1x120 min/week	Relaxation trainings 1x60 min/week	71	62
Keel 1998 Switzerland	15	16	Autogenic training, aerobic training (intensity NR), stretching, strength training plus cognitive behavioral therapy 2x120 min/week	Relaxation training 2x45–60 min/week	14	13
King 2002 USA	12	12	Aerobic training (land- and water-based; low bis moderate intensity) plus cognitive behavioral therapy 1x120 min/week	Waiting list (education) 1x90–120 min/week	39	37
Van Koulil 2010 The Netherlands	16	26	Relaxation training, aerobic training (land- and water-based; intensity NR), hydrotherapy, strength training and stretching 2x60 min/week plus 2x60 min/week tailored cognitive behavioral therapy	Waiting list	39 pain persistence and 29 pain avoidance	45 pain persistence and 45 pain avoidance

Table 42: Methodology quality and external validity of studies analysed with cognitive behavioral therapy combined with aerobic training

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Burckhart	Unclear	Unclear	Unclear	No	No	Yes
Fontaine	Yes	Yes	Unclear	No	Unclear	Unclear
Hammond	Yes	Unclear	Unclear	Yes	No	No
Keel	Unclear	Unclear	Unclear	No	Yes	No
King	Yes	Yes	Yes	Yes	No	Yes
Van Koulil	Yes	Unclear	Unclear	Yes	No	No

Table 43: Efficacy of cognitive behavioral therapycombined with aerobic training

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	5; 311 -0.40 (-0.85, 0.05) 72; 0.08	4; 293 -0.20 (-0.76, 0.35) 79; 0.47
Sleep problems	Data too limited	Data too limited
Fatigue	4; 285 -0.70 (-1.29, -0.10) 83; 0.02	3; 268 -0.56 (-0.94, -0.19) 53; 0.003
Health-related quality of life	5; 354 -0.54 (-0.83, -0.25) 44; 0.002	3; 269 -0.39 (-1.18, 0.41) 90; 0.34

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 44: Characteristics of studies analysed with biofeedback

Author Year of publication ountry of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Babu 2007 India	1	None	EMG-biofeedback 6x45 min/week	Sham biofeedback 6x45 min/week	15	15
Buckelew 1998 USA	6 intensive and 104 maintenance	None	EMG-biofeedback Intensive:1x90 min/week Maintenance: 1x60 min/month	Education intensive:1x90 min/week Maintenence: 1x 60 min/month	29	30
Ferraccioli 1987 Italy	7	None	EMG-biofeedback 2x45 min/week*	Sham biofeedback 2x duration not reported min/week*	6	6
Kayiran 2010 Turkey	4	16 weeks	EEG-biofeedback 5x45 min/week*	Escitalopram 10 mg/for 8 weeks 5x duration not reported min/week*	20	20
Kravitz 2006 USA	11	1 week	EEG-biofeedback 2x45 min/week*	Sham biofeedback 2x min duration not reported /week	31	28
Nelson 2010 USA	Not reported	26 weeks	EEG-biofeedback 22 sessions 45 min/week*	Sham biofeedback 22 sessions duration not reported	21	21
Van Santen 2002 The Netherlands	8	8 weeks	EMG-biofeedback 2x30 min/week	Treatment as usual	50	29

*Duration not reported and, therefore, estimated.

Table 45: Methodology quality and external validity of studies analysed with biofeedback

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Babu	Unclear	Unclear	Unclear	Yes	Yes	No
Buckelew	Unclear	Yes	Unclear	No	Yes	Yes
Ferracciol i	No	Unclear	Unclear	Yes	No	Yes
Kayiran	Unclear	Unclear	Yes	Unclear	No	Unclear
Kravitz	Yes	Unclear	Unclear	Yes	No	No
Nelson	Unclear	Yes	Unclear	No	No	Unclear
Van Santen	Unclear	Unclear	Unclear	No	No	No

Table 46: Efficacy of studies with biofeedback

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2, p value
Pain	7; 289 -0.79 (-1.36, -0.22) 79; 0.006	4; 179 -0.54 (-1.31, 0.22) 83; 0.17
Sleep problems	2; 87 0.18 (-0.24, 0.60) 0; 0.40	3; 84 -0.02 (-0.45, 0.41) 0; 0.92
Fatigue	4; 192 -0.30 (-1.07, 0.48) 85; 0.45	2; 68 -2.52 (-7.98, 2.94) 98; 0.37
Health-related quality of life	4; 163 -0.62 (-2.02, 0.77) 93; 0.38	3; 70 6.50 (-5.70,18.70) 98; 0.30

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 47: Characteristics of studies analysed with hypnosis and guided imagery

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Alvarez 2007 Mexico	26	None	Total 6–8 life sessions 60 min each Ericksonian hypnosis individual	6–8 sessions each 60 min hypnosis without pain-specific suggestions	7	4
Grondahl 2008 Norway	10	52, only experimental group	Traditional life hypnosis, single,1x30 min/ week	Treatment as usual	7	5
Haanen 1991 The Netherlands	12	12	Traditional life hypnosis single, total 8 sessions 60 min each, daily exercise with audiotaped recommended	Massage and relaxation training 1–2/week 30 min each	17	20
Menziers 2006 USA	6	4	Guided imagination audiotape, daily at home	Treatment as usual	24	24
Rucco 1995 Italy	26	No	Ericksonian hypnosis individual, individual number of sessions	Autogenic training, 2 sessions with 15 min each, 8 weeks	24	11

Table 48: Methodology quality and external validity of studies analysed with hypnosisd and guided imagery

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat anaysis	Inclusion of patients with inflammaory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Alvarez 2007	Unclear	Unclear	Unclear	No	No	Yes
Grondahl 2008	Unclear	Unclear	Unclear	No	No	No
Haanen 1991	Unclear	Unclear	Unclear	Yes	No	Yes
Menziers 2006	Unclear	Unclear	Unclear	No	No	Yes
Rucco 1995	Unclear	Unclear	Unclear	No	Yes	No

Table 49: Efficacy of hypnosis and guided imagery

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	5; 146 -1.40 (-2.59, -0.21) 88; <0.02	2; 88 -1.62 (-2.11, -1.14) 0; <0.00001
Sleep problems	Data too limited	Data too limited
Fatigue	Data too limited	Data too limited
Health-related quality of life	2; 60 -1.02 (-4.01, 1.97) 94; 0.50	Data too limited

Table 50: Characteristics of studies analysed with cognitive behavioral therapies

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Ang 2010 USA	6	6	Cognitive behavioral therapy 1x40 min/week	Treatment as usual	17	15
Edinger 2005 USA	6	26	Cognitive behavioral therapy 1x60 min/week	Treatment as usual	16	11
Falcao 2008 Brazil	10	12	Cognitive behavioral therapy plus EMG-biofeedback 1x90 min/week	Treatment as usual	25	25
Garcia 2006 Spain	9	12	Cognitive behavioral therapy 1x90 min/week	Treatment as usual	7	7
Kashikar-Zuck 2005 USA	8	No	Cognitive behavioral therapy 1x150 min/week	Attention control (self-Monitoring)	15	15
King 2002 USA	12	12	Cognitive behavioral therapy 1x90– 120 min/week	Once written information on streching and coping;1–2 telephone calls/week	21	18
Nicassio 1997 USA	10	26	Cognitive behavioral therapy 1x150 min/week	Education 1x150 min/week	36	35
Redondo 2004 Spain	8	52	Cognitive behavioral therapy 1x150 min/week	Waiting list	21	19
Soares 2002 Sweden	10	26	Cognitive behavioral therapy 1x270 min/week	Education 1x150 min/week	18	18
Thieme 2003 Germany	5	64	Operant therapy 5x300 min/week	Education and physical therapy 5x300 min/week	40	21
Thieme 2006 Germany	15	52	a. Operant therapy 1x120 min/week b. Cognitive behavioral therapy 1x120 min/week	Group discussion, duration not reported	a. 43 b. 42	40
Vlayen 1996 The Netherlands	12	52	Cognitive behavioral therapy 1x120 min/week	Education and physical therapy low intensity 1x120 min/week	42	30

Wigers 1996 Norway	14	208	Cognitive behavioral therapy 1x60–90 min/week	Treatment as usual	20	20

Table 51: Methodology quality and external validity of studies analysed with cognitive behavioral therapy

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Ang	Unclear	Unclear	Unclear	No	No	Yes
Edinger	Unclear	Unclear	Unclear	No	Yes	No
Falcao	Unclear	Unclear	Unclear	No	No	No
Garcia	Unclear	Unclear	Unclear	Yes	No	No
Kashikar-Zuck	Yes	Yes	Yes	No	No	No
King	Yes	Yes	Yes	Yes	No	Yes
Nicassio	Yes	Yes	Unclear	No	No	Yes
Redondo	Yes	Unclear	Unclear	Yes	No	No
Soares	Unclear	Unclear	Unclear	No	No	Yes
Thieme	Unclear	Unclear	Unclear	Yes	No	Yes
Thieme	Unclear	Unclear	Unclear	Yes	No	Yes
Vlayen	Unclear	Yes	Unclear	No	No	No
Wigers	Unclear	Unclear	Unclear	Yes	Yes	Yes

Table 52: Efficacy of cognitive behavioral therapy

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	12; 568 -0.28 (-0.59, 0.03) 69;0.08	12; 471 -0.24 (-0.49, 0.01) 40; 0.06
Sleep problems	4; 141 -0.15 (-0.60, 0.29) 41;0.50	4; 141 -0.30 (-1.04, 0.44) 78; 0.43
Fatigue	4; 200 0.05 (-0.23, 0.34) 0; 0.71	4; 200 -0.33 (-0.87, 0.21) 70; 0.23
Health-related quality of life	9; 385 -0.11 (-0.36, 0.14) 30; 0.39	9; 410 -0.10 (-0.33, 0.12) 21; 0.38

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 53: Characteristics of studies analysed with relaxation training

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Field 2002 USA	5	No	Progressive muscle relaxation 2x30 min/week	Massage 2x30 min/week	12	12
Field 2003 USA	3	No	Progressive muscle relaxation 2x30 min/week	Stretching with self massage	20	20
Günther 1994 Austria	5	No	Progressive muscle relaxation 4x30 min/week group, followed by daily practicing at home	Stanger bath 2x30–40 min/week	12	13
Hammond 2007 USA	10	16	Visualisation, breathing exercises and relaxation training 1x60 min/week, group	Tai chi, stretching, strength training (intensity not reported) plus cognitive behavioral therapy 1x120 min/week	62	71
Keel 1998 Switzerland	15	16	Autogenic training, 2x45– 60 min/week, group	Autogenic training, aerobic training (intensity NR), stretching, strength training plus cognitive behavioral therapy 2x120 min/week	13	14
Martin 1996 Canada	6	No	3x60 min/week visualisation, yoga and autogenic training, group	3x60 min/week walking, low to moderate intensity	20	18
Richards 2002 Great Britain	12	36	2x60 min/week progressive muscle relaxation training, group	2x60 min/week bicylce ergometer intensity chosen by patient	67	69
Rucco 1995 Italy	26	No	2x30 min group autogenic training for 8 weeks, followed by daily practicing at home	Single sessions Ericksonian hypnotherapy, duration and frequency individual	11	26

Table 54: Methodology quality and external validity of studies analysed with relaxation training

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Field 2002	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Filed 2003	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Günther	Unclear	Unclear	Unclear	No	Unclear	Unclear
Hammond	Yes	Unclear	Unclear	Yes	No	No
Keel	Unclear	Unclear	Unclear	No	Yes	No
Martin	Unclear	Unclear	Unclear	No	No	Yes
Richards	Yes	Unclear	Unclear	Yes	Yes	Yes
Rucco	Unclear	Unclear	Unclear	No	No	No

Table 55: Efficacy of relaxation training

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	7; 323 1.10 (0.36, 1.83) 87; 0.0003	2; 160 0.18 (-0.13, 0.50) 0; 0.25
Sleep problems	4; 111 0.42 (-0.02, 0.86) 23; 0.06	Data too limited
Fatigue	2; 157 0.53 (0.08,0.98) 25; 0.02	Data too limited
Health-related quality of life	3; 304 0.21 (-0.08, 0.51) 34; 0.15	2; 263 -0.01 (-0.25, 0.23) 0; 0.96

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 56: Characteristics of studies analysed with written emotional disclosure

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Brorick 2005 USA	1	16 and 40 weeks; Data reported only for 16 weeks	3x20 min total written emotional disclosure about current or past traumatic experiences; telephon calls on demand with clinicians in case of emotional upset by writting	3x20 min total neutral written emotional disclosure or treatment as usual	28	55
Gillis 2006 USA	1	4 and 12	4 days, duration not reported, written emotional disclosure about current or past traumatic experiences	4 days, duration not reported, writing on time management	45	38

Table 57: Methodology quality and external validity of studies analysed with written emotional disclosure

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Brorick	Yes	Yes	Unclear	Yes	Unclear	Unclear
Gillis	Yes	Yes	Yes	Yes	No	Yes

Table 58: Efficacy of written emotional disclosure

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	2; 166 -0.14 (-0.85, 0.57) 80; 0.71	Data too limited
Sleep problems	2; 166 -0.35 (-1.06, 0.35) 80; 0.33	Data too limited
Fatigue	2; 166 -0.29 (-0.70, 0.13) 42; 0.17	Data too limited
Health-related quality of life	2; 166 -0.31 (-0.82, 0.20) 62; 0.23	Data too limited

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 59: Characteristics of studies analysed with duloxetine

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Arnold 2004 USA	12	None	Duloxetin 120 mg/day	Placebo	104	103
Arnold 2005 USA	12	None	Duloxetin 60 mg/day Duloxetin 120 mg/day	Placebo	118 120	118
Arnold 2010a USA and Puerto Rico	24	None	Duloxetin 60 or 120 mg/day	Placebo	263	267
Chappell 2009a USA and Europa	26	None	Duloxetin 60 or 120 mg/day	Placebo	162	168
Russell 2008 USA and Puerto Rico	26	None	Duloxetin 20– 60 mg/day Duloxetin 60 mg/day Duloxetin 120 mg/day	Placebo	79 150 147	144

Table 60: Methodology quality and external validity of studies analysed with duloxetine

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Arnold 2004	Yes	Yes	Unclear	Yes	No	Yes
Arnold 2005	Yes	Unclear	Unclear	Yes	No	Yes
Arnold 2010a	Yes	Unclear	Unclear	Yes	No	Yes
Chappell 2009	Yes	Unclear	Unclear	Yes	No	Yes
Russell 2008	Yes	Unclear	Unclear	Yes	No	Yes

Table 61: Efficacy of duloxetine

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	8; 1397 -0.32 (-0.43, -0.22) 22; <0.0001	No data available
Sleep problems	3; 996 -0.24 (-0.37, -0.12) 0; <0.0001	No data available
Fatigue	6; 1568 -0.11 (-0.20, -0.02) 0; 0.02	No data available
Health-related quality of life	7; 1380 -0.27 (-0.39, -0.15) 16; <0.0001	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 62: Characteristics of studies analysed with tricyclic antidepressants (TCA)

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Ataoglu* 1997 Turkey	6	None	AMT 50–100 mg	Paroxetin 20 mg/day	29	32
Azad* 2000 India	8	None	AMT 10–100 mg	Vegetarian diet	41	37
Capaci 2002 Turkey	8	None	AMT 10–20 mg/day	Paroxetin 20–40 mg/day	20	20
Carette 1986 Canada	9	None	AMT 10–50 mg/day	Placebo	27	32
Carette 1994 Canada	24	None	AMT 10–50 mg/day	Placebo	78	36
Carette 1995 Canada	8	None	AMT 25 mg/day	Placebo	20	20
Caruso 1987 Italy	8	None	Dothiepin 75 mg/day	Placebo	30	30
Ekşioğlu* 2007 Turkey	8	None	AMT 10 mg/day	AMT 10 mg/day plus Stanger bath	25	25
Ginsberg 1996 Belgium	8	None	AMT 25 mg/day	Placebo	23	19
Goldenberg 1986 USA	6	None	AMT 25 mg/day	Placebo	14	14
Goldenberg 1996 USA	6	None	AMT 25 mg/day	Placebo	31	21
Gülec* 2007 Turkey	8	None	AMT 25–75 mg/day	Venlaxafin 75 mg/day	28	28
Gür* 2002 Turkey	8	None	AMT 10 mg/day	Placebo laser	25	25
Hannonen 1998 Finland	12	None	AMT 12.5 mg/day	Placebo	42	45
Heymann 2001 Brazil	8	None	AMT 25 mg/day Nortriptyline 25 mg/day	Placebo	37 36	33
Kempenaers 1994 Belgium	8	None	AMT 50 mg/day	Placebo	6	8
Scudds 1989 Canada	4	None	AMT 10–50 mg/day	Placebo	38	37

Ware* 2010a Canada	2	2	AMT 10 mg	Dronabinol 0.5–1 mg	29	29

* Not used for meta-analysis.
AMT Amitriptyline

Table 63: Methodology quality and external validity of studies analysed with tricyclic antidepressants

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Ataoğlu	Unclear	Unclear	Unclear	No	No	No
Azad	Unclear	Unclear	Unclear	No	No	Unclear
Capaci	Unclear	Unclear	Yes	Yes	Unclear	Unclear
Carette 1986	Unclear	Yes	Unclear	No	No	Yes
Carette 1994	Yes	Unclear	Unclear	No	No	Yes
Carette 1995	Yes	Yes	Unclear	No	No	Yes
Caruso	Unclear	Yes	Unclear	No	Unclear	Unclear
Ekşioğlu	Unclear	Unclear	Yes	Yes	No	No
Ginsberg	Unclear	Yes	Unclear	Yes	No	Yes
Goldenberg	Unclear	Unclear	Unclear	No	Yes	Yes
Goldenberg	Yes	Unclear	Yes	No	No	No
Gülec	No	No	Unclear	Unclear	Unclear	No
Gür	Unclear	Unclear	Unclear	Yes	No	No
Hannonen	Yes	Yes	Unclear	Yes	No	No
Heymann	Yes	Yes	Unclear	No	No	Yes
Kempenaers	Unclear	Unclear	Unclear	No	No	No
Scudds	Unclear	Unclear	Yes	No	No	Yes
Ware	Unclear	Yes	Yes	Yes	No	Yes

Table 64: Efficacy of tricyclic antidepressants

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2, p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	9; 468 -0.53 (-0.78, -0.29) 44; 0.0001	No data available
Sleep problems	7; 343 -0.62 (-0.94, -0.31) 44; 0.0001	No data available
Fatigue	7; 343 -0.57 (-0.93, -0.21) 57; 0.002	No data available
Health-related quality of life	4; 286 -0.20 (-0.50, 0.00) 7; 0.05	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 65: Characteristics of studies analysed with pregabalin (*PGB*)

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Arnold 2008 USA	14	None	PGB 300 mg/day PGB 450 mg/day PGB 600 mg/day	Placebo	183 190 188	184
Crofford 2005 USA	8	None	PGB 150 mg/day PGB 300 mg/day PGB 450 mg/day	Placebo	132 134 132	131
Mease 2008 USA	13	None	PGB 300 mg/day PGB 450 mg/day PGB 600 mg/day	Placebo	185 183 190	190
Pfizer Not published until December 31, 2010 All continents	14	None	PGB 300 mg/day PGB 450 mg/day PGB 600 mg/day	Placebo	183 182 186	184

Table 66: Methodology quality and external validity of studies analysed with pregabalin

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Arnold	Yes	Yes	Unclear	Yes	No	No
Crofford	Yes	Unclear	Unclear	Yes	No	No
Mease	Yes	Unclear	Unclear	Yes	No	No
Pfizer	Yes	Unclear	Unclear	Yes	No	No

Table 67: Efficacy of pregabalin

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	12; 2747 -0.27 (-0.35, -0.19) 38; <0.0001	No data available
Sleep problems	9; 1966 -0.37 (-0.46, -0.28) 36; <0.0001	No data available
Fatigue	9; 1966 -0.16 (-0.23, -0.09) 0; <0.0001	No data available
Health-related quality of life	9; 1996 -0.19 (-0.26, -0.12) 0; <0.0001	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 68: Characteristics of studies analysed with serotonin reuptake inhibitors (SSRI)

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Anderberg 2002 Sweden	16	None	Citalopram 20–40 mg/day	Placebo	21	19
Arnold 2002 USA	12	None	Fluoxetine flexibel 20–80 mg/day	Placebo	30	30
Ataoğlu* 1997 Turkey	6	None	Paroxetine 20 mg/day	AMT 50–100 mg	29	32
Çapacı* 2002 Turkey	8	None	Paroxetine 20–40 mg/day	AMT 10–20 mg/day	20	20
Glaxo 1995 Belgium	8	None	Paroxetine 20 mg/day	Placebo	18	21
Goldenberg 1996 USA	6	None	Fluoxetine 20 mg/day	Placebo	31	22
Gonzales-Viejo* 2005 Spain	26	None	Sertralin 50 mg/day	Kinesitherapy plus ultrasound 15 sessions 30 min each for 3 weeks	36	34
Gülec* 2007 Turkey	8	None	AMT 25–75 mg/day	Venlaxafine 75 mg/day	28	28
Hussain* 2010 Irak	8	None	Fluoxetine 20 mg/day	Melatonin 5 mg/day	24	27
Noregaard 1995 Denmark	8	None	Citalopram 20 mg/day	Placebo	21	21
Patkar 2007 USA	12	None	Paroxetine 12.5–62.5 mg/day	Placebo	58	58
Sencan 2004 Turkey	6	6 Monthe	Paroxetine 20 mg/day	TENS placebo	20	20
Wolfe 1994 USA	6	None	Fluoxetine 20 mg/day	No	15	9

* Not used for meta-analysis.
TENS transcutaneous electrical nerve stimulation.

Table 69: Methodology quality and external validity of studies analysed with serotonin reuptake inhibitors

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Anderberg	Yes	Unclear	Unclear	Yes	No	No
Arnold	Unclear	Yes	Unclear	Yes	No	No
Ataoğlu	Unclear	Unclear	Unclear	No	No	No
Çapacı	Unclear	Unclear	Yes	Yes	Unclear	Unclear
Glaxo	Unclear	Unclear	Unclear	No	No	No
Goldenberg	Yes	Unclear	Yes	No	No	No
Gonzales-Viejo	Unclear	Unclear	Unclear	Yes	Yes	No
Gülec	No	No	Unclear	Unclear	Unclear	No
Hussain	Unclear	Unclear	Unclear	Yes	Unclear	Unclear
Noregaard	Unclear	Unclear	Unclear	No	No	No
Patkar	Yes	Yes	Unclear	Yes	No	No
Sencan	Unclear	Unclear	Unclear	Yes	No	No
Wolfe	Yes	Unclear	Unclear	No	No	Yes

Table 70: Efficacy of serotonin reuptake inhibitors

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	8; 362 -0.40 (-0.73, -0.07) 0; 0.02	No data available
Sleep problems	5; 185 -0.31 (-0.60, -0.02) 0; 0.04	No data available
Fatigue	5; 193 -0.17 (-0.46, 0.11) 0; 0.23	No data available
Health-related quality of life	3; 208 -0.47 (-0.84, -0.10) 39; 0.01	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 71: Characteristics of studies analysed with dopamine agonists

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Distler 2010 Switzerland and Germany	12	None	Terguride 0.5 mg/day	Placebo	65	34
Holman 2005 USA	12	None	Pramiprexol 4.5 mg/day	Placebo	40	20
Glaxo 2005 not published	12	None	Ropirinol 1– 24 mg/day	Placebo	90	91

Table 72: Methodology quality and external validity of studies analysed with dopamine agonists

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Distler	Unclear	Unclear	Unclear	Yes	No	Unclear
Glaxo	Unclear	Unclear	Yes	Yes	Unclear	Unclear
Holman	Yes	Unclear	Yes	Yes	Unclear	Partiell

Table 73: Efficacy of dopamine agonists

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	3; 340 -0.21 (-0.59, 0.18) 63; 0.02	No data available
Sleep problems	Data too limited	No data available
Fatigue	Data too limited	No data available
Health-related quality of life	2; 159 -0.32 (-0.78, 0.13) 44; 0.16	No data available

Table 74: Characteristics of studies analysed with sodium oxybate

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Moldofsky 2010 Canada	8	None	4.5 g/day 6 g/day	Placebo	46 40	52
Russell 2009 USA	8	None	4.5 g/day 6 g/day	Placebo	58 66	64
Scharf 2003 USA	4	None	4.5 g/day	Placebo	15	17

Table 75: Methodology quality and external validity of studies analysed with sodium oxybate

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Moldofsky	Yes	Unclear	Unclear	No	No	No
Russell	Yes	Unclear	Unclear	Yes	No	No
Scharf	Unclear	Unclear	Unclear	No	Unclear	Unclear

Table 76: Efficacy of sodium oxybate

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	3; 284 -0.57 (-1.03, -0.12) 67; 0.01	No data available
Sleep problems	5; 489 -0.59 (-0.78, -0.40) 7; <0.0001	No data available
Fatigue	5; 489 -0.57 (-0.78, -0.36) 22; <0.0001	No data available
Health-related quality of life	2; 252 -0.47 (-0.72, -0.22) 0; <0.0001	No data available

Table 77: Characteristics of studies analysed with serotonin receptor (5HT3) antagonists

Author Year of publication Country of study	Duration of study (days)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Färber 2000 Germany	10	No	Tropisetron 5 mg/day oral	Placebo	102	103
Hrycaj 1996 Germany*	5	No	Odansetron 8 mg/day oral	Paracetamol 1,000 mg/day oral	21	21
Späth 2004 Germany	5	No	Tropisetron 5 mg/day i.v.	Placebo	9	12

* Not used for meta-analysis

Table 78: Methodology quality and external validity of studies analysed with serotonin receptor (5HT3) antagonists

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Färber	Unclear	Unclear	Unclear	Yes	No	Unclear
Hrycaj	Unclear	Unclear	Unclear	No	No	Unclear
Späth	Unclear	Unclear	Yes	Yes	No	Unclear

Table 79: Efficacy of serotonin receptor (5HT3) antagonists

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	3; 246 -0.20 (-0.46, 0.05) 0; 0.11	No data available
Sleep problems	No data available	No data available
Fatigue	No data available	No data available
Health-related quality of life	No data available	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 80: Characteristics of studies analysed with milnacipran (*MLN*)

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Arnold 2010b USA and Canada	18	No	MLN flexible dosis 100 or 200 mg/day	Placebo	516	509
Branco 2010 Europa	16	No	MLN 200 mg/day	Placebo	435	449
Clauw 2008 USA	15	No	MLN 100 mg/day MLN 200 mg/day	Placebo	399 396	401
Mease 2009 USA	27	No	MLN 100 mg/day MLN 200 mg/day	Placebo	224 441	223
Vitton 2004 USA	12	No	MLN 100 mg MLN 200 mg/day	Placebo	46 51	28

Table 81: Methodology quality and external validity of studies analysed with milnacipran

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Arnold 2010b	Yes	Yes	Unclear	Yes	No	No
Branco 2010	Yes	Unclear	Unclear	Yes	No	No
Clauw 2008	Yes	Yes	Yes	Yes	No	No
Mease 2009	Yes	Unclear	Unclear	Yes	No	No
Vitton 2004	Yes	Yes	Unclear	Yes	No	No

Table 82: Efficacy of milnacipran

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	8; 4088 -0.20 (-0.25, -0.14) 0; <0.0001	No data available
Sleep problems	7; 3061 -0.02 (-0.09, 0.04) 0; 0.45	No data available
Fatigue	7; 3061 -0.13 (-0.19, -0.07) 0; <0.0001	No data available
Health-related quality of life	7; 3061 -0.18 (-0.24, -0.12) 0; <0.0001	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 83: Characteristics of studies analysed with monoamine oxidase inhibitors (MAOI)

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Ginsberg 1996 Belgium	4	None	Pirlindole 150 mg/day	Placebo	28	33
Hannonen 1998 Finland	12	None	Moclobemide 150 mg/day	Placebo	43	45

Table 84: Methodology quality and external validity of studies analysed with monoamine xidase inhibitors

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Ginsberg	Unclear	Unclear	Unclear	Yes	Unclear	Unclear
Hannonen	Yes	Yes	Unclear	Yes	No	No

Table 85: Efficacy of monoamine oxidase inhibitors

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	2; 149 -0.64 (-1.33, 0.05) 76; 0.07	No data available
Sleep problems	2; 149 -0.00 (-0.69, 0.69) 77; 1	No data available
Fatigue	2; 149 -0.17 (-0.76, 0.42) 69; 0.57	No data available
Health-related quality of life	No data available	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 86: Characteristics of studies analysed with muscle relaxants

Author Year of publication Country of study	Duration of study	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Bennett 1988 USA	12 weeks	None	Cyclobenzaprine 10–40 mg/day	Placebo	62	58
Cantini* 1994 Italy	12 weeks	None	Cyclobenzaprine 10 mg/day Cyclobenzaprine 10 mg/day and Fluoxetine 20 mg/day	None	10 11	
Carette 1994 Canada	26 weeks	None	Cyclobenzaprine 10–20 mg/day	Placebo	70	36
Fosaluzza* 1992 Italy	10 days	None	Cyclobenzaprine 10 mg/day Cyclobenzaprine 10 mg/day and Ibuprofen 600 mg/day	None	15 17	
Garcia* 2006 Spain	9 weeks	3 Months	Cyclobenzaprine 10 mg/day	Cognitive behavioral therapy No therapy	7	7 7
Hamaty 1989 USA	9 weeks	None	Cyclobenzaprine 10–40 mg/day	Placebo	7	7
Pattrick 1993 Great Britain	6 weeks	None	Chlormezanone 400 mg/day	Placebo	20	21
Quimby** 1989 USA	6 weeks	None	Cyclobenzaprine 10–40 mg/day	Placebo	20	21
Reynolds 1991 Canada	4 weeks	None	Cyclobenzaprine 20–40 mg/day	Placebo	9	9
Santandrea 1993* Italy	2 weeks	None	Cyclobenzaprine 10 mg/day Cyclobenzaprine 30 mg/day	None	29 29	

* Not included into meta-analysis
** Reported data not usable for dropout analysis

Table 87: Methodology quality and external validity of studies analysed with muscle relaxants

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Bennett	Unclear	Unclear	Unclear	Yes	No	No
Cantini	Unclear	Unclear	Unclear	Yes	No	Yes
Carette	Yes	Unclear	Unclear	No	No	No
Fossaluzza	Unclear	Unclear	Unclear	Yes	No	Yes
Garcia	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear
Hamaty	Unclear	Unclear	Unclear	No	No	Yes
Pattrick	Unclear	Unclear	Unclear	No	No	Yes
Quimby	Unclear	Unclear	Unclear	No	No	No
Reynolds	Unclear	Unclear	Unclear	No	No	Yes
Santandrea	Unclear	Unclear	Unclear	No	No	No

Table 88: Efficacy of muscle relaxants

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	5; 297 -0.34 (-0.63, -0.05) 25; 0.02	No data available
Sleep problems	No data available	No data available
Fatigue	No data available	No data available
Health-related quality of life	Data too limited	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 89: Characteristics of studies analysed with nonsteroidal agents (NSAR)

Author Year of publication Country of study	Duration of study	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Fosaluzza* 1992 Italy	10 days	None	Cyclobenzaprine 10 mg/day Cyclobenzaprine 10 mg/day and Ibuprofen 600 mg/day	None	15 17	
QuiYesda-Carrera 1996 Spain**	8 weeks	None	Tenoxicam 20 mg/day	Placebo	41	41
Russell 1991 USA	8 weeks	None	Ibuprofen 2,400 mg/day	Placebo	17	14
Yunus 1989 USA	3 weeks	None	Ibuprofen 1,200 mg/day	Placebo	22	24

* Study not suited for meta-analysis
** Reported study outcomes only suited for dropout analysis

Table 90: Methodology quality and external validity of studies analysed with NSAR

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Fossaluzza	Unclear	Unclear	Unclear	Yes	No	Yes
QuiYesda-Carrera	Unclear	Unclear	Unclear	Yes	No	Yes
Russell	Unclear	Unclear	Unclear	No	Unclear	Unclear
Yunus	Unclear	Unclear	Unclear	Yes	No	Yes

Table 91: Efficacy of NSAR

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	2; 78 -0.05 (-0.50, 0.40) 0; 0.82	No data available
Sleep problems	Data too limited	No data available
Fatigue	Data too limited	No data available
Health-related quality of life	Data too limited	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 92: Characteristics of studies analysed with meditative movement therapies

Author Year of publication Country of study	Dura-tion of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Astin 2003 USA	8	16	1x90 min/week MBSR plus 1x60 min/week tai chi	1x150 min/week education	32	33
Calandre 2009 Spain	6	12	3x60 min/week tai chi in warmen pool (36°C)	3x60 min/week stretching	42	39
Carson 2010 USA	8	None	1x120 min/week yoga of awareness (yoga plus meditation plus breathing exercises plus group discussion)	Waiting list	25	28
Da Silva 2007 Brazil	8	6	1x50 min/week yoga	1x50 min/week yoga plus Tui Na (manipulative technique)*	17	16
Haak 2008 Sweden	7	16 (no control group)	9x75 min/total qigong	Waiting list	28	28
Kendall 2000 Sweden	20	78	1x90 min/week body awareness	1x90 min/week Mensendieck physiotherapy	10	10
Mannerkorpi 2004 Sweden	12	No	1x90 min/week body awareness and qigong	1x90 min/week treatment as usual	19	17
Stephens 2008 USA	12	No	3x30 min/week qigong	3x30 min/week aerobic training with average intensity	16	14
Wang 2010 USA	12	12	2x60 min/week tai chi	2x60 min/week education and stretching	33	33

* Study not used for meta-analysis
MBSR Mindfulness based stress reduction

Table 93: Methodology quality and external validity of studies analysed with meditative movement therapies

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Astin	Unclear	Unclear	Yes	No	Yes	Yes
Calandre	Yes	No	Unclear	Yes	Yes	Yes
Carson	Yes	Yes	Yes	Yes	No	No
Da Silva	Unclear	Unclear	Unclear	No	No	Unclear
Haak	Unclear	Unclear	Unclear	Yes	Unclear	No
Kendall	Unclear	Unclear	Unclear	No	Unclear	Unclear
Mannerkorpi	Unclear	Unclear	Yes	No	Unclear	Unclear
Stephens	Yes	Yes	Yes	Yes	Unclear	Yes
Wang	Yes	Unclear	Unclear	Yes	No	Yes

Table 94: Efficacy of meditative movement therapies

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	7; 327 -0.42 (-0.80, -0.04) 65,0.03	4; 209 -0.13 (-0.64, 0.38) 68; 0.62
Sleep problems	3; 175 -0.37 (-0.67, -0.07) 0; 0.02	Data too limited
Fatigue	4; 203 -0.58 (-0.97, -0.18) 44;0.004	2; 132 -0.63 (-1.46, 0.20) 82; 0.14
Health-related quality of life	8; 377 -0.92 (-1.86, 0.02) 94; 0.05	3; 150 -0.14 (-1.09, 0.80) 86; 0.78

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 95: Characteristics of studies analysed with acupuncture

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls (weeks)	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Assefi 2005 USA	12	12	24 sessions standardised Chinese manual acupuncture	a. 24 sessions sham acupuncture (skin penetration with stimulation of non-acupuncture points) b. 24 sessions simulierte acupuncture (no skin penetration, only stimulation) at FMS acupuncture points c. 24 sessions acupuncture at points for non-regular menstration	25	a. 25 b. 25 c. 25
Deluze 1992 Switzerland	2	No	6 sessions individualised Chinese laser acupuncture	6 sessions individualised Chinese sham laser acupuncture (shallow needle depth, weaker laser, no acupuncture points)	28	27
Harris 2005 USA	15	No	18 sessions individualised Chinese manual acupuncture	a. 18 sessions individualised Chinese acupuncture without stimulation b. 18 sessions Chinese manual acupuncture at non-acupuncture points with stimulation c. 18 sessions acupuncture at non-acupuncture points without stimulation	29	a. 30 b. 28 c. 27
Harris 2009 USA	8	No	9 sessions individualised Chinese manual acupuncture	9 sessions sham acupuncture (no skin penetration, no stimulation) at non-acupuncture points	10	10
Itoh 2010 Japan	5	No	10 sessions individualised electro- and trigger acupuncture	No therapy	6	7
Lautenschläger 1989 Germany	2	No	6 sessions individualised Chinese manual acupuncture	6 sessions sham acupuncture (skin penetration, simulatedstimulation) at non-acupuncture points	15	19
Martin 2006 USA	6-12	28	6–12 sessions standardised Chinese electroacupunktur	6–12 sessions sham acupuncture (no skin penetration, no stimulation at acupuncture points	25	25
Sandberg 1999 Sweden	8-12	12	10–14 sessions individualised Chinese Lamanual acupuncture	Treatment as usual	9	9
Sprott 1998 Germany	2	No	6 sessions individualised Chinese laser acupuncture	a. 6 sessions sham acupuncture (skin penetration, simulated laser stimulation at non-acupuncture points) b. Treatment as usual	10	a. 10 b. 10

Table 96: Methodology quality and external validity of studies analysed with acupuncture

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Assefi 2005	Yes	Unclear	Unclear	Yes	Unclear	Yes
Deluze 1992	Yes	Unclear	Unclear	No	Unclear	Yes
Harris 2005	Yes	Unclear	Yes	Yes	No	Yes
Harris 2009	Unclear	Yes	Unclear	Yes	No	No
Itoh 2010	Yes	Unclear	Yes	No	No	Yes
Lautenschläger 1989	Unclear	Unclear	Unclear	Yes	Unclear	Unclear
Martin 2006	Yes	Yes	Unclear	Yes	Yes	Yes
Sandberg 1999	Unclear	Unclear	Unclear	No	Yes	Yes
Sprott 1998	Unclear	Unclear	Unclear	Unclear	Unclear	Unclear

Table 97: Efficacy of acupuncture

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	9; 310 -0.26 (-0.49, -0.04) 0; 0.02	2; 86 -0.11 (-0.72, 0.49) 50; 0.71
Sleep problems	3; 115 0.00 (-0.58, 0.58) 55; 1.0	Data too limited
Fatigue	3; 115 0.04 (-0.32, 0.39) 16; 0.84	Data too limited
Health-related quality of life	5; 180 -0.26 (-0.65, 0.13) 36; 0.20	Data too limited

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 98: Characteristics of studies analysed with mindfulness-based stress reduction (*MBSR*)

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Astin 2003 USA	8	8 weeks	MBSR 1x90 min/week plus 1 day with qigong	Education 1x150 min/week	32	33
Grossmann 2007 Switzerland	8	3 years only reported for MBSR Group	MBSR 1x90 min/week plus 1 day (420 min)	Education, progressive muscle relaxation, stretching 1x90 min/week plus 1 day (420 min)	39	13
Schmidt 2010 Switzerland	8	8 weeks	MBSR 1x90 min/week plus 1 day (420 min)	Waiting list	59	59
Sephton 2007 USA	8	8 weeks	1x90 min/week plus 1 day (420 min)	Waiting list	51	39

Table 99: Methodology quality and external validity of studies analysed with mindfulness-based stress reduction

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Astin	Unclear	Yes	No	No	Yes	No
Grossmann	Unclear	Unclear	Unclear	No	Yes	No
Schmidt	Yes	Yes	Unclear	Yes	Unclear	Unclear
Sephton	Unclear	Unclear	Unclear	Yes	Yes	Yes

Table 100: Efficacy of mindfulness-based stress reduction

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	3; 229 -0.10 (-0.37, 0.17) 0; 0.10	2; 177 -0.01 (-0.31, 0.28) 0; 0.94
Sleep problems	Data too limited	Data too limited
Fatigue	Data too limited	Data too limited
Health-related quality of life	3; 229 -0.35 (-0.76, 0.06) 59; 0.18	2; 177 -0.10 (-0.40, 0.19) 0; 0.50

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 101: Characteristics of studies analysed with homeopathy

Author Year of publication Country of study	Duration of study (weeks)	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experimental group	Number of patients in control groups
Bell 2004 USA	12	4 months	Individual components, L1–L3	Placebo	36	26
Fischer 1986 UK	12	None	Arnica 6c or Byrona 6c or Rhus tox6c /2xday	Placebo	12	12
Fischer 1989 UK	Not reported	None	Rhus tox6c, 3xtablets/day	Placebo	30	30
Relton 2009 UK	22	None	4x30 min interview plus individual homeopathic medicine plus treatment as usual	Treatment as usual	23	24

Table 102: Methodology quality and external validity of studies analysed with homeopathy

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Bell	Yes	Yes	Unclear	No	Yes	Yes
Fischer	Unclear	Yes	Yes	Yes	No	No
Fischer	Unclear	Yes	Yes	Unclear	Unclear	Unclear
Relton	Yes	No	Unclear	Yes	No	No

Table 103: Efficacy of homeopathy

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	2; 100 -0.09 (-0.48, 0.31) 0; 0.67	No data available
Sleep problems	Data too limited	No data available
Fatigue	Data too limited	No data available
Health-related quality of life	2; 100 -0.36 (-0.76, 0.04) 2; 0.08	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.

Table 104: Characteristics of studies analysed with nutritional supplements

Author Year of publication Country of study	Duration of study	Longest follow-up with controls	Experimental group Therapy and dosage	Controls Therapy and dosage	Number of patients in experi-mental group	Number of patients in control groups
Ali 2009 USA	8 weeks	None	Myers cocktail (vitamin B and C and minerals) 1x/week iv	Ringer solution iv (1x/week)	15	16
Caruso 1990 Italy	4 weeks	None	5-hydroxytryptophan 300 mg/day po	Placebo	23	23
Di Benedetto 1993 Italy	6 weeks	None	S-adenosylmethionine 200 mg im/day and 400 mg po/day	5x20 min week TENS at tender points	15	15
Edwards 2000 Great Britain	4 weeks	None	Anthocyanidines a. 40 mg/day b. 80 mg/day c. 120 mg/day	Placebo	12	12
Fontani 2010 Italy	5 weeks	None	4 g fish oil/day	4 g sunflower oil/day	23	23
Yescobsen 1991 Denmark	6 weeks	None	S-adenosylmethionine 800 mg/day po	Placebo	17	21
Merchant 2001 USA	12 weeks	None	Chlorella pyrenoidosa (algae)	Placebo	37	37
Rosssini 2007 Italy	2 weeks	None	L-carnitine 100 mg po and 500 mg im	Placebo 100 mg po and 500 mg im	37	38
Russell 1995 USA	4 weeks	None	Malic acid (600 mg/day) and magnesium (150 mg/day)	Placebo	20	20
Volkmann 1997 Denmark	10 days	No	S-adenosylmethionine 600 mg/day iv	Placebo	30	33
Wahner-Roedler 2008 USA	6 weeks	No	20 g soy/day	20 g casein/day	25	25

TENS transcutaneous electrical nerve stimulation

Table 105: Methodology quality and external validity of studies analysed with nutritional supplements

Author	Adequate randomisation	Adequate concealment of treatment allocation	Adequate blinding of outcome assessor	Intention-to-treat analysis	Inclusion of patients with inflammatory rheumatic diseases	Inclusion of patients with anxiety and/or depressive disorders
Ali	Unclear	Unclear	Unclear	Yes	No	No
Caruso	Yes	Unclear	Yes	No	No	No
Di Benedetto	Unclear	Unclear	Unclear	Yes	No	No
Edwards	Unclear	Unclear	Unclear	Yes	Unclear	Unclear
Fontani	Unclear	Unclear	Yes	Yes	Yes	Yes
Jacobsen	Unclear	Unclear	Unclear	No	No	Unclear
Merchant	Unclear	Unclear	Unclear	No	Unclear	Unclear
Rossini	Unclear	Unclear	Unclear	No	No	Unclear
Russell	Unclear	Unclear	Yes	No	No	Unclear
Volkmann	Unclear	Unclear	Yes	No	No	Unclear
Wahner-Roedler	Unclear	Unclear	Unclear	Yes	Unclear	Unclear

Table 106: Efficacy of nutritional supplements

Outcome	Number of study arms; patients SMD (95% CI) experimental group versus controls final treatment I^2; p value	Number of study arms; patients SMD (95% CI) experimental versus control groups latest follow-up I^2; p value
Pain	11; 448 -0.27 (-0.46, -0.09) 0; 0.004	No data available
Sleep problems	8; 322 -0.27 (-0.51, -0.03) 13; 0.03	No data available
Fatigue	8; 322 -0.20 (-0.42, 0.02) 0; 0.07	No data available
Health-related quality of life	11; 439 -0.14 (-0.37, 0.10) 32; 0.25	No data available

SMD standardized mean difference, *95% CI* 95% confidence interval.