Appendix 1

Medline search strategy

1. randomized controlled trial.pt.

2. controlled clinical trial.pt.

3. randomized.ab.

4. placebo.ab,ti.

5. drug therapy.fs.

6. randomly.ab,ti.

7. trial.ab,ti.

8. groups.ab,ti.

9. or/1-8

10. (animals not (humans and animals)).sh.

11. 9 not 10

12. multidisciplinar$.mp.

13. interdisciplinar$.mp.

14. multiprofessional$.mp.

15. multimodal$.mp.

16. exp Patient Care Team/

17. exp Patient Care Management/

18. exp Patient Education/

19. exp Social Support/

20. exp Social Environment/

21. exp Pain Clinics/

22. (pain clinic$ or pain center$ or pain service$ or pain relief unit$ or pain centr$).mp.

[mp=title, abstract, original title, name of substance word, subject heading word, keyword

heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]

23. exp Social Work/

24. exp Occupational Therapy/

25. exp Rehabilitation/ or exp Rehabilitation Centers/ or exp Rehabilitation, Vocational/

26. exp Treatment Outcome/

27. exp Behavior Therapy/

28. "Recovery of Function"/

29. functional restoration.mp.

30. *Pain/rh

31. or/12-30

32. exp Arthritis, Rheumatoid/

33. exp Neoplasms/

34. exp Musculoskeletal Diseases/cn, su [Congenital, Surgery]

35. exp Central Nervous System/

36. exp Central Nervous System Diseases/

37. exp Dentistry/

38. exp Tooth Diseases/

39. or/32-38

40. dorsalgia.ti,ab.

41. exp Back Pain/

42. backache.ti,ab.

43. (lumbar adj pain).ti,ab.

44. coccyx.ti,ab.

45. coccydynia.ti,ab.

46. sciatica.ti,ab.

47. sciatica/

48. spondylosis.ti,ab.

49. lumbago.ti,ab.

50. exp low back pain/

51. or/40-50

52. 51 and 11 and 31

53. 52 not 39

54. limit 53 to ed=20130201-20141231

55. limit 53 to ed=20130201-20140131

56. limit 53 to yr="2013 -Current"

57. 55 or 56

Appendix 2. Table: Study characteristics

Study	Participants	MBR	Comparator 1	Comparator 2	Comparison
Abbassi 2013	Iran. Adults referred to medical centre pain clinic. LBP >6/12, married 88% female, mean age 45, median pain duration 74 months	P-MPMP. Group Rx (6/group) 7x weekly sessions 2hours each session, + 1 session with doctor, + 1 session with physiotherapist. Light mobilisation, coping skills training, education regarding anatomy, physiology, medication, exercise session N = 12	SA-MPMP. Same as MBR but spouse involved in sessions N = 10	Usual medical care N = 11	MBR Usual
Alaranta 1994	Finnish workers on social Insurance. LBP >6 months, fewer than 2 back surgeries, no contraindications to exercise. 56% female; mean age 40.5, mean pain duration NR	3 week daily HEP then 3 week inpatient program (42 hours/week). Program: strength training, aerobic training, relaxation, stretching, CBT, discussion groups N = 152	3/52 inpatient program: passive physio (electrotherapies, massage, traction), muscle training, pool exercises, back school N = 141		Phys
Basler 1997	Germany. Adult referrals to pain treatment centres. Diagnosis of LBP, no previous CBT 75.6% female, mean age 49.3, mean pain duration 10.8 years	1 session/week for 12 weeks, 150min each session, group format (5-8/group), plus homework assignments. CBT (pain education, relaxation, modifying beliefs, pleasant activity scheduling), posture training, strengthening, stretching + Pain medication, nerve blocks, TENS, physio N = 36	Usual care: Pain medication, nerve blocks, TENS, physio N = 40		Usual

Bendix 'A' (1996/1998)	Denmark. Adults referred to back centre. Disabling LBP >6 months, threatened job situation 70.2% female, median age 40, mean pain duration NR	39 hours/week for 3 weeks inpatient, in groups (7/group), plus 1x 6 hour session/week for 3 weeks). Aerobic ex., strength, stretching, simulated work tasks, biofeedback, pan coping, goal setting, cognitive appraisal, relaxation, job seeking skills, recreation, ball games, running, swimming N = 45	Usual care in Denmark, free to seek any treatment N = 49		Usual
Bendix 'B' (1995/1998)	Denmark. Adults referred to back centre. Disabling LBP >6 months, threatened job situation 75.4% female, median age 42, mean pain duration NR	39 hours/week for 3 weeks inpatient, in groups (7/group), plus 1x 6 hour session/week for 3 weeks). Aerobic ex., strength, stretching, simulated work tasks, biofeedback, pan coping, goal setting, cognitive appraisal, relaxation, job seeking skills, recreation, ball games, running, swimming N = 40	2x 2 hour sessions/week for 6/52 (total24 hr), in groups (7-8/group). Aerobics, progressive strengthening, back school N = 31	2x 2 hour sessions/week for 6weeks, in groups (7-8/group). Psychological pain management, warm-up, progressive strengthening N = 35	Phys MBR
Bendix 'C' (2000)	Denmark. Adults referred to back centre. Disabling LBP >6 months, threatened job situation 65.4% female, median age 41, mean pain duration NR	39 hours/week for 3 week inpatient, in groups (7/group), plus 1x 6 hour session/week for 3 weeks). Aerobic ex., strength, stretching, simulated work tasks, biofeedback, pan coping, goal setting, cognitive appraisal, relaxation, job seeking skills, recreation, ball games, running, swimming N = 59	1,5 hour sessions, 3x/week for 8/52 (total 28 hr); aerobic and strengthening exercises N = 68		Phys

Coole (2013)	UK. Patients referred to group rehabilitation with LBP >6 weeks, employed, concerned about work ability. 52.9% female, mean age 44, mean pain duration 88 months.	Maximum of 10 weeks of 2-3 hours/week. Group education and physical activity program with CBT approach. Possible referral to psychologist. Individual work support, max. 8 face-to-face contacts of 90min; workplace assessment, barrier to LBP managements, communication with employer, work-focused interventions. N = 23	Maximum of 10 weeks of 2-3 hours/week. Group education and physical activity program with CBT approach. Possible referral to psychologist. N = 28		Phys
Fairbank (2005)	UK. Adults in surgical departments. LBP >12 months, surgeon unsure if surgery or rehabilitation more suitable. 50.7% female, mean age NR, mean pain duration 8 years	5 days/week for 3 weeks plus 1 follow-up session. Stretching, strengthening, stabilisation, cardiovascular endurance, hydrotherapy. CBT approach; pacing, addressing unhelpful beliefs and fears N = 173	Spinal stabilisation surgery N = 176		Surg
Harkapaa (1989)	Finland. Blue collar workers recruited by mail. Chronic or recurrent LBP >2 years that causes sick leave, physically strenuous job. 37% female, mean age 44.9, mean pain duration NR	3 week inpatient program, sessions in groups (6-8/group). Swedish back school, back exercises, relaxation exercises, heat/electrotherapy, discussion groups on coping and back care. HEP stretching and stretching + massage and strengthening and physical exercises. 2nd part (1.5 yr later), 2 week inpatient, rehearse and refresh back and self-care skills N = 156	2x session/week for 2 months (15 sessions). Swedish back school, back exercises, relaxation exercises, heat/electrotherapy, discussion groups on coping, and back care. HEP stretching and strength. 2nd part (1.5 yr later), 8 sessions inpatient, rehearse and	Written and oral instructions; back exercises and ergonomics. No structured treatment N = 153	Phys MBR

			refresh back and self-care skills N = 150	
Hellum (2011)	Norway. Adults from local hospitals and primary care. LBP >12 months, unsuccessful physio or chiro, degenerative disc changes, Oswestry >30% 50.8% female, mean age 41, mean pain duration 6.8 years	Outpatient treatment in groups, 60 hours over 2-5 weeks. Education (anatomy, psychology, imaging, coping, medication, family, work and social life), daily exercises (endurance, strength, coordination), challenging beliefs. Follow-up consults 6weeks, 3+6+12 months N = 87	Surgical disc replacement with artificial disc (ProDisc) N = 86	Surg
Henchoz (2010)	Switzerland. Adults from a hospital rheumatology outpatient clinic. LBP >6 weeks 32% female, mean age 39.8, mean pain duration NR	3 weeks of 5 days/week, 5-7 hours/day, in groups (5/group) and individual Intensive physical and ergonomic training, psychological pain management, back school, social and work-related education, tailored medication programme N = 56	18 physio sessions (45min) over 9 weeks. Active exercise and passive modalities to manage pain, improve mobility and increase activity level N = 53	Phys
Joussett (2004)	France. Adult referrals to a hospital multidisciplinary LBP clinic. LBP not relieved by conventional Rx, threatened job situation 33% female, mean age 40.3,	5 weeks of 6 hour/day, 5 day/week in groups (6-8/group). Exercise with physio; warm-up, stretching, flexibility, aerobic (walking, running, cycling), strength, muscular endurance, coordination exercises. OT; work simulations. Psychologist; counselling N = 43	5 week 3x 1 hour sessions/week, plus HEP; 2x 50min/week. Active exercise directed by physio, flexibility, stretching, strength, proprioception exercises, endurance training, HEP; jogging,	Phys

	mean pan duration NR		swimming, stretching N = 41		
Jackel (1990)	Germany. Referrals to a Rehabilitation hospital 62% female, mean age 48.7, mean pain duration 12.8 years	4-6 weeks, physio 2x/day in pool, 1x/day in gym. Education: anatomy, lifting instructions. 8-10x mudbaths, 8x massage, 8x electro therapy. Psychology: pain beliefs, coping, depression, impact of pain on life N = 33	Waiting list N = 38		Wait list
Kaapa (2006)	Finland. Female workers referred to two Occupational Health centres. Daily or nearly daily LBP for the past 1 year 100% female, mean age 46.3, mean pain duration 1.3 years	2 weeks of 5 days/week, 6 hours/day, then 5 weeks of 2x 4 hours/week, 2/52 HEP. CBT stress management, relaxation, Swedish Back School (education), aerobic fitness, flexibility, coordination, strengthening, progressive relaxation N = 59	10x 1 hour sessions over 6-8 weeks. Passive treatment (massage, electro modalities, traction, mobilisation), active (stretching, mobility, coordination exercises), general increase in physical activity recommended (walking, swimming, daily activities) N = 60		Phys
Kole Snijders (1999)	Netherlands. Adults referred to Rehabilitation Centre by GP or specialist. LBP >6 months, discrepancy b/w subjective	Individual and group, 5 week inpatient plus 3 week outpatient. Operant behavioural treatment, quota-based activities, standing and sitting tolerance, daily activity schedule for home, spouse group training (education and	Individual and group, 5 week inpatient plus 3 week outpatient. Operant behavioural treatment, quota-based activities, standing	Wait list N = 31	Wait list MBR

	complaints and objective findings 64% female, mean age 39.8, mean pain duration 10 years	discussion). Cognitive coping skills, increasing pain control and self-efficacy, education, biofeedback N = 59	and sitting tolerance, daily activity schedule for home, spouse group training (education and discussion). Group discussion (attention control for cognitive coping training) N = 58	
Kool (2005/2007)	Switzerland. Adult patients referred to work rehabilitation centre 21.3% female, mean age 42.1, mean pain duration NR	6 days/week for 3 weeks, 4 hours/day. Time contingent: work simulation, endurance training, strengthening, aerobic training. Counselling, education, self-efficacy, analgesic medication N = 87	6 days/week for 3 weeks, 2,5 hours/day. All activity was pain-contingent: Passive and active mobilisation, stretching, strength, back school (education), heat, electrotherapy, massage, progressive relaxation, analgesic medication N = 87	Phys
Lambeek (2010)	Netherlands. Adults from outpatient clinic; orthopaedic, neurology, rheumatology, neurosurgery. 42% female, mean age 46.2,	Up to 12 weeks (26 sessions). CBT-based graded activity, education, ergonomics, workplace intervention (including employer) N = 66	Usual care in Netherlands as directed by medical specialist N = 68	Usual

	mean pain duration NR				
Leeuw (2008)	Netherlands, referred by physicians from outpatient rehabilitation centres or responded to advertisements. 48% female, mean age 45.3, mean pain duration 9 years	Exposure: 16x 1hr sessions, 2/week. Information re: diagnosis, imaging, continued active approach, treatment rationale. Establishment of hierarchy of feared activities, explanation of fear avoidance model, gradual, systematic exposure to feared activities. Behavioural experiments to test consequences of engagement in feared activities N = 42	Graded Activity: 26x 1hr sessions, 2/week. Information re: diagnosis, imaging, continued active approach, treatment rationale. Identification of functional treatment goals, quota-based gradual increase in performance of functional activities N = 43		MBR
Linton (2005)	Sweden. Workers referred to primary care facilities with back or neck pain at risk of developing long-term disability. 83% female, mean age 49, mean pain duration NR	6 week, 1x/week, 2 hour/session plus homework. Physical Therapy (unconstrained volume); information on prevention, cause of LBP, activity advice, functional training, personalised programs, CBT (6-10/group); pain education, problem solving, coping skills, increase in function, graded activity, stress management, relaxation, dealing with exacerbations. Minimal intervention (1 session), education, activity advice, booklet, patients free to seek any medical care N = 69	6 week, 1x/week, 2 hour/session plus homework, CBT (6-10/group); pain education, problem solving, coping skills, increase in function, graded activity, stress management, relaxation, dealing with exacerbations plus minimal intervention (1 session). N = 69	Usual care, plus minimal intervention (1 session), education, activity advice, booklet, patients free to seek any medical care N = 47	Usual MBR
Lukinmaa	Finland. Adults referred to a	5 days inpatient. Treatment according to biopsychosocial	Orthopaedic outpatient treatment.		Usual

(1989)	regional hospital. LBP 52.7% female, mean age 43.6, mean pain duration 15.3 months	model N = 102	Treatment according to biomedical model N = 101		
Mangels (2009)	Germany. Patients in an Orthopaedic rehabilitation hospital. Diagnosed with musculoskeletal disorders (ICD 10) 77.7% female, mean age 48.8, mean pain duration NR	4 week inpatient intervention, individual or group. Analgesic medication, aerobic exercises, coordination exercise, ergonomic advice, ADL physical capacity training, back school (education), massage, electrotherapy, hydrotherapy, thermotherapy, nutrition and social advice. CBT-based psychological pain management (11/group), BPS model education, pain coping, progressive muscle relaxation. 7 booster sessions on telephone over 12 weeks to reinforce inpatient topics, problem-solving, goal setting, relaxation, coping N = 119	4 w eek inpatient intervention, individual or group. Analgesics, aerobic exercises, coordination exercise, ergonomic advice, ADL physical capacity training, back school (education), massage, electrotherapy, hydrotherapy, thermotherapy, nutrition, social advice. CBT-based psychological pain management (11/group), BPS model education, pain coping, progressive relaxation N = 113	3 weeks mostly physical/orthopaedic treatment; active physiotherapy, passive modalities and occupational therapy N = 131	MBR Phys
Meng (2011)	Germany. Patients in an Orthopaedic rehabilitation hospital. With musculoskeletal disorder (ICD 10) 64% female, mean age 49,	7x 55 minute session, (<16/group). Back school, education, (anatomy, epidemiology, risk factors, therapy), BPS model, pain education, fear avoidance, coping, social aspects, muscle training and stabilisation exercises, recommendation for increased physical activity	6x 55 minute session, in groups (<60/group). Back school, posture and movement exercises, pain education, coping, education N = 185		MBR

	mean pain duration NR	N = 197		
Mitchell (1994)	Canada. Workers on Worker's Compensation Board list. Injured workers with inappropriate illness behaviours who has not recovered after 3 months. 28.5% female, mean age NR, mean pain duration NR	8 week, 7 hours/day, 5 days/week, group sessions (10-12/group). Physical exercise; mobility, strength, flexibility, endurance, stretching, ice, circuit training, work simulation exercises (lifting). Behavioural and cognitive treatment, correction of unhelpful beliefs, education, relaxation, biofeedback, personal responsibility N = 271	Usual care, variable including; physiotherapy, medication, manipulation, acupuncture, work hardening, back schools, active exercise N = 271	Usual
Moix (2003)	Spain. Adults in a hospital pain clinic with LBP/radiculopathy or cervical pain. 53.3% female, mean of age 54.3, mean duration NR	11 sessions/week, about 60 min/session. Interdisciplinary program: psychology: (3x group and 3x individual sessions: relaxation, visualization, organization of the daily life, increasing pleasure activities, sleep advice, assertiveness and emotional expression); physiotherapy: (3 sessions: postural advice and physical activities); anaesthetics: (1 session: pain mechanisms and analgesic explanation); orthopaedic surgeons: (1 session: pain organic causes); and social worker: (1 session: resources to carry out activities and sick leave explanation). N = 15	Usual care: pain control through the treatment of the anaesthesiology team N = 15	Usual
Monticone (2013)	Italy. Adults referred to a rehabilitation centre. LBP>3/12.	5 weeks plus 12 months reinforcement. 5x /week 60min individual CBT sessions, then 1x session/month for 12	Physical program: active and passive mobilisations, stretching,	Phys

	57.8% female, mean age 49.3, mean pain duration 25.8 months	months. Fear avoidance beliefs, catastrophising, inappropriate beliefs, negative thoughts, transferring attention, graded exposure, motivation, goal-setting. Physical program: active and passive mobilisations, stretching, strength, postural/motor control exercises. Up to 10x (2x/week for 5 weeks) plus home exercise program N = 45	strength, postural/motor control exercises. Up to 10x (2x/week for 5 weeks) plus home exercise program N = 45		
Morone (2011)	Italy. Adults referred to a rehabilitation centre. LBP>3/12. 64.3% female, mean age 60.2, mean pain duration NR	4 week, 10x 1 hour session (4-5/group). Education (anatomy, pain, stress management, workplace, sport activities, posture), Exercise prescription (ergonomics, ADLs, HEP), stretching, strengthening, core stability N = 44	Usual care; Medical mostly pharmacological N = 29		Usual
Morone (2012)	Italy. Adults referred to an academic hospital. LBP>3/12. 72% female, mean age 55.4 mean pain duration NR	4 week, 10x 1 hour session (4-5/group). Education (anatomy, pain, stress management, workplace, sport activities, posture), Exercise prescription (ergonomics, ADLs, HEP), stretching, strengthening, core stability N = 25	4 weeks, 3x /week, proprioceptive and perception tasks while lying on deformable latex cones N = 25	Usual care; Medical mostly pharmacological	Phys Usual
Nicholas (1991)	Australia. Adults referred from pain clinic, GPs or specialist. LBP >6 months 51.7% female, mean age 41.2,	5 weeks, 2x /week, 2 hour session. Education (anatomy, back care, lifting, medication, diet/weight), strengthening, mobility, hydrotherapy, HEP. Behavioural treatment; goal-setting (social, home, work) and advice, medication	5 weeks, 2x /week, 2 hour session. Education (anatomy, back care, lifting, medication, diet/weight), strengthening,	5 weeks, 2x /week, 2 hour session. Education (anatomy, back care, lifting,	Phys MBR

	mean pain duration 7 years	reduction, pacing, given positive reinforcement [+/- Relaxation treatment; progressive muscle relaxation] N = 10 / 9	mobility, hydrotherapy, HEP. Cognitive treatment; chronic pain education, coping, attention, challenging and altering unhelpful cognitions, distraction techniques. [+/- Relaxation treatment; progressive muscle relaxation] N = 10 / 8	medication, diet/weight), strength, mobility, hydrotherapy, HEP. [+/- Attention control; group discussion, no advice or information] N = 10 / 11	
Nicholas (1992)	Australia. Adults referred from pain clinic, GPs or specialist. LBP >6 months 45% female, mean age 43.7, mean pain duration 5.5 years	5 weeks, 2x /week, 2 hour session. Education (anatomy, back care, lifting, medication, diet/weight), strengthening, mobility, hydrotherapy, HEP. CBT; chronic pain education, coping, attentional processes, challenging and altering unhelpful cognitions, distraction techniques. Progressive muscle relaxation N = 20	5 weeks, 2x /week, 2 hour session. Education (anatomy, back care, lifting, medication, diet/weight), strength, mobility, hydrotherapy, HEP. Attention control; group discussion, no advice or information N = 20		Phys
Roche-LeBoucher (2007/2011)	France. Adults referrals to a hospital multidisciplinary LBP clinic. LBP >3 months, on sick	5 weeks x 6 hour/day, 5 day/week in (6-8/group). Physiotherapy; warm-up, stretching, flexibility, aerobic exercises (walking, running, cycling), strengthening,	5 week 3x 1 hour sessions/week, plus HEP. Active exercise; flexibility, stretching, strength,		Phys

	leave or at risk of work disability 35% female, mean age 39.8, mean pain duration NR	muscular endurance, coordination exercises. OT; work simulations. Psychologist; counselling N = 68	proprioception, endurance, HEP; jogging, swimming, stretching N = 64		
Schweikert (2006)	Germany. Recruited from lists of a work insurer for referral to a rehabilitation hospital. LBP >6 months. 46.7% female, mean age 17.1, mean pain duration NR	3 week inpatient program, small groups. Daily physio; 2x /day exercises, massage, electrotherapies, education, advice about risk factors, back care etc. CBT; coping, motivation, pain management, relaxation, distraction, cognitive reappraisal N = 200	3 week inpatient program, small groups. Daily physio; 2x /day exercises, massage, electrotherapies, education, risk factors advice, back care N = 209		Phys
Skouen (2002)	Norway. Employees on National Health Insurance list. Workers sick-listed > 2 months in the last year. 43.5% female, mean age 43.6, mean pain duration NR	4 weeks x 6 hour/day, 5 days/week. CBT (group); fear avoidance, coping strategies. Education; pain mechanisms, anatomy, exercise advice. Workplace interventions. Graded exercise program; stretching, strengthening, mobility, coordination exercises, aerobic training. Relaxation, body awareness training. HEP at the end of the intervention N = 57	Unspecified number of consultations (av. 3) with physio and sometimes nurse or psychologist if necessary. Education; exercise, lifestyle, fear avoidance, advice to reduce illness behaviours and anxiety. HEP program and advice to stay active and gradually increase activity levels N = 52	Usual care under GP; usually involved pain medication, and referral to physio or chiro N = 86	MBR Usual
Smeets	Netherlands. Adult patients	10 weeks. Active physical training (3x /week 2 hour); aerobic	10 weeks. Active physical training	CBT; graded activity	Phys

(2006/2008)	referred by GPs and specialists to 3 rehabilitation centres. LBP >3 months, RMDQ >3, able to walk 100m. 41.6% female, mean age 47.2, mean pain duration 4.7 years	training, strengthening, stretching. CBT ; graded activity (18 sessions), problem-solving (10x 90min), modification of dysfunctional beliefs, HEP increasing activity. N = 55	(3x/week 2 hour); aerobic training, strengthening, stretching. N = 52	(18 sessions), problem-solving (10x 1 1/2 hr), modification of dysfunctional beliefs, HEP increasing activity. N = 55	MBR Wait list
Strand (2001)	Norway. Adults sick-listed >2/12 due to back pain. 61% female, mean age 43.6, mean pain duration 10 years	4 weeks x 6 hour/day, 5 days/week. Physical treatment (strengthening, body awareness, aerobic fitness, relaxation), education, CBT (coping, responsibility for treatment, focus away from pain), workplace intervention N = 81	Usual care in the community, most had physiotherapy, 1/3 have alternative interventions N = 36		Usual
Streibelt (2009)	Germany. Adults referred from work insurance provider. Limited work ability. 16.7% female, mean age 45.8, mean pain duration NR	3 week inpatient program, 3-4 hours /day. Physical therapy, exercises, massage, education, relaxation. Focus on work-specific skills and functional capacity with operant behavioural approach. Coping skills N = 109	3 week inpatient program, 3-4 hours /day. Physical therapy, exercises, massage, education, relaxation N = 113		Phys
Tavafian (2008)	Iran. Adult women LBP >3 months recruited from outpatient rheumatology clinics	4 days, 5 sessions, based on Back school. Education; anatomy, physiology, pathology of LBP, self-care, health behaviours, biomechanics, lifestyle, prevention. Psychologist;	Medical management, mostly medication prescription (analgesics, muscle relaxants,		Usual

	100% female, mean age 42.9, mean pain duration 9.1 months	coping skills, anger management, relaxation. Physiotherapist; stretching, strength, posture, functional movement,HEP N = 50	NSAIDs, anti-depressants) N = 52		
Tavafian (2011)	Iran. Adult patients referred to rheumatology clinics in 3 teaching hospitals, and 1 private clinic with LBP >3 months 22% female, mean age 45.3, mean pain duration 6.8 years	5x 2 hour sessions in one week (group), plus monthly booster sessions and telephone counselling. Education (anatomy, risk factors, lifestyle advice, posture, diagnosis, pain education). Stretching, strength, relaxation exercises, HEP. Psychologist; coping, stress, perceptions of control, emotional reactions, problem solving, relaxation. CBT; maladaptive cognitions, fear avoidance, activity participation, adjustment to pain. Motivational counselling. Medication (analgesics, muscle relaxants, NSAIDs, anti-depressants) N = 97	Medical management, mostly medication prescription (analgesics, muscle relaxants, NSAIDs, anti-depressants) N = 100		Usual
Turner (1990)	USA. Patients referred by community physician or responded to advertisement. LBP >6 months 49% female, mean age 44, mean pain duration 12.9 years	8 sessions, 1x/ week for 2hours, in groups of 5-10. Behavioural: Education about pain behaviours (with spouse), communication training, goal-setting for behavioural activities, group discussions, homework. Exercise (10-20min 5x /week HEP): gradually progressed walking/jogging on a quota system, warm-up and cool-down stretches N = 24	8 sessions, 1x/ week for 2hours, in groups of 5-10. Exercise (10-20min 5x /week HEP): gradually progressed walking/jogging on a quota system, warm-up and cool-down stretches N = 25	Wait list N = 24	Phys Wait list
Van den Hout	Netherlands. Patients with work	19x half day sessions over 8 weeks (5/group). Graded	19x half day sessions over 8		MBR

(2003)	absence >6 weeks due to LBP, referred by GP, occupational or rehabilitation physician 33.7% female, mean age 40.5, mean pain duration 1.6 years	activity; gradual increase in physical activities, including work-specific tasks, as directed by OT included a work visit, back education and lifting instructions, ADLs, leisure activities, housework. Problem solving; CBT approach to problem solving skills, training and application of skills to daily life, included homework assignments. Group education sessions related to back and back pain. N = 45	weeks (5/group). Graded activity; gradual increase in physical activities / work-specific tasks, as directed by OT included a work visit, back education and lifting instructions, ADLs, leisure activities, housework. Group education sessions related to back and back pain. N = 39	
Vollenbroek-Hutton (2004)	Netherlands. Adults referred to a multidisciplinary rehabilitation program with LBP >6 months and no surgery in past 3 months % female NR, mean age 39, mean pain duration 5 years	9 hours/week for 7 weeks (8/group). Education; back pain, chronicity, interaction of reduced physical activity and pain. Physical training; aerobic training, swimming, physiotherapy. Occupational therapy N = 79	Usual care in the Netherlands N = 84	Usual
Von Korff (2005)	USA. Insured adults receiving primary care for LBP, >7/23 on RMDQ 62.5% female, mean age 49.8, mean pain duration NR	4x 90min sessions. Psychologist; identify fears, relationship b/w activity and pain, goal setting, relaxation, managing flare-ups. Physio; discussed concerns and identify barriers to increasing activity, stretches, exercises to achieve activity goals, HEP. Self-management book	Usual care in the community, usually included medication N = 121	Usual

N = 119

Appendix 3. Funnel Plot

Funnel plot of comparison: MBR versus physical treatment. Disability long term.