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Article:

Richards, SH orcid.org/0000-0003-1416-0569, Anderson, L, Jenkinson, CE et al. (8 more authors) (2018) Psychological interventions for coronary heart disease: Cochrane systematic review and meta-analysis. *European Journal of Preventive Cardiology*, 25 (2). pp. 247-259. ISSN 2047-4873

<https://doi.org/10.1177/2047487317739978>

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SUPPLEMENTARY MATERIALS

Psychological interventions for coronary heart disease: Cochrane systematic review and meta-analysis: List of online supplementary materials

| | |
|-------------------------|---|
| Supplementary methods 1 | Electronic database search strategy |
| Supplementary table 1 | References to included studies |
| Supplementary table 2 | Risk of bias: review authors' judgements about each risk of bias item across all included studies |
| Supplementary figure 1 | PRISMA flow diagram |
| Supplementary figure 2 | Forest plot of psychological intervention versus usual care: total mortality |
| Supplementary figure 3 | Forest plot of psychological intervention versus usual care: revascularization procedures |
| Supplementary figure 4 | Forest plot of psychological intervention versus usual care: non-fatal MI |
| Supplementary table 3 | Health related quality of life scores at follow-up |
| Supplementary table 4 | Meta-regression results for total-mortality, CV-mortality, depression and anxiety outcomes |

Supplementary methods 1. Electronic database search strategy

Building on the searches undertaken for the 2nd update of this review, additional terms were added in 3rd update searches and no date restrictions were applied to those new terms (see below). Date restrictions (Jan 2009 – May 2015) were only applied to terms used in previous updates. The searches were then updated in April 2016 to ensure the review remained up to date (not reproduced below). The CENTRAL search has been restricted by publication year and the other searches were limited by entry date.

CENTRAL

- #1 MeSH descriptor: [Myocardial Ischemia] explode all trees
- #2 (myocard* near isch*mi*)
- #3 isch*mi* near heart
- #4 MeSH descriptor: [Coronary Artery Bypass] explode all trees
- #5 coronary
- #6 MeSH descriptor: [Coronary Disease] explode all trees
- #7 MeSH descriptor: [Myocardial Revascularization] explode all trees
- #8 MeSH descriptor: [Myocardial Infarction] explode all trees
- #9 myocard* near infarct*
- #10 heart near infarct*
- #11 MeSH descriptor: [Angina Pectoris] explode all trees
- #12 angina
- #13 MeSH descriptor: [Heart Failure] explode all trees
- #14 heart and (failure or attack)
- #15 MeSH descriptor: [Heart Diseases] explode all trees
- #16 heart and disease*
- #17 myocard*
- #18 cardiac*
- #19 CABG
- #20 PTCA
- #21 stent* and (heart or cardiac*)
- #22 MeSH descriptor: [Heart Bypass, Left] explode all trees
- #23 MeSH descriptor: [Heart Bypass, Right] explode all trees
- #24 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23
- #25 MeSH descriptor: [Psychotherapy] explode all trees
- #26 psychotherap*
- #27 psycholog* near intervent*
- #28 relax*
- #29 MeSH descriptor: [Relaxation Therapy] explode all trees

#30 MeSH descriptor: [Counseling] explode all trees
 #31 counsel*ing
 #32 MeSH descriptor: [Cognitive Therapy] explode all trees
 #33 MeSH descriptor: [Behavior Therapy] explode all trees
 #34 (behavio*r*) near/4 (modif* or therap* or rehab* or change)
 #35 MeSH descriptor: [Stress, Psychological] explode all trees
 #36 stress near manage*
 #37 cognitive* near therap*
 #38 MeSH descriptor: [Meditation] explode all trees
 #39 meditat*
 #40 MeSH descriptor: [Anxiety] explode all trees
 #41 (manage*) near (anxiety or depres*)
 #42 CBT
 #43 hypnotherap*
 #44 goal near/3 setting
 #45 (psycho-educat*) or (psychoeducat*)
 #46 motivat* near interv*
 #47 MeSH descriptor: [Psychopathology] explode all trees
 #48 psychopathol*
 #49 MeSH descriptor: [Autogenic Training] explode all trees
 #50 autogenic*
 #51 self near (manage* or care or motivat*)
 #52 distress*
 #53 psychosocial* or psycho-social
 #54 #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or
 #38 or #39 or #40 or #41 or #42 or #43 or #44 or #45 or #46 or #47 or #48 or #49 or #50 or #51
 or #52 or #53
 #55 #24 and #54
 #56 MeSH descriptor: [Percutaneous Coronary Intervention] explode all trees
 #57 "percutaneous coronary" near/2 (interven* or revascular*)
 #58 MeSH descriptor: [Angioplasty] explode all trees
 #59 angioplast*
 #60 (coronary or arterial) near/4 dilat*
 #61 endoluminal next repair*
 #62 MeSH descriptor: [Stents] explode all trees
 #63 stent*
 #64 pci or ptca
 #65 MeSH descriptor: [Atherectomy] explode all trees
 #66 atherectom*
 #67 "acute coronary syndrom*"

#68 #56 or #57 or #58 or #59 or #60 or #61 or #62 or #63 or #64 or #65 or #66 or #67
 #69 #68 or #24
 #70 #69 and #54
 #71 #70 not #55
 #72 #55 Publication Year from 2009 to 2015
 #73 #72 or #71

MEDLINE

1. exp Myocardial Ischemia/
2. (myocard* adj4 (ischaemi* or ischemi*)).tw.
3. exp Coronary Artery Bypass/
4. ((ischaemi* or ischemi*) adj4 heart).tw.
5. coronary.tw.
6. exp Coronary Disease/
7. exp Myocardial Revascularization/
8. exp Myocardial Infarction/
9. (myocard* adj4 infarct*).tw.
10. (heart adj4 infarct*).tw.
11. exp Angina Pectoris/
12. angina.tw.
13. exp Heart Failure/
14. (heart adj6 failure).tw.
15. or/1-14
16. exp Heart Diseases/
17. myocard*.tw.
18. cardiac*.tw.
19. CABG.tw.
20. PTCA.tw.
21. (stent* and heart).tw.
22. Heart Bypass, Left/ or Heart Bypass, Right/
23. (heart adj4 disease*).tw.
24. or/16-23
25. exp Psychotherapy/
26. psychotherap*.tw.
27. (psycholog* adj4 intervent*).tw.
28. relax*.tw.
29. exp Relaxation Techniques/
30. exp Counseling/
31. (counselling or counseling).tw.
32. ((behavior* or behaviour*) adj4 (modify or modificat* or therap* or change)).tw.
33. Stress, Psychological/
34. (stress adj4 management).tw.
35. (cognitive adj4 therap*).tw.
36. meditat*.tw.
37. anxiety.tw.
38. (manage* adj2 (anxiety or depres*)).tw.
39. CBT.tw.
40. hypnotherap*.tw.
41. (goal* adj3 setting).tw.
42. (psycho-educat* or psychoeducat*).tw.
43. (motivat* adj3 interv*).tw.
44. Psychopathology/
45. psychopathol*.tw.
46. psychosocial*.tw.

47. distress*.tw.
48. Health Education/
49. (health adj2 education).tw.
50. (heart adj manual).tw.
51. Autogenic Training/
52. autogenic*.tw.
53. or/25-52
54. 24 or 15
55. 53 and 54
56. randomized controlled trial.pt.
57. controlled clinical trial.pt.
58. randomized.ab.
59. placebo.ab.
60. drug therapy.fs.
61. randomly.ab.
62. trial.ab.
63. groups.ab.
64. 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63
65. exp animals/ not humans.sh.
66. 64 not 65
67. 55 and 66
68. exp Percutaneous Coronary Intervention/
69. (percutaneous coronary adj2 (interven* or revascular*)).tw.
70. exp Angioplasty/
71. angioplast*.tw.
72. ((coronary or arterial) adj4 dilat*).tw.
73. endoluminal repair*.tw.
74. exp Stents/
75. stent*.tw.
76. (pci or ptca).tw.
77. exp Atherectomy/
78. atherectom*.tw.
79. acute coronary syndrom*.tw.
80. or/68-79
81. 54 or 80
82. 53 and 66 and 81
83. 82 not 67
84. (2009* or 2010* or 2011* or 2012* or 2013* or 2014* or 2015*).ed.
85. 67 and 84
86. 83 or 85

EMBASE

1. heart disease/
2. (myocard* adj2 (ischaemi* or ischemi*)).tw.
3. ((ischaemi* or ischemi*) adj4 heart).tw.
4. coronary artery disease/

5. transluminal coronary angioplasty/
6. (coronary adj4 (disease* or bypass* or thrombo* or angioplast*)).tw.
7. heart infarction/
8. (myocard* adj2 infarct*).tw.
9. (heart adj2 infarc*).tw.
10. heart muscle revascularization/
11. angina pectoris/
12. angina.tw.
13. (heart adj2 failure).tw.
14. (heart adj2 disease*).tw.
15. cardiac*.tw.
16. CABG.tw.
17. PTCA.tw.
18. (stent* and heart).tw.
19. extracorporeal circulation/
20. or/1-19
21. psychotherapy/
22. psychotherap*.tw.
23. relax*.tw.
24. (psycholog* adj4 intervent*).tw.
25. relaxation training/
26. exp counseling/
27. (counselling or counseling).tw.
28. ((behavior* or behaviour*) adj4 (modify or modificat* or therapy* or change)).tw.
29. stress management/
30. (stress adj3 management).tw.
31. exp meditation/
32. meditat*.tw.
33. (manage* adj2 (anxiety or depres*)).tw.
34. CBT.tw.
35. hypnotherap*.tw.
36. (goal* adj3 setting).tw.
37. (motivat* adj4 intervent*).tw.
38. psychosocial care/
39. psychosocial rehabilitation/
40. psychosocial.tw.
41. autogenic training/
42. autogenic.tw.
43. or/21-42
44. 20 and 43
45. random\$.tw.
46. factorial\$.tw.
47. crossover\$.tw.
48. cross over\$.tw.
49. cross-over\$.tw.
50. placebo\$.tw.
51. (doubl\$ adj blind\$).tw.
52. (singl\$ adj blind\$).tw.

53. assign\$.tw.
54. allocat\$.tw.
55. volunteer\$.tw.
56. crossover procedure/
57. double blind procedure/
58. randomized controlled trial/
59. single blind procedure/
60. 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56 or 57 or 58 or 59
61. (animal/ or nonhuman/) not human/
62. 60 not 61
63. 44 and 62
64. (2009* or 2010* or 2011* or 2012* or 2013* or 2014* or 2015* or 2015*).dd.
65. (2009* or 2010* or 2011* or 2012* or 2013* or 2014* or 2015* or 2015*).em.
66. 64 or 65
67. 63 and 66
68. percutaneous coronary intervention/
69. (percutaneous coronary adj2 (interven* or revascular*)).tw.
70. exp angioplasty/
71. angioplast*.tw.
72. ((coronary or arterial) adj4 dilat*).tw.
73. endoluminal repair*.tw.
74. exp stent/
75. stent*.tw.
76. (pci or ptca).tw.
77. exp atherectomy/
78. atherectom*.tw.
79. acute coronary syndrom*.tw.
80. or/68-79
81. 20 or 80
82. 43 and 62 and 81
83. 82 not 63
84. 67 or 83

PsychINFO

1. heart disorders/
2. myocardial infarctions/
3. exp Ischemia/
4. heart surgery/
5. angioplasty.tw.
6. (heart adj bypass).tw.
7. coronary.tw.
8. (ischemi* or ischaemi*).tw.
9. (myocard* adj2 infarct*).tw.
10. (heart adj2 (infarc* or failure or attack)).tw.
11. angina.tw.
12. (heart adj6 disease*).tw.

13. myocard*.tw.
14. cardiac*.tw.
15. CABG.tw.
16. PTCA.tw.
17. or/1-16
18. exp Psychotherapy/
19. psychotherap*.tw.
20. treatment/
21. (psycholog* adj intervent*).tw.
22. exp Counseling/
23. Coping Behavior/
24. exp Meditation/
25. Autogenic Training/
26. relax*.tw.
27. (counselling or counseling).tw.
28. ((behaviour or behavior) adj3 (modif* or therap* or rehabilit* or change)).tw.
29. (stress adj3 manage*).tw.
30. meditat*.tw.
31. (manage* adj2 (anxiety or depres*)).tw.
32. (CBT or (cognitiv* adj2 therap*)).tw.
33. hypnotherap*.tw.
34. (psycho-educat* or psychoeducat*).tw.
35. (motivat* adj4 intervent*).tw.
36. (self adj2 manag*).tw.
37. autogenic*.tw.
38. (goal* adj3 setting).tw.
39. or/18-38
40. 17 and 39
41. random\$.tw.
42. factorial\$.tw.
43. crossover\$.tw.
44. cross-over\$.tw.
45. placebo\$.tw.
46. (doubl\$ adj blind\$).tw.
47. (singl\$ adj blind\$).tw.
48. assign\$.tw.
49. allocat\$.tw.
50. volunteer\$.tw.
51. control*.tw.
52. "2000".md.
53. or/41-52
54. 40 and 53
55. (2009* or 2010* or 2011* or 2012* or 2013* or 2014* or 2015*).up.
56. 54 and 55
57. (percutaneous coronary adj2 (interven* or revascular*)).tw.
58. angioplast*.tw.
59. ((coronary or arterial) adj4 dilat*).tw.
60. endoluminal repair*.tw.

61. stent*.tw.
62. (pci or ptca).tw.
63. atherectom*.tw.
64. acute coronary syndrom*.tw.
65. or/57-64
66. 17 or 65
67. 39 and 53 and 66
68. 67 not 54
69. 56 or 68

CINAHL

- S67 S54 OR S66
 S66 S65 not S52
 S65 S45 AND S51 AND S64
 S64 S22 OR S63
 S63 S55 OR S56 OR S57 OR S58 OR S59 OR S60 OR S61 OR S62
 S62 TI (acute coronary syndrom*) or AB (acute coronary syndrom*)
 S61 TI atherectom* or AB atherectom*
 S60 TI (pci or ptca) or AB (pci or ptca)
 S59 TI stent* or AB stent*
 S58 TI (endoluminal repair*) or AB (endoluminal repair*)
 S57 TI ((coronary or arterial) and dilat*) or AB ((coronary or arterial) and dilat*)
 S56 TI angioplast* or AB angioplast*
 S55 TI (percutaneous coronary and (interven* or revascular*)) or AB (percutaneous coronary and (interven* or revascular*))
 S54 S52 AND S53
 S53 EM 20090101-20150129
 S52 S46 AND S51
 S51 S47 OR S48 OR S49 OR S50
 S50 TI ((SINGL* OR DOUBLE* OR TRIPLE* OR TREBLE*) AND (BLIND* OR MASK*))
 or AB ((SINGL* OR DOUBLE* OR TRIPLE* OR TREBLE*) AND (BLIND* OR MASK*))
 S49 TI (RANDOM* OR PLACEBO*) or AB (RANDOM* OR PLACEBO*)
 S48 PT clinical trial
 S47 (MH "Clinical Trials+")
 S46 S22 AND S45
 S45 S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29 OR S30 OR S31 OR S32 OR S33
 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41 OR S42 OR S43 OR S44
 S44 TI autogenic* or AB autogenic*
 S43 TI psychosocial* or AB psychosocial*
 S42 TI (motivat* and (interv* or intervent*)) or AB (motivat* and (interv* or intervent*))
 S41 TI (psycho-educat* or psychoeducat*) or AB (psycho-educat* or psychoeducat*)
 S40 TI (goal* and setting) or AB (goal* and setting)
 S39 TI hypnotherap* or AB hypnotherap*
 S38 TI CBT or AB CBT
 S37 TI (manage* and (anxiety or depress*)) or AB (manage* and (anxiety or depress*))
 S36 (MH "Anxiety+")

S35 TI meditat* or AB meditat*
 S34 (MH "Meditation")
 S33 TI (cognitive and therap*) or AB (cognitive and therap*)
 S32 TI (stress and manag*) or AB (stress and manag*)
 S31 (MH "Stress Management")
 S30 TI ((behavior* or behaviour*) and (modify or modificat* or therap* or change)) or AB
 ((behavior* or behaviour*) and (modify or modificat* or therap* or change))
 S29 (MH "Counseling+")
 S28 TI (counselling or counseling) or AB (counselling or counseling)
 S27 (MH "Relaxation Techniques")
 S26 TI relax* or AB relax*
 S25 TI (psycholog* and intervent*) or AB (psycholog* and intervent*)
 S24 TI psychotherap* or AB psychotherap*
 S23 (MH "Psychotherapy+")
 S22 S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR
 S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21
 S21 (MH "Angina Pectoris")
 S20 (MH "Heart Failure")
 S19 (MH "Cardiovascular Diseases")
 S18 (MH "Heart Diseases")
 S17 (MH "Myocardial Revascularization")
 S16 (MH "Myocardial Diseases")
 S15 (MH "Cardiac Patients")
 S14 (MH "Coronary Disease")
 S13 (MH "Coronary Artery Bypass")
 S12 (MH "Myocardial Infarction")
 S11 (MH "Myocardial Ischemia")
 S10 TI (stent* and (heart or cardiac*)) or AB (stent* and (heart or cardiac*))
 S9 TI PTCA or AB PTCA
 S8 TI CABG or AB CABG
 S7 TI cardiac* or AB cardiac*
 S6 TI (heart and diseas*) or AB (heart and diseas*)
 S5 TI (heart and failure) or AB (heart and failure)
 S4 TI angina or AB angina
 S3 TI ((myocard* or heart) and infarc*) or AB ((myocard* or heart) and infarc*)
 S2 TI coronary or AB coronary
 S1 TI ((myocard* or heart) and (ischaemi* or ischemi*)) or AB ((myocard* or heart) and
 (ischaemi* or ischemi*))

Supplementary table 1: List of included studies including associated publications

| Study Identifier | References |
|------------------|---|
| Appels 2005 | <p>*Appels A, Bär F, van der Pol G, Erdman R, Assman M, Trijsburg W, et al. Effects of treating exhaustion in angioplasty patients on new coronary events: results of the randomized exhaustion intervention trial (EXIT). <i>Psychosomatic Medicine</i> 2005;67(2):217-23.</p> <p>Appels A, van Elderen T, Bär F, van der Pol G, Erdman RA, Assman M, et al. Effects of a behavioural intervention on quality of life and related variables in angioplasty patients: results of the exhaustion intervention trial. <i>Journal of Psychosomatic Research</i> 2006;61(1):1-7.</p> |
| Black 1998 | <p>Black JL, Allison TG, Williams DE, Rummans TA, Gau GT. Effect of intervention for psychological distress on rehospitalization rates in cardiac rehabilitation patients. <i>Psychosomatics</i> 1998;39(2):134-43.</p> |
| Blumenthal 2016 | <p>*Blumenthal JA, Sherwood A, Smith PJ, Watkins L, Mabe S, Kraus WE, et al. Enhancing Cardiac Rehabilitation With Stress Management Training A Randomized, Clinical Efficacy Trial. <i>Circulation</i> 2016;133(14):1341-50.</p> <p>Blumenthal JA, Want JT, Babyak M, Watkins L, Kraus W, Miller P, Hinderliter A, Sherwood A. Enhancing standard cardiac rehabilitation with stress management training: background, methods, and design for the ENHANCED study. <i>Journal of Cardiopulmonary Rehabilitation and Prevention</i> 2010;30(2):77-84.</p> |
| Brown 1993 | <p>Brown MA, Munford AM, Munford PR. Behavior therapy of psychological distress in patients after myocardial infarction or coronary bypass. <i>Journal of Cardiopulmonary Rehabilitation</i> 1993;13(3):201-10.</p> |
| Burell 1996 | <p>Burell G. Behaviour modification after coronary artery bypass graft surgery: effects on cardiac morbidity and mortality. <i>Journal of Rehabilitation Science</i> 1995;8:39-40.</p> <p>*Burell G. Group psychotherapy in Project New Life: treatment of coronary-prone behaviors for patients who have had coronary artery bypass graft surgery. In: Allan R, Scheidt S, editor(s). <i>Heart and Mind</i>. Washington: American Psychological Association, 1996:291-310.</p> |
| Burgess 1987 | <p>Burgess AW, Lerner DJ, D'Agostino RB, Vokonas PS. A randomized control trial of cardiac rehabilitation. <i>Social Science and Medicine</i> 1987;24(4):359-70.</p> |
| Claesson 2005 | <p>Burell G, Granlund B. Women's hearts need special treatment. <i>International Journal of Behavioral Medicine</i> 2002;9(3):228-42.</p> <p>*Claesson M, Birgander L, Lindahl B, Nasic S, Aström M, Asplund K, et al. Women's hearts: stress management for women with ischemic heart disease: explanatory analyses of a randomized controlled trial. <i>Journal of Cardiopulmonary Rehabilitation</i> 2005;25(2):93-102.</p> <p>Claesson M, Birgander LS, Jansson JH, Lindahl B, Burell G, Asplund K, et al. Cognitive-behavioural stress management does not improve biological cardiovascular risk indicators in women with ischaemic heart disease: a randomized-controlled trial. <i>Journal of Internal Medicine</i> 2006;260(4):320-31.</p> |

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| Davidson 2010 | <p>Burg M, Lespérance F, Rieckmann N, Clemow L, Skotzko C, Davidson K. Treating persistent depressive symptoms in post-ACS patients: The project COPES phase-I randomized controlled trial. <i>Contemporary Clinical Trials</i> 2008;29(2):231-240.</p> <p>Davidson K, Rieckmann N, Kronish I, Schwartz J, Burg M. Coronary psychosocial evaluation studies (COPES) randomized controlled trial - long term depression and prognosis results. <i>Journal of Psychosomatic Research</i> 2011;70 (6):589-90.</p> <p>*Davidson KW, Rieckmann N, Clemow L, Schwartz JE, Shimbo D, Medina V, et al. Enhanced depression care for patients with acute coronary syndrome and persistent depressive symptoms: coronary psychosocial evaluation studies randomized controlled trial. <i>Archives of Internal Medicine</i> 2010;170:600-8.</p> <p>Kronish IM, Chaplin WF, Rieckmann N, Burg MM, Davidson KW. The effect of enhanced depression care on anxiety symptoms in acute coronary syndrome patients: findings from the COPES trial. <i>Psychotherapy and Psychosomatics</i> 2012;81:245-7.</p> <p>Kronish IM, Rieckmann N, Burg MM, Edmondson D, Schwartz JE, Davidson KW. The effect of enhanced depression care on adherence to risk-reducing behaviors after acute coronary syndromes: findings from the COPES trial. <i>American Heart Journal</i> 2012;164:524-9.</p> <p>Ladapo JA, Shaffer JA, Fang Y, Ye S, Davidson KW. Cost-effectiveness of enhanced depression care after acute coronary syndrome: results from the Coronary Psychosocial Evaluation Studies randomized controlled trial. <i>Archives of Internal Medicine</i> 2012;172:1682-4.</p> <p>Ye S, Shaffer JA, Rieckmann N, Schwartz JE, Kronish IM, Ladapo JA, et al. Long-term outcomes of enhanced depression treatment in patients with acute coronary syndromes. <i>American Journal of Medicine</i> 2014;127:1012-6.</p> <p>Ye S, Shaffer JA, Rieckmann N, Schwartz JE, Kronish IM, Ladapo JA, et al. Long-term outcomes of enhanced depression treatment in patients with acute coronary syndromes. <i>American Journal of Medicine</i> 2014;127:1012-6.</p> |
| Elderen 1994 | <p>Elderen-van-Kemenade T, Maes S, van-den-Broek Y. Effects of a health education programme with telephone follow-up during cardiac rehabilitation. <i>British Journal of Clinical Psychology</i> 1994;33(3):367-78.</p> |
| ENRICHD Investigators 2000 | <p>Blumenthal J, Babyak M, Carney R, Huber M, Saab P, Burg M, et al. Exercise, depression, and mortality after myocardial infarction in the ENRICHD trial. <i>Medicine and Science in Sports and Exercise</i> 2004;36(5):746-55.</p> <p>Carney R, Blumenthal J, Freedland K, Youngblood M, Veith R, Burg M, et al. Depression and late mortality after myocardial infarction in the Enhancing Recovery in Coronary Heart Disease ENRICHD study. <i>Psychosomatic Medicine</i> 2004;66(4):466-74.</p> <p>Cowan MJ, Freedland KE, Burg MM, Saab PG, Youngblood ME, Cornell CE, et al. Predictors of treatment response for depression and inadequate social support--the ENRICHD randomized clinical trial. <i>Psychotherapy and Psychosomatics</i> 2008;77(1):27-37.</p> <p>ENRICHD Investigators Writing Committee. Effects of treating depression and low perceived social support on clinical events after myocardial infarction: the Enhancing Recovery in Coronary Heart Disease Patients (ENRICHD) Randomized Trial. <i>Journal of the American Medical Association</i> 2003;289(23):3106-16.</p> |

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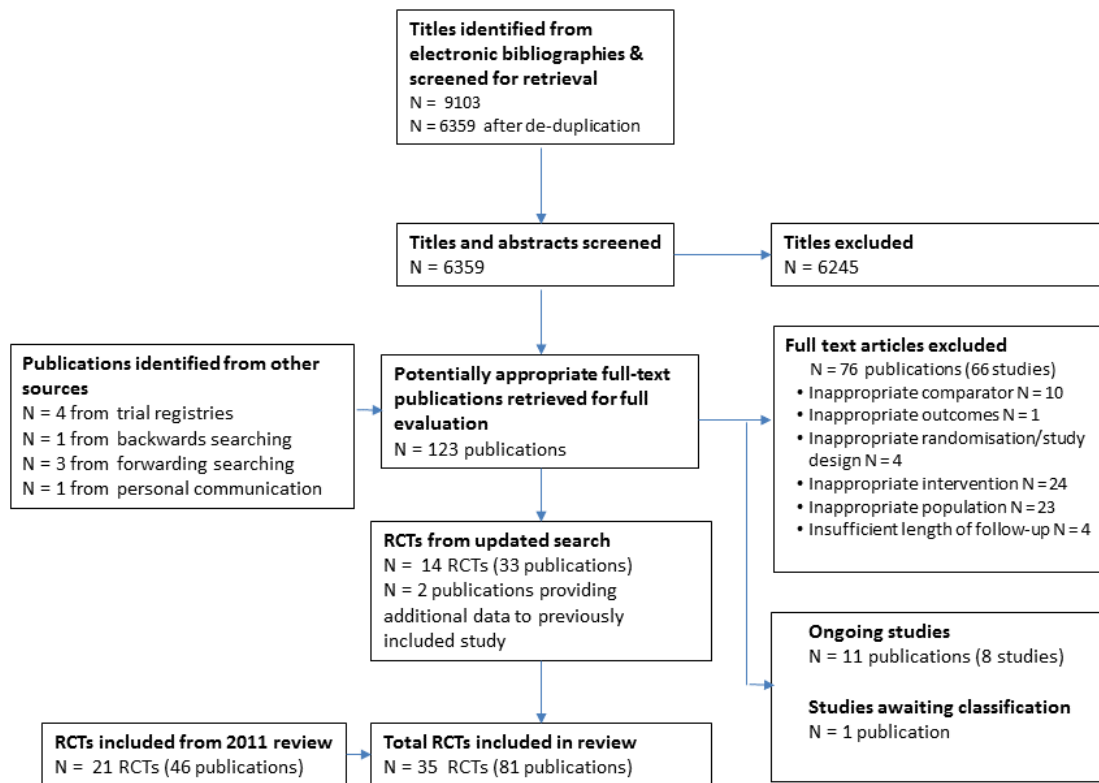
*Denotes the core source of data where multiple publications are available for one trial

Legend: Reproduced from Richards et al (2017) Psychological interventions for coronary heart disease. *Cochrane Database Systematic Reviews*. 2017, 4 (Issue 4. Art. No.: CD002902).

Supplementary table 2. Risk of bias scores for included studies

| | Low risk of bias n/N (%) | Unclear risk of bias n/N (%) | High risk of bias n/N (%) |
|--|--------------------------------|------------------------------------|---------------------------------|
| Random sequence generation (selection bias) | 16/35 (46) | 17/35 (48) | 2/35 (6) |
| Allocation concealment (selection bias) | 15/35 (43) | 18/35 (51) | 2/35 (6) |
| Blinding of outcome assessment (detection bias) | 16/35 (46) | 18/35 (51) | 1/35 (3) |
| Incomplete outcome data (attrition bias) | 24/35 (69) | 7/35 (20) | 4/35 (11) |
| Selective reporting (reporting bias) | 28/35 (80) | 5/35 (14) | 2/35 (6) |
| Groups balanced at baseline | 30/35 (86) | 0/35 (0) | 5/35 (14) |
| Intention-to-treat analysis conducted | 24/35 (69) | 6/35 (17) | 5/35 (14) |
| Groups received same treatment (apart from intervention) | 23/35 (66) | 6/35 (17) | 6/35 (17) |

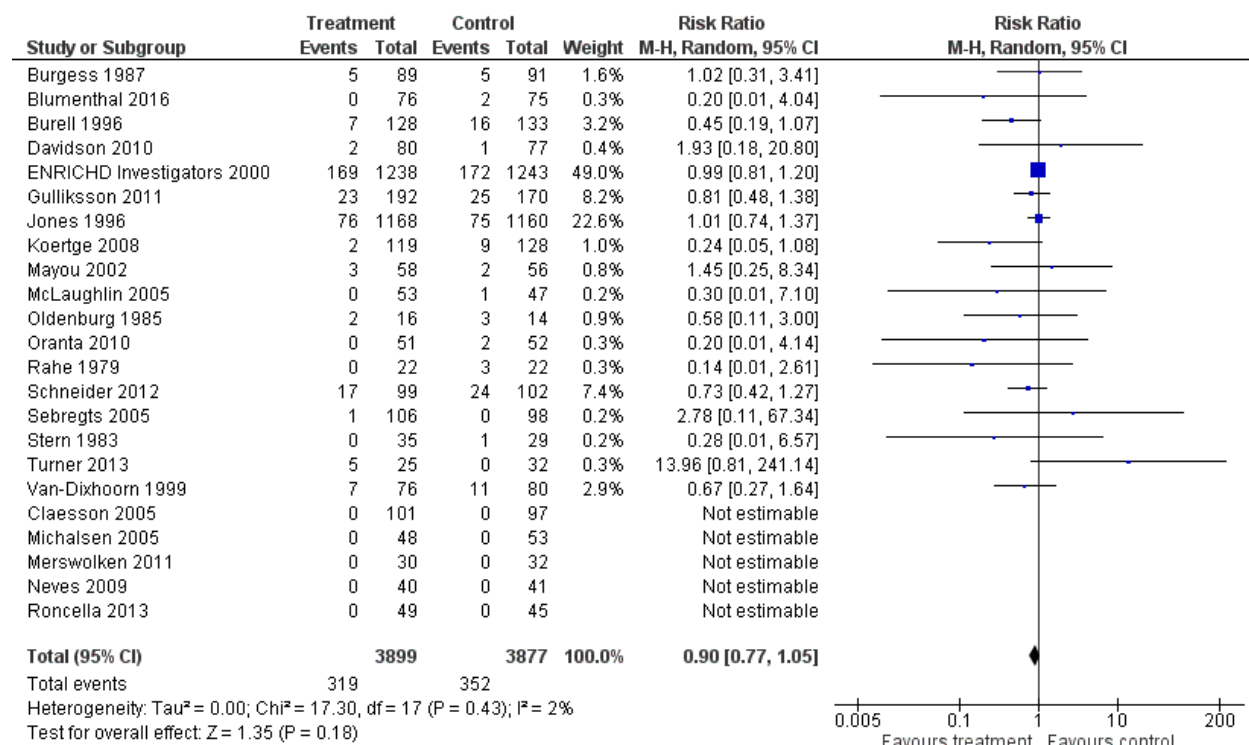
Supplementary figure 1. PRISMA flow diagram



RCT, randomised controlled trial

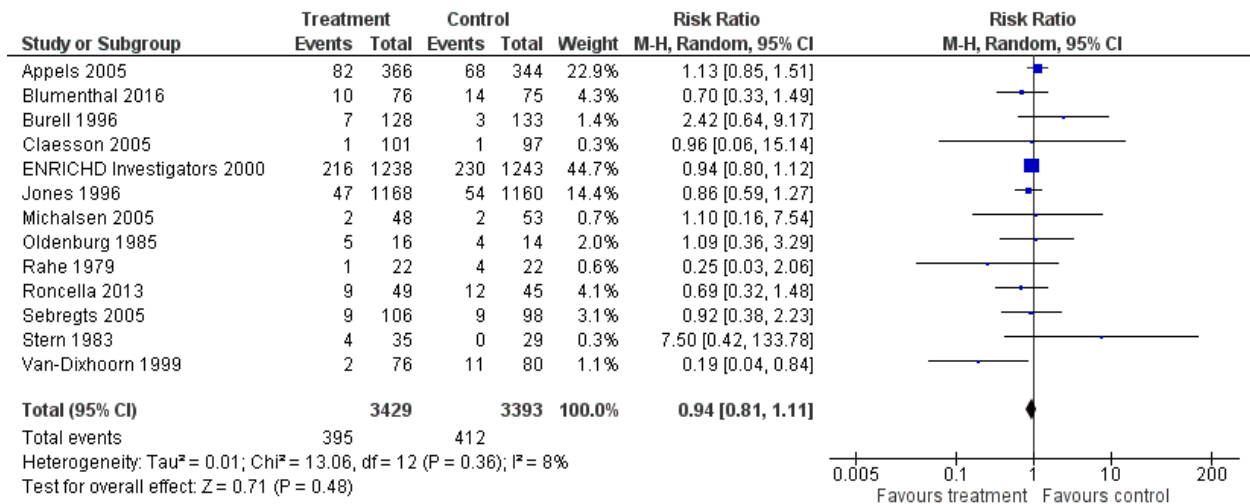
Legend: Reproduced from Richards et al (2017) Psychological interventions for coronary heart disease. Cochrane Database Systematic Reviews. 2017, 4 (Issue 4. Art. No.: CD002902).

Supplementary figure 2. Forest plot of psychological intervention versus usual care: total mortality



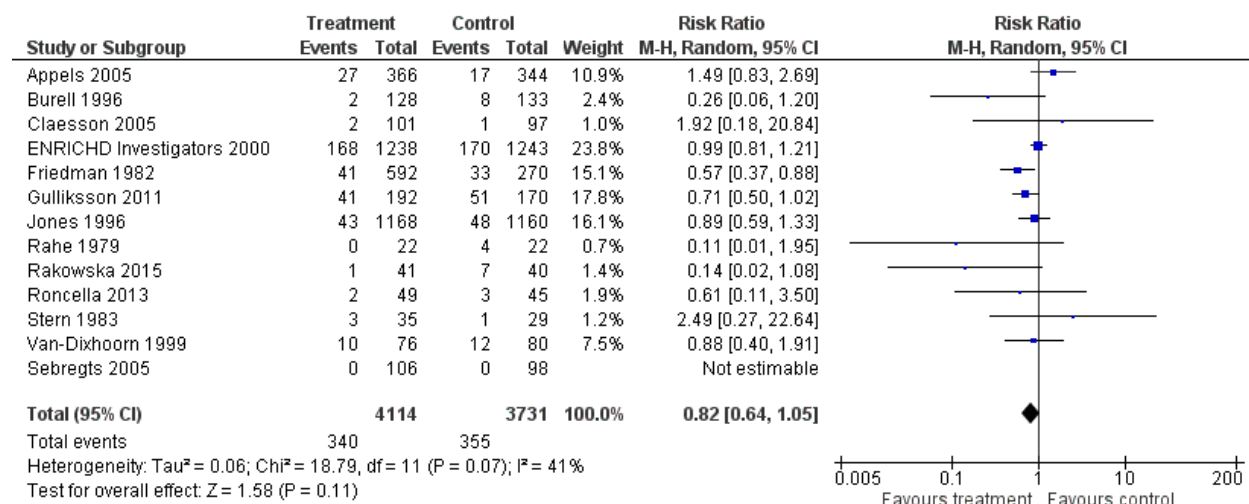
Legend: Reproduced from Richards et al (2017) Psychological interventions for coronary heart disease. Cochrane Database Systematic Reviews. 2017, 4 (Issue 4. Art. No.: CD002902).

Supplementary figure 3. Forest plot of psychological intervention versus usual care: revascularisation procedures



Legend: Reproduced from Richards et al (2017) Psychological interventions for coronary heart disease. Cochrane Database Systematic Reviews. 2017, 4 (Issue 4. Art. No.: CD002902).

Supplementary figure 4. Forest plot of psychological intervention versus usual care: non-fatal MI



Legend: Reproduced from Richards et al (2017) Psychological interventions for coronary heart disease. Cochrane Database Systematic Reviews. 2017, 4 (Issue 4. Art. No.: CD002902).

Supplementary table 3. Health related quality of life scores at follow-up

| Trial | Follow-up (months) | Measure | Scores at follow-up: intervention mean (SD) vs comparator mean (SD), P value | Between group difference |
|----------------|---------------------------|---------------------------------------|---|---------------------------------|
| Appels 2005 | 18 | MacNew Questionnaire: Global Score | 126.9 (27.4) vs 127.1 (25.8), P=NS | No difference |
| Claesson 2005 | 12 | Swedish Quality of Life Scale | 6.59 (2.95) vs 5.97 (3.15), P=NS | No difference |
| ENRICHD 2000 | 6 | SF-12 PCS | * 0.8 (23.0), P=NS | No difference |
| ENRICHD 2000 | 6 | SF-12 MCS | * 2.2 (18.3), P <0.05 | Favours intervention |
| ENRICHD 2000 | 6 | Life Satisfaction Scale | *1.0 (9.8), P <0.05 | Favours intervention |
| ENRICHD 2000 | 6 | Ladder of Life | * 0.3 (4.6), P <0.05 | Favours intervention |
| Freedland 2009 | 9 | SF-36: PCS | † Int1 37.6 (9.6); Int2 38.9 (9.7) vs 36.9 (10.6), P=NS | No difference |
| Freedland 2009 | 9 | SF-36: MCS | † Int1 49.1 (12.2); Int2 47.8 (13.0) vs 42.4 (13.3), P=0.01 | Favours intervention |
| Lie 2007 | 6 | SAQ: Physical limitations | 86.4 (15.6) vs 83.2 (18.7), P=NS | No difference |
| Lie 2007 | 6 | SAQ: Disease perception | 77.8 (20.2) vs 3.9 (24.2), P=NS | No difference |
| Lie 2007 | 6 | SF-36: PCS | 47.4 (9.6) vs 47.0 (10.0), P=NS | No difference |
| Lie 2007 | 6 | SF-36: MCS | 52.1 (10.7) vs 50.5 (10.8), P=NS | No difference |
| Mayou 2002 | 12 | Dartmouth COOP | ‡ 14 (13, 17) vs 15 (12.5, 21), P=NS | No difference |
| Michalsen 2005 | 12 | SF-36: PCS | 43.2 (9.2) vs 46.1 (9.3), P=NS | No difference |
| Michalsen 2005 | 12 | SF-36: MCS | 47.2 (9.2) vs 49.3 (10), P=NS | No difference |
| O'Neil 2015 | 12 | SF-12: PCS | 36.6 (10.5) vs 36.2 (10.5), P=Not reported | No difference |
| O'Neil 2015 | 12 | SF-12: MCS | 45.6 (9.3) vs 42.7 (11.1), P=NR | No difference |
| Rakowska 2015 | 30 | SF-36: PCS | 64.3 (5.2) vs 61.7 (4.8), P=0.04 | Favours intervention |
| Rakowska 2015 | 30 | SF-36: MCS | 58.9 (5.9) vs 53.0 (2.2), P <0.01 | Favours intervention |
| Roncella 2013 | 12 | MacNew Questionnaire: Global Score | 6.07 (5.48 - 6.39) vs 5.67 (4.89 - 6.31), P=0.07 | No difference |
| Roncella 2013 | 12 | MacNew Questionnaire: Emotional Score | 5.79 (5.36, 6.35) vs 5.79 (5.0, 6.32), P=NS | No difference |
| Roncella 2013 | 12 | MacNew Questionnaire: Physical Score | 6.23 (5.70, 6.53) vs 5.69 (4.85, 6.29), P=0.03 | Favours intervention |
| Roncella 2013 | 12 | MacNew Questionnaire: Social Score | 6.15 (5.69, 6.61) vs 5.86 (5.0, 6.46), P=0.06 | No difference |

* Mean difference (SD)

† This trial compared 2 psychological interventions (Int1, Int2) with a comparator group

‡ Median (IQR) and p value from Mann Whitney U test

MCS = Mental Component Score, NS = Not significant ($P > 0.05$), PCS = Physical Component Score, SAQ = Seattle Angina Questionnaire, SF = Short Form

Legend: Reproduced from Richards et al (2017) Psychological interventions for coronary heart disease. Cochrane Database Systematic Reviews. 2017, 4 (Issue 4. Art. No.: CD002902).

Supplementary table 4. Meta-regression results for total-mortality, CV-mortality, depression and anxiety outcomes

| Potential explanatory variables* | Total-mortality exp(β) (SE) P value | CV-mortality exp(β) (SE) P value | Depression exp(β) (SE) P value | Anxiety exp(β) (SE) P value |
|--|--|---|---|--|
| Population targeted at baseline | | | | |
| Psychological disorder (non-selected, present) | 1.19 (0.18) 0.26 | 1.17 (0.30) 0.58 | -0.20 (0.12) 0.10 | -0.28 (0.11) 0.03 |
| Characteristics of psychological intervention | | | | |
| Mode of treatment (individual, group, mixed) | 1.21 (0.18) 0.21 | 1.19 (0.32) 0.56 | 0.007 (0.09) 0.94 | 0.09 (0.09) 0.30 |
| Family included in treatment | 1.11 (0.19) 0.55 | 0.82 (0.09) 0.13 | 0.06 (0.14) 0.70 | 0.24 (0.12) 0.06 |
| Cardiac risk factor education included | 0.92 (0.14) 0.58 | 0.84 (0.24) 0.57 | 0.06 (0.13) 0.65 | 0.18 (0.13) 0.21 |
| Intervention targeted behavioural change of cardiac risk factors | 1.06 (0.16) 0.72 | 1.17 (0.49) 0.72 | -0.16 (0.12) 0.20 | -0.08 (0.17) 0.61 |
| Psychological treatment target | | | | |
| Depression | 1.28 (0.25) 0.22 | 1.13 (0.31) 0.67 | 0.15 (0.13) 0.26 | -0.04 (0.16) 0.83 |
| Anxiety | 1.22 (0.23) 0.31 | 1.13 (0.31) 0.67 | 0.18 (0.12) 0.17 | 0.05 (0.15) 0.78 |
| Stress | 1.28 (0.39) 0.43 | 1.24 (0.71) 0.72 | 0.13 (0.13) 0.35 | 0.18 (0.13) 0.20 |
| Type A behaviour | 0.98 (0.15) 0.89 | 1.02 (0.46) 0.95 | -0.65 (0.14) 0.65 | -01 (0.26) 0.97 |
| Psychological component | | | | |
| Relaxation training | 1.15 (0.22) 0.47 | 1.27 (0.74) 0.70 | -0.09 (0.13) 0.50 | 0.15 (0.14) 0.29 |
| Stress management techniques | 1.15 (0.25) 0.54 | 1.03 (0.46) 0.95 | 0.09 (0.13) 0.52 | -0.03 (0.15) 0.87 |
| Cognitive challenge/restructuring techniques | 1.10 (0.17) 0.53 | 1.11 (0.40) 0.78 | 0.07 (0.14) 0.59 | -0.16 (0.14) 0.29 |
| Emotional support and/or client-led discussion | 1.42 (0.25) 0.07 | 1.16 (0.30) 0.58 | 0.14 (0.13) 0.28 | 0.12 (0.14) 0.44 |
| Adjunct pharmacology | 2.08 (2.53) 0.56 | 0.82 (0.9) 0.13 | -0.51 (0.15) 0.003 | -0.12 (0.24) 0.65 |

* Explanatory variables coded 'no' versus 'yes' unless specified otherwise above.