**Supplementary Data. Search strategy**

*The following process was used in the literature search and review for each key question:

1. Searching strategies

2. Flow chart of the study selection process

3. Finally included studies

4. Evidence table for assessment of risk of bias and quality

1. **Introduction of cardiac rehabilitation**

The following are the basic searching strategies used for all key questions of the introduction part in the Cochrane Library. These basic searching strategies were combined with the specific searching strategy for each question using AND.

#1 MeSH descriptor: [Cardiac Rehabilitation] explode all trees
#2 (("cardia* or heart") and *habilitation*):ti,ab,kw
#3 #1 or #2
#4 MeSH descriptor: [Myocardial Ischemia] explode all trees
#5 ((myocard* or heart* or coronary or cardia*) and (infarct* or isch* or attack*)):ti,ab,kw
#6 ("acute coronary syndrome" or ACS):ti,ab,kw
#7 (angina or stenocardia*):ti,ab,kw
#8 MeSH descriptor: [Myocardial Revascularization] explode all trees
#9 ((Myocard* or cardi* or coronary) and (Revascular* or angioplast*)):ti,ab,kw
#10 ((coronary or rotational) near atherectom*):ti,ab,kw
#11 ("corony artery bypass" or CAGB or "aortocoronary bypass" or "corony bypass"):ti,ab,kw
#12 MeSH descriptor: [Percutaneous Coronary Intervention] explode all trees
#13 ("percutaneous coronary intervention*" or PCI):ti,ab,kw
#14 (percutaneous next coronary near/2 (interven* or revascular*)):ti,ab,kw
#15 (stent* and (heart or cardiac*)):ti,ab,kw
#16 coronary near (disease* or bypass or thrombo* or angioplast*):ti,ab,kw
#17 (PTCA or "percutaneous transluminal coronary angioplasty"):ti,ab,kw
#18 MeSH descriptor: [Heart Bypass, Right] explode all trees
#19 ("heart manual"):ti,ab,kw
#20 (arrhythmia* or dysrhythmia* or bradycardia* or tachycardia*):ti,ab,kw
#21 (cardiopulmonary next arrest* or cardio-pulmonary next arrest*):ti,ab,kw
#22 heart failure:ti,ab,kw
#23 ((heart or cardiac or coronary) near/3 transplant*):ti,ab,kw
#24 {or #4-#23}
#25 (arthritis* or cancer* or stroke* or kidney* or "obstructive pulmonary" or claudication* or fracture* or Parkinson*):ti,ab,kw
#26 #24 not #25
#27 MeSH descriptor: [Rehabilitation] explode all trees
#28 (rehabilitat* or *habilitation):ti,ab,kw
#29 MeSH descriptor: [Physical and Rehabilitation Medicine] explode all trees
The same Cochrane Library searching strategy was used for KQ1 ("Should cardiac rehabilitation be an integral component of the care of acute coronary syndrome?") and KQ4 ("When should cardiac rehabilitation exercise begin?") The following is the final searching strategy, including the basic cardiac rehabilitation (CR) searching strategy:

**Searching strategies**

#30  MeSH descriptor: [Health Facilities] explode all trees
#31  MeSH descriptor: [Rehabilitation Nursing] explode all trees
#32  {or #27-#31}
#33  #26 and #32
#34  #33 or #3
#35  (muscle* or asthma* or neuromuscular* or neurodevelopment* or amputation* or ataxia* or "pulmonary hypertension" or coma* or "complex regional pain syndrome"):ti,ab,kw
#36  #34 not #35

#37  MeSH descriptor: [Activities of Daily Living] explode all trees
#38  MeSH descriptor: [Exercise] explode all trees
#39  MeSH descriptor: [Exercise Therapy] explode all trees
#40  (exercise* near/2 (rehabilitat* or therap* or training or program* or activit* or toleran* or prescrib* or prescription* or structure* or unstructure* or un-structure* or surveill* or unsurveill* or unsupervise* or unsurveill* or supervised or unguided or dynamic or regime*)):ti,ab,kw
#41  (physical near/2 (exercise* or educat* or training or program* or activit* or regime*)):ti,ab,kw
#42  (aerobic* near/2 (exercise* or training or program* or activit* or regime*)):ti,ab,kw
#43  (strength* near (exercise* or training)):ti,ab,kw
#44  (endurance near (exercise* or training)):ti,ab,kw
#45  (fitness near/2 (training or program* or regime*)):ti,ab,kw
#46  ((resistance or resistive) near (exercise* or training)):ti,ab,kw
#47  (isometric near/2 (exercise* or training or program* or activit* or regime*)):ti,ab,kw
#48  ((high* frequency or low* frequency) near/2 (exercise* or training or program* or activit* or regime*)):ti,ab,kw
#49  ((high* intensi* or low* intensi*) near/2 (exercise* or training or program* or activit* or regime*)):ti,ab,kw
#50  MeSH descriptor: [Managed Care Programs] explode all trees
#51  (((multifactor* or multifacet* or managed care) near program*)):ti,ab,kw
#52  [or #37-#51]
#53  #36 and #52 Publication Year from 2009 to 2018

*Flow chart of study selection process*
Finally included studies: KQ1

SR1 Goodwin L, Ostuzzi G, Khan N, Hotopf MH, Moss-Morris R. Can we identify the active ingredients of behaviour change interventions for coronary heart disease patients? A systematic review and meta-analysis. *PLoS One*. 2016;11(4):1-23.

SR2 Anderson L, Oldridge N, Thompson DR, et al. Exercise-Based Cardiac Rehabilitation for Coronary Heart Disease Cochrane Systematic Review and Meta-Analysis. *J Am Coll Cardiol*. 2016;67(1):1-12.

SR3 Powell R, McGregor G, Ennis S, Kimani PK, Underwood M. Is exercise-based cardiac rehabilitation effective? A systematic review and meta-analysis to re-examine the evidence. *BMJ Open*. 2018;8(3):e019656.

SR4 Sumner J, Harrison A, Doherty P. The effectiveness of modern cardiac rehabilitation: a systematic review of recent observational studies in non-attenders versus attenders. *PLoS One*. 2017;12(5):1-14.

SR = systematic reviews.

Evidence table for assessment of methodological quality of systematic reviews using AMSTAR 2 and LOE using SIGN methods: KQ1

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
| SR1           | Y P Y Y Y Y Y N Y Y Y Y Y 1++ |
1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.

**Finally included studies: KQ4**

| Reference No. | Article                                                                 |
|---------------|-------------------------------------------------------------------------|
| SR1           | Zhang YM, Lu Y, Tang Y, et al. The effects of different initiation time of exercise training on left ventricular remodeling and cardiopulmonary rehabilitation in patients with left ventricular dysfunction after myocardial infarction. *Disabil Rehabil.* 2016;38(3):268-276. |

SR = systematic reviews.

**Evidence table for assessment of methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods: KQ4**

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
| SR1           | Y P Y Y Y Y Y P Y N Y Y Y Y Y Y Y Y Y Y Y Y 1++ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?
the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.

The following is the final Cochrane Library searching strategy used for KQ2 (“Does cardiac rehabilitation affect the outcomes of patients with cardiovascular disease?”) including the basic CR searching strategy:

**Searching strategies**

#37  (“Cardiovascular mortality” or "all-cause mortality" or "hospital readmission rates" or morbidity or "Quality of life” or QOL or "mental health" or "return to work"):ti,ab,kw
#38  MeSH descriptor: [Morbidity] explode all trees
#39  MeSH descriptor: [Quality of Life] explode all trees
#40  MeSH descriptor: [Mental Health] explode all trees
#41  MeSH descriptor: [Return to Work] explode all trees
#42  self-efficacy or "patient satisfaction" or "CV recurrence rate" or "incidence of recurrent" or "fatal MI" or "nonfatal MI"
#43  incidence of recurrent MI or "progression of coronary atherosclerosis" or depression*
#44  {or #37-#43}
#45  #36 and #44 Publication Year from 2017 to 2018

*Flow chart of study selection process*
Finally included studies

| Reference No. | Article                                                                 |
|---------------|-------------------------------------------------------------------------|
| SR1           | Abell B, Glasziou P, Hoffmann T. The contribution of individual exercise training components to clinical outcomes in randomised controlled trials of cardiac rehabilitation: a systematic review and meta-regression. Sport Med - Open. 2017;3(1). |
| SR2           | van Halewijn G, Deckers J, Tay HY, van Domburg R, Kotseva K, Wood D. Lessons from contemporary trials of cardiovascular prevention and rehabilitation: a systematic review and meta-analysis. Int J Cardiol. 2017;232:294-303. |
| SR3           | Anderson L, Oldridge N, Thompson DR, et al. Exercise-based cardiac rehabilitation for coronary heart disease cochrane systematic review and meta-analysis. J Am Coll Cardiol. 2016;67(1):1-12. |

SR = systematic reviews.

Evidence table for assessment of methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods: KQ 2

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
|               | 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 |     |
| SR1           | Y  Y  Y  Y  Y  N  N  Y  P  N  Y  Y  Y  Y  Y  Y  | 1++ |
| SR2           | Y  P  Y  P  Y  Y  N  N  P  N  Y  Y  Y  Y  Y  Y  | 1++ |
| SR3           | Y  N  Y  N  Y  Y  Y  P  Y  N  Y  Y  Y  Y  Y  Y  | 1++ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of...
the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.

The following is the final Cochrane Library searching strategy used for KQ3 (“Does cardiac rehabilitation improve the quality of life of patients with cardiovascular disease?”) including the basic CR searching strategy:

**Searching strategies**

#37 (“quality of life” or qol):ti,ab,kw
#38 (“quality of wellbeing” or “quality of well being” or qwb):ti,ab,kw
#39 MeSH descriptor: [Quality of Life] explode all trees
#40 {or #37–#39}
#41 #36 and #40 Publication Year from 2017 to 2018

**Flow chart of study selection process**
Finally included studies

Reference No.
SR1 Anderson L, Oldridge N, Thompson DR, et al. Exercise-based cardiac rehabilitation for coronary heart disease Cochrane systematic review and meta-analysis. *J Am Coll Cardiol.* 2016;67(1):1-12.

'SR = systematic reviews.

Evidence table for assessment of methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
| SR1           | Y             | 1++ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-
analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.

The following is the final Cochrane Library searching strategy used for KQ5 (“How should cardiac rehabilitation be structured?”) including the basic CR searching strategy:

**Searching strategies**

#37 (process* or facilit* or machine* or treadmill* or "cycle ergometer*" or "ECG monitor*" or "blood pressure monitor*" or "automated external defibrillator*" or AED or "emergency cart*" or "12-lead ECG" or "blood glucose monitor*" or "percutaneous oxygen saturation monitor*" or "spirometry device*"):ti,ab,kw

#38 (cardiology* or dietetic* or nursing* or "exercise physiolog*" or "occupational therap*" or physiotherap* or psycholog* or "social work*":ti,ab,kw

#39 ("organizational structure" or policy or polices or process* or construction* or concept* or content* or phase* or "flow chart" or "aerobic exercise machine*" or treadmill or cycle* or ergometer* or "medical director*" or director* or nurse* or "exercise physiologist*" or "occupational therapist*" or physiotherapist* or psychologist* or "social work*" or dietician*):ti,ab,kw

#40 (Facility or Equipment or Personnel* or medical staff* or staff* or Service* or "service framework*" or Phase*):ti,ab,kw

#41 MeSH descriptor: [Organizations] explode all trees

#42 MeSH descriptor: [Delivery of Health Care] explode all trees

#43 {or #37-#42}

#44 #36 and #43 Publication Year from 2012 to 2018

*Flow chart of study selection process*
Finally included studies

| Reference No. | Article                                                                 |
|---------------|------------------------------------------------------------------------|
| SR1           | Anderson L, Oldridge N, Thompson DR, et al. Exercise-based cardiac rehabilitation for coronary heart disease cochrane systematic review and meta-analysis. *J Am Coll Cardiol.* 2016;67(1):1-12. |
| SR2           | Sumner J, Harrison A, Doherty P. The effectiveness of modern cardiac rehabilitation: a systematic review of recent observational studies in non-attenders versus attenders. *PLoS One.* 2017;12(5):1-14. |
| SR3           | Oldridge N. Exercise-based cardiac rehabilitation in patients with coronary heart disease: meta-analysis outcomes revisited. *Future Cardiol.* 2012;729-751. |

SR = systematic reviews.

Evidence table for assessment of methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods: KQ 5

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
| SR1           |               |     |
|               | 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 |     |
|               | Y  N  Y  N  Y  Y  P  Y  N  Y  Y  Y  Y  Y  Y  Y  Y  Y  Y | 1++ |
| SR2           |               |     |
|               | 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 |     |
|               | Y  N  N  P  Y  Y  Y  P  N  Y  Y  Y  Y  Y  N  Y  Y  Y  Y  Y  Y | 1++ |
| SR3           |               |     |
|               | 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 |     |
|               | Y  P  Y  P  N  N  N  P  Y  Y  Y  Y  Y  Y  Y  N  Y  Y  Y  Y  Y  Y | 1++ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors...
perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.

The following is the final Cochrane Library searching strategy used for KQ6 (“Can cardiac rehabilitation programs lower the cost of health management for patients with acute coronary syndrome?”) including the basic CR searching strategy:

**Searching strategies**

#37  MeSH descriptor: [Costs and Cost Analysis] explode all trees
#38  MeSH descriptor: [Economics] explode all trees
#39  MeSH descriptor: [Fees and Charges] explode all trees
#40  MeSH descriptor: [Budgets] explode all trees
#41  (cost* near/2 (effective* or utilit* or benefit* or minimi*)):ti,ab,kw
#42  (price or pricing or financ* or fee or fees):ti,ab,kw
#43  (value near/2 (money or monetary)):ti,ab,kw
#44  [or #37-#43]
#45  #36 and #44

**Flow chart of study selection process**
Finally included studies

Reference | Article                     
-----------|-----------------------------
SR1        | Anderson L, Oldridge N, Thompson DR, et al. Exercise-based cardiac rehabilitation for coronary heart disease cochrane systematic review and meta-analysis. *J Am Coll Cardiol.* 2016;67(1):1-12.

SR = systematic reviews.

Evidence table for assessment of methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods

| Reference Number | Quality items | LOE |
|------------------|---------------|-----|
| SR1              | Y N Y N Y Y Y Y P Y N Y Y Y Y Y Y Y Y | 1++ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual
studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.
2. Assessment of cardiac rehabilitation

The following is the basic searching strategy used for cardiac rehabilitation assessment in the Cochrane Library, combined with the specific searching strategy for each question using AND.

#1 MeSH descriptor: [Cardiac Rehabilitation] explode all trees
#2 (*cardia* or heart*) and *habilitation*):ti,ab,kw
#3 #1 or #2
#4 MeSH descriptor: [Myocardial Ischemia] explode all trees
#5 ((myocard* or heart* or coronary or cardia*) and (infarct* or isch* or attack*)):ti,ab,kw
#6 ("acute coronary syndrome" or ACS):ti,ab,kw
#7 (angina or stenocardia*):ti,ab,kw
#8 MeSH descriptor: [Myocardial Revascularization] explode all trees
#9 ((Myocard* or cardi* or coronary) and (Revascular* or angioplast*)):ti,ab,kw
#10 ((coronary or rotational) near atherectom*):ti,ab,kw
#11 ("coronary artery bypass" or CABG or "aortocoronary bypass" or "coronary bypass"):ti,ab,kw
#12 MeSH descriptor: [Percutaneous Coronary Intervention] explode all trees
#13 ("percutaneous coronary intervention*" or PCI):ti,ab,kw
#14 (percutaneous next coronary near/2 (interven* or revascular*)):ti,ab,kw
#15 (stent* and (heart or cardiac*)):ti,ab,kw
#16 coronary near (disease* or bypass or thrombo* or angioplast*):ti,ab,kw
#17 (PTCA or "percutaneous transluminal coronary angioplasty"):ti,ab,kw
#18 MeSH descriptor: [Heart Bypass, Right] explode all trees
#19 ("heart manual"):ti,ab,kw
#20 {or #4-#19}
#21 MeSH descriptor: [Rehabilitation] explode all trees
#22 (rehabilitat* or *habilitation*):ti,ab,kw
#23 MeSH descriptor: [Physical and Rehabilitation Medicine] explode all trees
#24 MeSH descriptor: [Health Facilities] explode all trees
#25 MeSH descriptor: [Rehabilitation Nursing] explode all trees
#26 {or #21-#25}
#27 #20 and #26
#28 #27 or #3

The following is the final Cochrane Library searching strategy used for KQ7 ("Is individualized cardiac rehabilitation program more effective than the existing fixed cardiac rehabilitation program?") including the basic CR assessment searching strategy:

Searching strategies

#29 ((individual* or personal* or "patient centred" or "patient centered" or "person centred" or "person centered") near/5 need*):ti,ab,kw
#30 (tailored near/6 need*):ti,ab,kw
#31 (standard* near/6 program*):ti,ab,kw
#32 {or #29-#31}
#33 #28 and #32 Publication Year from 2016 to 2018

Flow chart of the study selection process
Finally included studies

Reference No. Article

RCT1 Weibel L, Massarotto P, Hediger H, Mahrer-Imhof R. Early education and counselling of patients with acute coronary syndrome. A pilot study for a randomized controlled trial. Eur J Cardiovasc Nurs. 2016 Jun;15(4):213-22

RCT2 Fors, A., Swedberg, K., Ulin, K., Wolf, A., & Ekman, I. Effects of person-centred care after an event of acute coronary syndrome: Two-year follow-up of a randomized controlled trial. International journal of cardiology, 2017;249:42-47.

RCT3 Hill, K., Walwyn, R., Camidge, M. D., Murray, J., Meads, M. D., Reynolds, G et al. A randomised feasibility trial of a new lifestyle referral assessment versus usual assessment in an acute cardiology setting. The Journal of cardiovascular nursing, 2016;31:507-516

RCT = randomized controlled trial.

Evidence table for assessment of risk of bias and quality

Methodological quality of RCT using Cochrane RoB tool and LOE using SIGN methods

| Reference No. | Quality items | 1 | 2 | 3 | 4 | 5 | 6 | 7 | LOE |
|---------------|---------------|---|---|---|---|---|---|---|-----|
| RCT1          |               | L | L | H | H | L | L | L | 1+  |
| RCT2          |               | L | L | H | U | L | L | L | 1+  |
| RCT3          |               | L | U | H | U | H | U | L | 1+  |

1. Random sequence generation: selection bias (biased allocation to interventions) due to inadequate generation of a randomized. 2. Allocation concealment: selection bias (biased allocation to interventions) due to inadequate concealment of allocations prior to assignment. 3. Blinding of participants and personnel: performance bias due to knowledge of the allocated interventions by participants and personnel during the study. 4. Blinding of
outcome assessment: detection bias due to knowledge of the allocated interventions by outcome assessors. 5. Incomplete outcome data: attrition bias due to amount, nature or handling of incomplete outcome data. 6. Selective reporting: reporting bias due to selective outcome reporting. 7. Other bias: bias due to problems not covered elsewhere in the table.

H = high risk of bias; L = low risk of bias; LOE = level of evidence; RCT = randomized controlled trial; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; U = unclear risk of bias.

KQ8 (“Should psychological interventions concerning anxiety, depression, and stress be included in the cardiac rehabilitation program?”) including the basic CR assessment searching strategy:

**Searching strategies**

#1 (matched or stepped) near/3 care:ti,ab,kw
#2 (tier or tiers or tiered):ti,ab,kw
#3 (level* near/2 intervention*):ti,ab,kw
#4 (step* up or step* down):ti,ab,kw
#5 (matrix and psych*):ti,ab,kw
#6 psychologist*:ti,ab,kw
#7 MeSH descriptor: [Psychology] explode all trees
#8 psycholog*:ti,ab,kw
#9 (psychosocial or "psycho social"):ti,ab,kw
#10 (stress near manage*):ti,ab,kw
#11 (depress* or low next mood*):ti,ab,kw
#12 {or #1-#11}

**Flow chart of study selection process**

Records identified through database searching Cochrane (77), Embase (548), PubMed (181)
Total (n=806)

Records after duplicates removed (n=687)

Records screened on basis of title and abstract (n=687)

Full-text articles accessed for eligibility (n=11)

Studies included in qualitative synthesis (n=3)

Records excluded (n=675)

Full-text articles excluded, with reasons (n=8)
1. The patient does not have acute coronary syndrome (n=4)
2. Literature irrelevant to the key question (n=2)
3. Non-human studies (animal study or preclinical studies) (n=0)
4. Literature published in languages other than English or Korean (n=0)
5. Duplicate publication (n=0)
6. Full-text unavailable (n=0)
7. Other (n=2, simple comment)

**Finally included studies**

| Reference No. | Article |
|---------------|---------|
| SR1           | Klainin-Yobas, P., Ng, S. H., Stephen, P. D. M., Lau, Y. Efficacy of psychosocial interventions |
on psychological outcomes among people with cardiovascular diseases: a systematic review and meta-analysis. Patient education and counseling. 2016;99: 512-521

Richards, S. H., Anderson, L., Jenkinson, C. E., Whalley, B., Rees, K., Davies, P et al. Psychological interventions for coronary heart disease. Cochrane Database of Systematic Reviews. 2017;4.

von Känel, R., Barth, J., Princip, M., Meister-Langraf, R. E., Schmid, J. P., Znoj, H et al. Early psychological counseling for the prevention of posttraumatic stress induced by acute coronary syndrome: the MI-SPRINT randomized controlled trial. Psychotherapy and psychosomatics. 2018;87:75-84.

RCT = randomized controlled trial; SR = systematic reviews.

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**Evidence table for assessment of RoB and quality**

Methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
|               | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| SR1           | N  | N  | Y  | N  | Y  | Y  | N  | Y  | P  | N  | Y  | N  | N  | N  | Y  | Y  | 1+ |
| SR2           | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | 1++|

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.
1. Random sequence generation: selection bias (biased allocation to interventions) due to inadequate generation of a randomized. 2. Allocation concealment: selection bias (biased allocation to interventions) due to inadequate concealment of allocations prior to assignment. 3. Blinding of participants and personnel: performance bias due to knowledge of the allocated interventions by participants and personnel During the study. 4. Blinding of outcome assessment: detection bias due to knowledge of the allocated interventions by outcome assessors. 5. Incomplete outcome data: attrition bias due to amount, nature or handling of incomplete outcome data. 6. Selective reporting: reporting bias due to selective outcome reporting. 7. Other bias: bias due to problems not covered elsewhere in the table.

H = high risk of bias; L = low risk of bias; LOE = level of evidence; RCT = randomized controlled trial; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network.

The following is the final Cochrane Library searching strategy used for KQ9 (“Is cardiopulmonary exercise test necessary for cardiac rehabilitation?”) and KQ10 (“Is submaximal exercise test such as the 6-minute walk test useful for cardiac rehabilitation?”) including the basic CR assessment searching strategy:

**Searching strategies: KQ9 & KQ10**

#1 (“cardiopulmonary exercise test” or "exercise stress test" or "submaximal exercise test" or "submaximal exercise stress test" or "six minute walk test" or "six minute cycle test" or "walk test" or "cycle test"):ti,ab,kw

#2 MeSH descriptor: [Exercise Test] explode all trees

#3 submaximal test:ti,ab,kw

#4 {or #1-#3}

#5 #4

**Flow chart of study selection process: KQ9 & KQ10**
**Finally included studies: KQ9**

| Reference No. | Article |
|---------------|---------|
| RCT1 | Balady, G. J., Leitschuh, M. L., Jacobs, A. K., Merrell, D., Weiner, D. A., Ryan, T. J. Safety and clinical use of exercise testing one to three days after percutaneous transluminal coronary angioplasty. *American Journal of Cardiology*. 1992;69:1259-1264. |
| OS1 | Safstrom, K., Swahn, E. Early symptom-limited exercise test for risk stratification in post menopausal women with unstable coronary artery disease. *European Heart Journal*. 2000;21:230 |
| OS2 | Mark, D. B., Hlatky, M. A., Harrell, F. E., Lee, K. L., Califf, R. M., Pryor, D. B. Exercise treadmill score for predicting prognosis in coronary artery disease. *Annals of internal medicine*. 1987;106:793-800 |
| OS3 | Vanhees, L., Fagard, R., Thijs, L., Staessen, J., Amery, A. Prognostic significance of peak exercise capacity in patients with coronary artery disease. *Journal of the American College of Cardiology*. 1994;23:358-363. |
| OS3 | Kavanagh, T., Mertens, D. J., Hamm, L. F., Beyene, J., Kennedy, J., Corey, P., Shephard, R. J. Prediction of long-term prognosis in 12,169 men referred for cardiac rehabilitation. *Circulation*. 2002;106:666-671. |
| OS4 | Kavanagh, T., Mertens, D. J., Hamm, L. F., Beyene, J., Kennedy, J., Corey, P., Shephard, R. J. Peak oxygen intake and cardiac mortality in women referred for cardiac rehabilitation. *Journal of the American College of Cardiology*. 2003;42:2139-2143. |

**RCT** = randomized controlled trial; **OS** = observational study.
**Evidence table for assessment of RoB and quality: KQ9**

Methodological quality of RCT using RoB and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
|               | 1  | 2  | 3  | 4  | 5  | 6  | 7  |     |
| RCT1          | H  | H  | H  | H  | L  | L  | L  | 1-  |

1. Random sequence generation: selection bias (biased allocation to interventions) due to inadequate generation of a randomized. 2. Allocation concealment: selection bias (biased allocation to interventions) due to inadequate concealment of allocations prior to assignment. 3. Blinding of participants and personnel: performance bias due to knowledge of the allocated interventions by participants and personnel during the study. 4. Blinding of outcome assessment: detection bias due to knowledge of the allocated interventions by outcome assessors. 5. Incomplete outcome data: attrition bias due to amount, nature or handling of incomplete outcome data. 6. Selective reporting: reporting bias due to selective outcome reporting. 7. Other bias: bias due to problems not covered elsewhere in the table.

H = high risk of bias; L = low risk of bias; LOE = level of evidence; RCT = randomized controlled trial; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network.

Methodological quality of OS using the risk of bias assessment tool for non-randomized studies and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
|               | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| OS1           | L  | L  | L  | L  | L  | U  | L  | 2++|
| OS2           | U  | L  | H  | L  | L  | L  | L  | 2++|
| OS3           | U  | L  | L  | L  | L  | L  | L  | 2++|
| OS4           | U  | L  | L  | L  | L  | L  | L  | 2++|
| OS5           | U  | L  | L  | L  | L  | L  | L  | 2++|

1. Comparability = selection bias caused by inappropriate participant selection. 2. Selection of participants = selection bias caused by inadequate selection of participants for intervention, exposure, or patient group. 3. Confounding variables = Selection bias caused by inadequate confirmation and consideration of confounding variables. 4. Exposure measurement = performance bias caused by inadequate measurement of intervention or exposure. 5. Blinding of outcome assessment = detection bias caused by inadequate blinding of outcome assessment. 6. Outcome assessment = detection bias caused by inappropriate outcome assessment method. 7. Incomplete outcome data = attrition bias caused by inappropriate handling of incomplete data. 8. Selective outcome reporting = reporting bias caused by selective outcome reporting.

H = high risk of bias; L = low risk of bias; LOE = level of evidence; OS = observational study; SIGN = Scottish Intercollegiate Guidelines Network; U = unclear risk of bias.

**Finally included studies: KQ10**

| Reference No. | Article |
|---------------|---------|
|               |         |
SR1 Bellet, R. N., Adams, L., Morris, N. R. The 6-minute walk test in outpatient cardiac rehabilitation: validity, reliability and responsiveness—a systematic review. Physiotherapy. 2012;98:277-286.

OS1 Wright, D. J., Khan, K. M., Gossage, E. M., Saltissi, S. Assessment of a low-intensity cardiac rehabilitation programme using the six-minute walk test. Clinical rehabilitation. 2001;15:119-124.

OS2 Nogueira, P. A. D. M. S., Leal, A. C. M., Pulz, C., Nogueira, I. D. B., Oliveira Filho, J. A. Clinical reliability of the 6-minute corridor walk test performed within a week of a myocardial infarction. International heart journal. 2006;47:533-540.

OS3 Gremeaux, M., Hannequin, A., Laurent, Y., Laroche, D., Casillas, J. M., Gremeaux, V. Usefulness of the 6-minute walk test and the 200-metre fast walk test to individualize high intensity interval and continuous exercise training in coronary artery disease patients after acute coronary syndrome: a pilot controlled clinical study. Clinical rehabilitation. 2011;25:844-855.

OS4 Hanson, L. C., McBurney, H., Taylor, N. F. The retest reliability of the six-minute walk test in patients referred to a cardiac rehabilitation programme. Physiotherapy Research International. 2012;17:55-61.

OS5 Diniz, L. S., Neves, V. R., Starke, A. C., Barbosa, M. P., Britto, R. R., Ribeiro, A. L. Safety of early performance of the six-minute walk test following acute myocardial infarction: a cross-sectional study. Brazilian journal of physical therapy. 2017;21:167-174.

OS6 Harris, K. M., Anderson, D. R., Landers, J. D., Emery, C. F. Utility of walk tests in evaluating functional status among participants in an outpatient cardiac rehabilitation program. Journal of cardiopulmonary rehabilitation and prevention. 2017;37:329-333.

SR = systematic reviews; OS = observational study.

Evidence table for assessment of RoB and quality: KQ10
Evidence table for assessment of RoB and quality
Methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
|               | 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 |
| SR1           | Y  Y  Y  Y  Y  Y  P  Y  Y  N  Y  N  Y  N  N  Y 2+ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors...
use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.

Methodological quality of OS using the risk of bias assessment tool for non-randomized studies and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
|               | 1  2  3  4  5 | 6  7 8 |
| OS1           | H  L  L  H  L | L   L  2+|
| OS2           | U  H  L  U  H | L   L  2+|
| OS3           | H  H  H  H  L | L   L  2-|
| OS4           | U  L  L  H  L | L   L  2+|
| OS5           | H  L  H  L  L | L   L  2+|
| OS6           | U  H  L  H  L | L   L  2++|

1. Comparability = selection bias caused by inappropriate participant selection. 2. Selection of participants = selection bias caused by inadequate selection of participants for intervention, exposure, or patient group. 3. Confounding variables = Selection bias caused by inadequate confirmation and consideration of confounding variables. 4. Exposure measurement = performance bias caused by inadequate measurement of intervention or exposure. 5. Blinding of outcome assessment = detection bias caused by inadequate blinding of outcome assessment. 6. Outcome assessment = detection bias caused by inappropriate outcome assessment method. 7. Incomplete outcome data = attrition bias caused by inappropriate handling of inappropriate data. 8. Selective outcome reporting = reporting bias caused by selective outcome reporting

H = high risk of bias; L = low risk of bias; LOE = level of evidence; OS = observational study; SIGN = Scottish Intercollegiate Guidelines Network; U = unclear risk of bias.

The following is the final Cochrane Library searching strategy used for KQ11 (“What measures effectively promote participation in cardiac rehabilitation?”) and KQ12 (“What measures effectively increase physical activity compliance?”) including the basic CR assessment searching strategy:

Searching strategies
Finally included studies: KQ11

| Reference | Article |
|-----------|---------|
| SR1       | Grace, S. L., Chessex, C., Arthur, H., Chan, S., Cyr, C., Dafoe, W. et al. Systematizing inpatient referral to cardiac rehabilitation 2010: Canadian association of cardiac rehabilitation and Canadian cardiovascular society joint position paper: Endorsed by the cardiac care network of Ontario. Canadian Journal of Cardiology. 2011;27:192-199. |
| RCT1      | Grace, S. L., Midence, L., Oh, P., Brister, S., Chessex, C., Stewart, D. E., Arthur, H. M. Cardiac |
rehabilitation program adherence and functional capacity among women: a randomized controlled trial. In: Mayo Clinic Proceedings. Elsevier, 2016. p. 140-148.

RCT2 Lynggaard, V., Nielsen, C. V., Zwisler, A. D., Taylor, R. S., May, O. The patient education—Learning and Coping Strategies—improves adherence in cardiac rehabilitation (LC-REHAB): a randomised controlled trial. International journal of cardiology. 2017;236:65-70.

SR = systematic reviews; RCT = randomized controlled trial.

Evidence table for assessment of risk of bias and quality: KQ11

SR

| Reference No. | Quality items | LOE  |
|---------------|---------------|------|
|               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| SR1           | Y | Y | Y | Y | Y | Y | N | N | N | N | N | N | P | N | N | 2- |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SR = systematic reviews; Y = yes.

RCTs

| Reference No. | Quality items | LOE  |
|---------------|---------------|------|
|               | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| RCT1          | L | L | L | L | H | L | L | 1++ |
| RCT2          | L | U | U | U | L | L | L | 1+ |

1. Random sequence generation: selection bias (biased allocation to interventions) due to inadequate generation of a randomized. 2. Allocation concealment: selection bias (biased allocation to interventions) due to inadequate concealment of allocations prior to assignment. 3. Blinding of participants and personnel: performance bias due
to knowledge of the allocated interventions by participants and personnel During the study. 4. Blinding of outcome assessment: detection bias due to knowledge of the allocated interventions by outcome assessors. 5. Incomplete outcome data: attrition bias due to amount, nature or handling of incomplete outcome data. 6. Selective reporting: reporting bias due to selective outcome reporting. 7. Other bias: bias due to problems not covered elsewhere in the table.

H = high risk of bias; L = low risk of bias; LOE = level of evidence; RCT = randomized controlled trial; U = unclear risk of bias.

Finally included studies: KQ12

| Reference No. | Article |
|---------------|---------|
| RCT1          | Fournier M, Radel R, Bailly L, et al. “As du Coeur” study: a randomized controlled trial on physical activity maintenance in cardiovascular patients. 2018;18:77. |
| RCT2          | ter Hoeve N, Sunamura M, Stam HJ, et al. Effects of two behavioral cardiac rehabilitation interventions on physical activity: A randomized controlled trial. 2018;255:221-8. |

RCT = randomized controlled trial.

Evidence table for assessment of risk of bias and quality: KQ12

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
| RCT1          | L L L L L H   | 1+  |
| RCT2          | L L H H L L L | 1+  |

1. Random sequence generation: selection bias (biased allocation to interventions) due to inadequate generation of a randomized. 2. Allocation concealment: selection bias (biased allocation to interventions) due to inadequate concealment of allocations prior to assignment. 3. Blinding of participants and personnel: performance bias due to knowledge of the allocated interventions by participants and personnel During the study. 4. Blinding of outcome assessment: detection bias due to knowledge of the allocated interventions by outcome assessors. 5. Incomplete outcome data: attrition bias due to amount, nature or handling of incomplete outcome data. 6. Selective reporting: reporting bias due to selective outcome reporting. 7. Other bias: bias due to problems not covered elsewhere in the table.

H = high risk of bias; L = low risk of bias; LOE = level of evidence; RCT = randomized controlled trial.
3. Exercise therapy for cardiac rehabilitation

The following is the common searching strategy for KQ13 (“When should patients begin cardiac rehabilitation after CABG?”) combined with the specific searching strategies for each question shown below:

#1 MeSH descriptor: [Myocardial Ischemia] explode all trees
#2 ((myocard* or heart* or coronary or cardia*) and (infarct* or isch* or attack*)):ti,ab,kw
#3 (“acute coronary syndrome” or ACS):ti,ab,kw
#4 (angina or stenocardia*):ti,ab,kw
#5 {or #1-#4}
#6 MeSH descriptor: [Cardiac Surgical Procedures] explode all trees
#7 (“coronary artery bypass” or "CABG” or "aortocoronary bypass” or "coronary bypass“):ti,ab,kw
#8 (“coronary” near "arter*” near "bypass“):ti,ab,kw
#9 {or #6-#8}
#10 #5 and #9

The following is the specific searching strategy for KQ13-1, “CABG ambulation”:

#11 MeSH descriptor: [Ambulatory Care] explode all trees
#12 MeSH descriptor: [Early Ambulation] explode all trees
#13 (ambulat* or mobili* or gait):ti,ab,kw
#14 {or #11-#13}
#15 #10 and #14

The following is the specific searching strategy for KQ13-2, “CABG aerobic and strengthening”:

#11 MeSH descriptor: [Exercise] explode all trees
#12 MeSH descriptor: [Exercise Therapy] explode all trees
#13 ("exercise*” or "train*” or fitness) and ("strength*” or "aerobic“):ti,ab,kw
#14 (physical near (train* or activ*)):ti,ab,kw
#15 ("physio or physic* or kinesio*”) near therap*:ti,ab,kw
#16 ((interval or aerobic) near (train* or exercise* or run* or fitness)):ti,ab,kw
#17 ((muscle* or resistan*) near (train* or activ* or strength* or exercise*)):ti,ab,kw
#18 {or #11-#17}
#19 #10 and #18

The following is the specific searching strategy for KQ13-3, “CABG + Stretching”:

#11 MeSH descriptor: [Range of Motion, Articular] explode all trees
#12 (stretch* or flexibilit*):ti,ab,kw
#13 #11 or #12
#14 #10 and #13

The following is the specific searching strategy for KQ13-4, “CABG + Respiration training”:

#11 (respirat* or inspirat*) near (train* or educat* or exercise* or physiotherap*):ti,ab,kw
#12 spiromet*:ti,ab,kw
#13 #11 or #12
#14 #10 and #13
The following is the specific searching strategy for KQ13-5. “CABG + Dysphagia”:

#11 MeSH descriptor: [Deglutition Disorders] explode all trees
#12 (dysphagia or (swallow* near (difficult* or disorder))):ti,ab,kw
#13 #11 or #12
#14 #10 and #13

Flow chart of study selection process

Records identified through database searching Cochrane (6), Embase (67), PubMed (48)
Total (n=103)

Records after duplicates removed (n=92)

Records screened on basis of title and abstract (n=92)

Full-text articles accessed for eligibility (n=16)

Studies included in qualitative synthesis (n=1)

Records excluded (n=77)

1 paper added among other key question database searching

Full-text articles excluded, with reasons (n=15):
1. The patient does not have acute coronary syndrome (n=1)
2. Literature irrelevant to the key question (n=8)
3. Non-human studies (animal study or preclinical studies) (n=0)
4. Literature published in languages other than English or Korean (n=0)
5. Duplicate publication (n=2)
6. Full text unavailable (n=1)
7. Other (n=3)

Finally included studies

| Reference No. | Article |
|---------------|---------|
| SR1           | Aldahash R, Al Dera HS. Physical therapy program improves the physiological impact towards better quality of life and low cardiac risk factors in patients following coronary artery bypass grafting. Systematic review. Acta Medica International. 2016;3(1):185-195. |

SR = systematic reviews.

Evidence table for assessment of risk of bias and quality

Methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
|               | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 |     |
| SR1           | Y N Y P N N N P N N N M M N Y N- |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain
their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive
literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors
perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the
exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors
use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did
the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was
performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-
analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the
results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual
studies when interpreting/ discussing the results of the review? 14. Did the review authors provide a satisfactory
explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed
quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study
bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential
sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines
Network; SR = systematic reviews; Y = yes.

### Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE  |
|---------------|---|---|---|---|---|---|---|---|-------|------|
| SR1           | −1| −1| −1|   |   |   |   |   | Very low (1) | 1-   |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7.
All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no
effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.

The following is the basic searching strategy used for cardiac rehabilitation treatment (KQ 14-18) in
the Cochrane Library, combined with the specific searching strategy for each question using AND.

```plaintext
#1  MeSH descriptor: [Myocardial Ischemia] explode all trees
#2  ((myocard* or heart* or coronary or cardia*) and (infarct* or isch* or attack*)):ti,ab,kw
#3  ("acute coronary syndrome" or ACS):ti,ab,kw
#4  (angina or stenocardia*):ti,ab,kw
#5  (or #1-#4)
#6  MeSH descriptor: [Myocardial Revascularization] explode all trees
#7  ((Myocard* or cardi* or coronary) and (Revascular* or angioplast*)):ti,ab,kw
#8  ((coronary or rotational) near atherectom*):ti,ab,kw
#9  MeSH descriptor: [Percutaneous Coronary Intervention] explode all trees
#10 ("percutaneous coronary intervention" or PCI):ti,ab,kw
#11 (percutaneous next coronary near/2 (interven* or revascular*)):ti,ab,kw
#12 (stent* and (heart or cardiac*)):ti,ab,kw
```
The same Cochrane Library searching strategy was used for KQ14 (“Should aerobic exercise be included in the cardiac rehabilitation program?”) and KQ15 (“Should resistance (muscle training) exercise be included in the cardiac rehabilitation program?”) The following is the final searching strategy, including the basic searching strategy for exercise therapy for CR:

**Searching strategies**

#20 MeSH descriptor: [Exercise] explode all trees  
#21 MeSH descriptor: [Exercise Therapy] explode all trees  
#22 ("exercise*" or "train*" or fitness) and ("strength*" or "aerobic"):ti,ab,kw  
#23 (physical near (train* or activ*)):ti,ab,kw  
#24 ((physio or physic* or kinesio*) near therap*):ti,ab,kw  
#25 ((interval or aerobic) near (train* or exercise* or run* or fitness)):ti,ab,kw  
#26 ((muscle* or resistan*) near (train* or activ* or strength* or exercise*)):ti,ab,kw  
#27 [or #20-#26]  
#28 #19 and #27

**Flow chart of study selection process: KQ14**

Finally included studies: KQ14

| Reference | Article |
|-----------|---------|
| SR1       | Chen YC, Tsai JC, Liou YM, Chan P. Effectiveness of endurance exercise training in patients |
with coronary artery disease: A meta-analysis of randomised controlled trials. *European journal of cardiovascular nursing: journal of the Working Group on Cardiovascular Nursing of the European Society of Cardiology.* 2017;16(5):397-408.

SR2 Liou K, Ho S, Fildes J, Ooi SY. High Intensity Interval versus Moderate Intensity Continuous Training in Patients with Coronary Artery Disease: A Meta-analysis of Physiological and Clinical Parameters. *Heart, lung & circulation.* 2016;25(2):166-174.

SR = systematic reviews.

**Evidence table for assessment of risk of bias and quality: KQ14**

| Reference | Quality items | LOE |
|-----------|---------------|-----|
| No.       | 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 |
| SR1       | Y  Y  Y  Y  Y  Y  N  P  Y  N  Y  Y  Y  Y  Y  1- |
| SR2       | Y  Y  Y  N  N  N  Y  Y  N  Y  Y  Y  N  N  1+ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SR = systematic reviews; Y = yes.

**Methodological quality of systematic reviews using GRADE and LOE using SIGN methods**

| Reference | 1  2  3  4  5  6  7  8  GRADE  | LOE |
|-----------|-----------------|-----|
| No.       |                 |     |
| SR1       | -1  -1          | Very low (1) 1- |
| SR2       | -1              | Moderate (3) 1+ |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7.
All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect. 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.

**Flow chart of study selection process: KQ15**

Finally included studies: KQ15

| Reference No. | Article |
|---------------|---------|
| SR1           | Hollings M, Mavros Y, Freeston J, Fiatarone Singh M. The effect of progressive resistance training on aerobic fitness and strength in adults with coronary heart disease: A systematic review and meta-analysis of randomised controlled trials. *European journal of preventive cardiology*. 2017;24(12):1242-1259. |
| SR2           | Karagiannis C, Savva C, Mamais I, Efstathiou M, Monticone M, Xanthos T. Eccentric exercise in ischemic cardiac patients and functional capacity: A systematic review and meta-analysis of randomized controlled trials. *Annals of Physical and Rehabilitation Medicine*. 2017;60(1):58-64. |
| SR3           | Xanthos PD, Gordon BA, Kingsley MI. Implementing resistance training in the rehabilitation of coronary heart disease: A systematic review and meta-analysis. *International journal of cardiology*. 2017;230:493-508. |

'SR = systematic reviews.

**Evidence table for assessment of risk of bias and quality: KQ15**

| Reference | Quality items | LOE |
|-----------|---------------|-----|


1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/ discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SR = systematic reviews; Y = yes.

Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE |
|---------------|---|---|---|---|---|---|---|---|-------|-----|
| SR1           | Y | Y | Y | Y | Y | Y | Y | Y | N     | Y   |
| SR2           | Y | Y | Y | Y | Y | Y | Y | Y | Y     | Y   |
| SR3           | Y | Y | N | N | Y | Y | P | Y | Y     | Y   |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SR = systematic reviews.

The following is the final Cochrane Library searching strategy used for KQ16 (“How can the safety of cardiac rehabilitation exercise be enhanced?”) including the basic searching strategy for exercise therapy for CR:
Searching strategies

#20 MeSH descriptor: [Cardiac Rehabilitation] explode all trees
#21 (*cardia* or heart*) and *habilitation*:ti,ab,kw
#22 {or #20—#21}
#23 MeSH descriptor: [Wireless Technology] explode all trees
#24 MeSH descriptor: [Electrocardiography] explode all trees
#25 ((electrocardiography or ecg or ekg) near monitor*):ti,ab,kw
#26 MeSH descriptor: [Safety] explode all trees
#27 (safe* or risk):ti,ab,kw
#28 {or #23—#27}
#29 #19 and #22 and #28

Flow chart of study selection process

Finally included studies

| Reference No. | Article |
|---------------|---------|
| -             | -       |

The following is the final Cochrane Library searching strategy used for KQ17 (“Can a home-based cardiac rehabilitation program replace a hospital-based cardiac rehabilitation program?”) including the basic searching strategy for exercise therapy for CR:

Searching strategies

#20 MeSH descriptor: [Cardiac Rehabilitation] explode all trees
#21 (*cardia* or heart*) and *habilitation*:ti,ab,kw
#22 MeSH descriptor: [Rehabilitation] explode all trees
#23 (rehabilitat* or *habilitation*:ti,ab,kw
Flow chart of study selection process

Finally included studies

| Reference | Article |
|-----------|---------|
| SR1       | Claes J, Buys R, Budts W, Smart N, Cornelissen VA. Longer-term effects of home-based exercise interventions on exercise capacity and physical activity in coronary artery disease patients: A systematic review and meta-analysis. European journal of preventive cardiology. 2017;24(3):244-256. |
| SR2       | Anderson L, Sharp GA, Norton RJ, et al. Home-based versus centre-based cardiac rehabilitation. Cochrane Database of Systematic Reviews. 2017(6). http://cochranelibrary-wiley.com/doi/10.1002/14651858.CD007130.pub4/abstract. |
| SR3       | Huang K, Liu W, He D, et al. Telehealth interventions versus center-based cardiac rehabilitation of coronary artery disease: A systematic review and meta-analysis. European journal of preventive cardiology. 2015;22(8):959-971. |
| SR4       | McClure T, Haykowsky MJ, Schopflocher D, Hsu ZY, Clark AM. Home-based secondary prevention programs for patients with coronary artery disease: a meta-analysis of effects on anxiety. Journal of cardiopulmonary rehabilitation and prevention. 2013;33(2):59-67. |

SR = systematic reviews.
Evidence table for assessment of risk of bias and quality: KQ17

| Reference No. | Quality items | LOE  |
|---------------|---------------|------|
| SR1           | Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y -1 | |
| SR2           | Y Y Y Y Y Y Y Y N N N N N N N N 1+ | |
| SR3           | Y Y Y Y Y Y Y Y N Y Y Y Y Y Y Y Y -1 | |
| SR4           | Y Y Y P Y P P P Y Y N Y Y Y N Y Y N 1 | |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SR = systematic reviews; Y = yes.

Methodological quality of systematic reviews using GRADE LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE |
|---------------|---|---|---|---|---|---|---|---|-------|-----|
| SR1           | -1 | -1 |   |   |   |   |   |   | Low (2) | 1-   |
| SR2           | -1 | -1 | +1 |   |   |   |   |   | Moderate (3) | 1+ |
| SR3           | -1 | -1 |   |   |   |   |   |   | Low (2) | 1-   |
| SR4           | -1 | -1 | -1 |   |   |   |   |   | Very low (1) | 1- |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.
The following is the final Cochrane Library searching strategy used for KQ18 (“Should cardiac rehabilitation programs be recommended to elderly patients?”) including the basic searching strategy for exercise therapy for CR:

**Searching strategies**

MeSH descriptor: [Cardiac Rehabilitation] explode all trees

#21 (*cardia* or heart*) and *habilitation*:ti,ab,kw
#22 MeSH descriptor: [Rehabilitation] explode all trees
#23 (rehabilitat* or *habilitation):ti,ab,kw
#24 MeSH descriptor: [Physical and Rehabilitation Medicine] explode all trees
#25 MeSH descriptor: [Health Facilities] explode all trees
#26 MeSH descriptor: [Rehabilitation Nursing] explode all trees
#27 {or #20-#26}
#28 MeSH descriptor: [Women] explode all trees
#29 MeSH descriptor: [Aged] explode all trees
#30 (women or woman or female or gender):ti,ab,kw
#31 (old* or elder* or aged):ti,ab,kw
#32 {or #28-#31}
#33 #19 and #27 and #32

**Flow chart of study selection process**

| Records identified through database searching Cochrane (21), Embase (76), PubMed (22) Total (n=119) |
|---------------------------------------------------------------|
| Records after duplicates removed (n=113) | Records excluded (n=84) |
| Records screened on basis of title and abstract (n=113) | Full-text articles excluded, with reasons (n=28) |
| Full-text articles accessed for eligibility (n=29) | 1. The patient does not have acute coronary syndrome (n=0) |
| Studies included in qualitative synthesis (n=1) | 2. Literatures irrelevant to the key question (n=17) |

**Finally included studies**

| Reference No. | Article |
|---------------|---------|
| SR1           | Yamamoto S, Hotta K, Ota E, Mori R, Matsunaga A. Effects of resistance training on muscle strength, exercise capacity, and mobility in middle-aged and elderly patients with coronary artery disease: A meta-analysis. *Journal of cardiology.* 2016;68(2):125-134. |

'SR = systematic reviews.'
**Evidence table for assessment of RoB and quality**

Methodological quality of systematic reviews using AMSTAR 2.0 and LOE using SIGN methods

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
| SR1           | Y Y Y Y Y P Y Y N Y Y Y Y Y Y | 1++ |

1. Did the research questions and inclusion criteria for the review include the components of PICO? 2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol? 3. Did the review authors explain their selection of the study designs for inclusion in the review? 4. Did the review authors use a comprehensive literature search strategy? 5. Did the review authors perform study selection in duplicate? 6. Did the review authors perform data extraction in duplicate? 7. Did the review authors provide a list of excluded studies and justify the exclusions? 8. Did the review authors describe the included studies in adequate detail? 9. Did the review authors use a satisfactory technique for assessing the RoB in individual studies that were included in the review? 10. Did the review authors report on the sources of funding for the studies included in the review? 11. If meta-analysis was performed did the review authors use appropriate methods for statistical combination of results? 12. If meta-analysis was performed, did the review authors assess the potential impact of RoB in individual studies on the results of the meta-analysis or other evidence synthesis? 13. Did the review authors account for RoB in individual studies when interpreting/discussing the results of the review? 14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review? 15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review? 16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?

LOE = level of evidence; N = no; P = partial yes; RoB = risk of bias; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews; Y = yes.

Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 | GRADE | LOE |
|---------------|------------------------------------------|-------|-----|
| SR1           | High (4)                                 |       | 1++ |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.
4. **Education for cardiac rehabilitation**

The following is the basic searching strategy commonly used in education for cardiac rehabilitation in the Cochrane Library. This basic searching strategy was combined with the specific searching strategy for each question using AND.

MeSH descriptor: [Myocardial Ischemia] explode all trees

#17 ((myocard* or heart* or coronary or cardi*) and (infarct* or isch* or attack*)):ti,ab,kw
#18 ("acute coronary syndrome" or ACS):ti,ab,kw
#19 (angina or stenocardia*):ti,ab,kw
#20 MeSH descriptor: [Myocardial Revascularization] explode all trees
#21 ((Myocard* or cardi* or coronary) and (Revascular* or angioplast*)):ti,ab,kw
#22 ((coronary or rotational) near atherectom*):ti,ab,kw
#23 ("coronary artery bypass" or CABG or "aortocoronary bypass" or "coronary bypass"):ti,ab,kw
#24 MeSH descriptor: [Percutaneous Coronary Intervention] explode all trees
#25 ("percutaneous coronary intervention*" or PCI):ti,ab,kw
#26 (percutaneous next coronary near/2 (interven* or revascular*)):ti,ab,kw
#27 (sten* and (heart or cardiac*)):ti,ab,kw
#28 coronary near (disease* or bypass or thrombo* or angioplast*):ti,ab,kw
#29 (PTCA or "percutaneous transluminal coronary angioplasty"):ti,ab,kw
#30 MeSH descriptor: [Heart Bypass, Right] explode all trees
#31 ("heart manual"):ti,ab,kw
#32 {or #16–#31}
#33 MeSH descriptor: [Rehabilitation] explode all trees
#34 (rehabilitat* or "habilitation"):ti,ab,kw
#35 MeSH descriptor: [Physical and Rehabilitation Medicine] explode all trees
#36 MeSH descriptor: [Health Facilities] explode all trees
#37 MeSH descriptor: [Rehabilitation Nursing] explode all trees
#38 {or #33–#37}
#39 MeSH descriptor: [Cardiac Rehabilitation] explode all trees
#40 ("cardia* or heart*" and "habilitation"):ti,ab,kw
#41 #39 or #40
#42 (#32 and #38) or #41

The following is the final Cochrane Library searching strategy used for KQ19 (“Is patient education necessary as part of cardiac rehabilitation?”) including the basic searching strategy for education for secondary prevention:

**Searching strategies**

#1 MeSH descriptor: [Health Behavior] explode all trees
#2 (health next behaviour* or health next behavior*):ti,ab,kw
#3 MeSH descriptor: [Patient Discharge] explode all trees
#4 ("patient discharge" or discharging next patient*):ti,ab,kw
#5 MeSH descriptor: [Patient Transfer] explode all trees
#6 MeSH descriptor: [Patient Handoff] explode all trees
#7 (handoff or handover or "hand off" or "hand over"):ti,ab,kw
#8 shared care:ti,ab,kw
#9 ("behaviour change" or "behavior change"):ti,ab,kw
Flow chart of study selection process

Finally included studies

| Reference No. | Article |
|---------------|---------|
| SR1           | Anderson, L., et al. *Patient education in the management of coronary heart disease*. Cochrane Database of Systematic Reviews, 2017. DOI: 10.1002/14651858.CD008895.pub3. |

SR = systematic reviews.

Evidence table for assessment of risk of bias and quality

Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE |
|---------------|---|---|---|---|---|---|---|---|-------|-----|
| SR1           | 1 | 1 |   |   |   |   |   |   | Low (2) | 1-   |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.
The following is the final Cochrane Library searching strategy used for KQ20 (“What contents should be included in patient education?”) and KQ21 (“What interventions are needed to boost patients’ drug compliance?”) including the basic searching strategy in education for cardiac rehabilitation:

**Searching strategies**

#1 Medication Adherence*:ti,ab,kw
#2 medication adj3 (adherence* or "non-adherence" or nonadherence* or "non adherence" or compliance* or non-compliance* or "non compliance" or persistence*):ti,ab,kw
#3 *Patient Compliance:ti,ab,kw
#4 MeSH descriptor: [Medication Adherence] explode all trees
#5 #1 or #2 or #3 or #4

**Flow chart of study selection process**

| Reference No. | Article |
|---------------|---------|
| SR1           | Adler, A.J., et al. *Mobile phone text messaging to improve medication adherence in secondary prevention of cardiovascular disease*. Cochrane Database of Systematic Reviews, 2017. DOI: 10.1002/14651858.CD011851.pub2. |
| SR2           | Chase, J.A., et al., *The Effectiveness of Medication Adherence Interventions Among Patients With Coronary Artery Disease: A Meta-analysis*. J Cardiovasc Nurs, 2016. 31(4): p. 357-66. |
| SR3           | Gandapur, Y., et al., *The role of mHealth for improving medication adherence in patients with cardiovascular disease: A systematic review*. European Heart Journal - Quality of Care and Clinical Outcomes, 2016. 2(4): p. 237-244. |
SR4  Johnston, N., et al., Systematic reviews: Causes of non-adherence to P2Y12 inhibitors in acute coronary syndromes and response to intervention. Open Heart, 2016. 3(2).

SR5  Gandhi, S., et al., Effect of Mobile Health Interventions on the Secondary Prevention of Cardiovascular Disease: Systematic Review and Meta-analysis. Canadian Journal of Cardiology, 2017. 33(2): p. 219-231.

SR6  Zullig, L.L., K. Ramos, and H.B. Bosworth, Improving Medication Adherence in Coronary SR = systematic reviews.

Evidence table for assessment of risk of bias and quality
Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE |
|---------------|---|---|---|---|---|---|---|---|-------|-----|
| SR1           | 1 | 1 |   |   |   |   |   |   | Low (2)| 1-   |
| SR2           | 1 | 1 | 1 |   |   |   |   |   | Very low (1)| 1-   |
| SR3           | 1 | 1 | 1 |   |   |   |   |   | Very low (1)| 1-   |
| SR4           | 1 | 1 | 1 |   |   |   |   |   | Very low (1)| 1-   |
| SR5           | 1 | 1 |   |   |   |   |   |   | Low (2)  | 1-   |
| SR6           | 1 | 1 |   |   |   |   |   |   | Low (2)  | 1-   |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.
GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.

The following is the final Cochrane Library searching strategy used for KQ22 (“What is a good brief intervention for patients who need to quit smoking?”) including the basic searching strategy for education for cardiac rehabilitation:

Searching strategies
#1 brief smoking cessation:ti,ab,kw
#2 (brief intervention* near/4 smoking):ti,ab,kw
#3 (brief near/3 smoking cessation):ti,ab,kw
#4 #1 or #2 or #3
#5 MeSH descriptor: [Tobacco Use Cessation] explode all trees
#6 MeSH descriptor: [Tobacco Use] explode all trees
#7 ((smok* or tobacco or cigar* or nicotine) near/3 (quit* or stop* or ceas* or cessation)):ti,ab,kw
#8 MeSH descriptor: [Tobacco Use Disorder] explode all trees
#9 MeSH descriptor: [Tobacco Products] explode all trees
#10 #6 or #8 or #9
#11 (quit* or stop* or ceas* or cessation):ti,ab,kw
#12 #10 and #11
#13 #5 or #7 or #12
Flow chart of study selection process

Finally included studies

| Reference No. | Article |
|---------------|---------|
| SR1           | Franck, C., K.B. Filion, and M.J. Eisenberg, *Smoking Cessation in Patients With Acute Coronary Syndrome*. American Journal of Cardiology, 2018; 121(9): p. 1105-1111. |

SR = systematic reviews.

Evidence table for assessment of risk of bias and quality

Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE |
|---------------|---|---|---|---|---|---|---|---|-------|-----|
| SR1           | 1 | 1 | 1 |   |   |   |   |   | Very low (1) | 1-   |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SR = systematic reviews.

KQ23. Should a specific food supplement be recommended for patients undergoing cardiac rehabilitation? For KQ24-1, omega-3: The following searching strategy was used without combining the common searching strategy:
Searching strategies

#1 (omega-3 or "omega 3") .ti,ab.
#2 MeSH descriptor: [Fatty Acids, Omega-3] explode all trees
#3 #1 or #2
#4 MeSH descriptor: [Myocardial Ischemia] explode all trees
#5 (((myocard* or heart* or coronary or cardia*) and (infarct* or isch* or attack*)):ti,ab,kw
#6 ("acute coronary syndrome" or ACS):ti,ab,kw
#7 (angina or stenocardia*):ti,ab,kw
#8 MeSH descriptor: [Myocardial Revascularization] explode all trees
#9 (((Myocard* or cardi* or coronary) and (Revascular* or angioplast*)):ti,ab,kw
#10 (((coronary or rotational) near atherectomy*):ti,ab,kw
#11 ("coronary artery bypass" or CABG or "aortocoronary bypass" or "coronary bypass"):ti,ab,kw
#12 MeSH descriptor: [Percutaneous Coronary Intervention] explode all trees
#13 ("percutaneous coronary intervention*" or PCI):ti,ab,kw
#14 (percutaneous next coronary near/2 (interven* or revascular*)):ti,ab,kw
#15 (stent* and (heart or cardiac*)):ti,ab,kw
#16 coronary near (disease* or bypass or thrombo* or angioplast*):ti,ab,kw
#17 (PTCA or "percutaneous transluminal coronary angioplasty"):ti,ab,kw
#18 MeSH descriptor: [Heart Bypass, Right] explode all trees
#19 ("heart manual"):ti,ab,kw
#20 {or #4–#19}
#21 #3 and #20

Flow chart of study selection process

Records identified through database searching (Cochrane (34), Embase (175), PubMed (37), Total (n=246)

Records after duplicates removed (n=235)

Records screened on basis of title and abstract (n=235)

Full-text articles accessed for eligibility (n=18)

Studies included in qualitative synthesis (n=1)

Records excluded (n=217)

Full-text articles excluded, with reasons (n=17)
1. The patient does not have acute coronary syndrome (n=14)
2. Literatures irrelevant to the key question (n=0)
3. Non-human studies (animal study or preclinical studies) (n=0)
4. Literatures published in languages other than English or Korean (n=0)
5. Duplicate publication (n=0)
6. Full text unavailable (n=3)
7. Other (n=0)

Finally included studies

| Reference | Article |
|-----------|---------|
|           |         |

No.
SR1: Abdelhamid, A., et al. Polyunsaturated fat intake for prevention of cardiovascular disease. Cochrane Database of Systematic Reviews, 2016. DOI: 10.1002/14651858.CD012345.

SR = systematic reviews.

Evidence table for assessment of risk of bias and quality: KQ24-1
Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | GRADE | LOE |
|---------------|-------|-----|
| SR1           | High (4) | 1++ |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.

For KQ24-2, policosanol: Only policosanol was used for the search due to a lack of relevant literature.

Searching strategies
#1 (policosanol or polycosanol).ti,ab.

Flow chart of study selection process

Finally included studies
RCT1
Marazzi, G., et al., *Comparison of Low-Dose Statin Versus Low-Dose Statin + Armolipid Plus in High-Intensity Statin-Intolerant Patients With a Previous Coronary Event and Percutaneous Coronary Intervention (ADHERENCE Trial).* American Journal of Cardiology, 2017. 120(6): p. 893-897.

RCT2
Marazzi, G., et al., *Usefulness of Nutraceuticals (Armolipid Plus) Versus Ezetimibe and Combination in Statin-Intolerant Patients with Dyslipidemia with Coronary Heart Disease.* American Journal of Cardiology, 2015. 116(12): p. 1798-1801.

RCT3
Xu, K., et al., *Safety and efficacy of policosanol in patients with high on-treatment platelet reactivity after drug-eluting stent implantation: two-year follow-up results.* Cardiovascular Therapeutics, 2016. 34(5): p. 337-342.

RCT = randomized control trials.

**Evidence table for assessment of risk of bias and quality**

| Reference No. | Quality items | LOE |
|---------------|---------------|-----|
| RCT1          | L U H L L L | 1+  |
| RCT2          | L U H L L L | 1+  |
| RCT3          | U U U U L L | 1-  |

1. Random sequence generation: selection bias (biased allocation to interventions) due to inadequate generation of a randomized. 2. Allocation concealment: selection bias (biased allocation to interventions) due to inadequate concealment of allocations prior to assignment. 3. Blinding of participants and personnel: performance bias due to knowledge of the allocated interventions by participants and personnel during the study. 4. Blinding of outcome assessment: detection bias due to knowledge of the allocated interventions by outcome assessors. 5. Incomplete outcome data: attrition bias due to amount, nature or handling of incomplete outcome data. 6. Selective reporting: reporting bias due to selective outcome reporting. 7. Other bias: bias due to problems not covered elsewhere in the table.

L = low risk of bias; LOE = level of evidence; H = high risk of bias; RCT = randomized control trials; U = unclear risk of bias.

For KQ24-3, antioxidants: The following searching strategy was used without combining the common searching strategy:

**Searching strategies**

#1 antioxidant
#2 MeSH descriptor: [Antioxidants] explode all trees
#3 {or #1-#2}
#4 MeSH descriptor: [Myocardial Ischemia] explode all trees
#5 ((myocard* or heart* or coronary or cardia*) and (infarct* or isch* or attack*)):ti,ab,kw
#6 ("acute coronary syndrome" or ACS):ti,ab,kw
#7 (angina or stenocardia*):ti,ab,kw
#8 MeSH descriptor: [Myocardial Revascularization] explode all trees
#9 ((Myocard* or cardi* or coronary) and (Revascular* or angioplast*)):ti,ab,kw
#10 ((coronary or rotational) near atherecetom*):ti,ab,kw
#11 ("coronary artery bypass" or CABG or "aortocoronary bypass" or "coronary bypass"):ti,ab,kw
#12 MeSH descriptor: [Percutaneous Coronary Intervention] explode all trees
#13 ("percutaneous coronary intervention" or PCI):ti,ab,kw
#14 (percutaneous next coronary near/2 (interven* or revascular*)):ti,ab,kw
#15 (stent* and (heart or cardiac*)):ti,ab,kw
#16 coronary near (disease* or bypass or thrombo* or angioplast*):ti,ab,kw
#17 (PTCA or "percutaneous transluminal coronary angioplasty"):ti,ab,kw
#18 MeSH descriptor: [Heart Bypass, Right] explode all trees
#19 ("heart manual"):ti,ab,kw
#20 {or #4-#19}
#21 #3 and #20

Flow chart of study selection process

Finally included studies

| Reference No. | Article |
|---------------|---------|
| SR1 Loffredo, L., et al., Supplementation with vitamin E alone is associated with reduced myocardial infarction: A meta-analysis. Nutrition, Metabolism and Cardiovascular Diseases, 2015. 25(4): p. 354-363. |
| SR2 Myung, S.K., et al., Efficacy of vitamin and antioxidant supplements in prevention of cardiovascular disease: Systematic review and meta-analysis of randomised controlled trials. BMJ (Online), 2013. 346(7893). |
SR3 Ye, Y., J. Li, and Z. Yuan, *Effect of Antioxidant Vitamin Supplementation on Cardiovascular Outcomes: A Meta-Analysis of Randomized Controlled Trials*. PLoS ONE, 2013. 8(2).

SR = systematic reviews.

**Evidence table for assessment of risk of bias and quality**

Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE |
|---------------|---|---|---|---|---|---|---|---|-------|-----|
| SR1           |   | 1 |   |   |   |   |   |   | Low (2) | 1-   |
| SR2           |   |   |   |   |   | 1 |   |   | Moderate (3) | 1+  |
| SR3           |   |   |   |   |   |   |   |   | High (4) | 1++ |

1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect, 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.

The following is the final Cochrane Library searching strategy used for KQ25 (“Would ICT-based modality be helpful in maintaining the effects of education in the long-term?”) including the basic searching strategy for education for cardiac rehabilitation:

**Searching strategies**

#1 MeSH descriptor: [Social Media] explode all trees
#2 (social next medi*):ti,ab,kw
#3 (twitter or facebook):ti,ab,kw
#4 (web next 2* or web2*):ti,ab,kw
#5 [or #1-#4]
#6 pedometer*:ti,ab,kw
#7 (activity monitor* or activity track* or acceleromet* or fitness monitor* or fitness track*):ti,ab,kw
#8 (fitbit or fitband or "fit band" or fitness next watch*):ti,ab,kw
#9 [or #6-#8]
#10 MeSH descriptor: [Mobile Applications] explode all trees
#11 (mobile app* or portable electronic app* or portable software app*):ti,ab,kw
#12 (virtual realit* or exergam* or exer gam* or wifit or wi fit):ti,ab,kw
#13 [or #10-#12]
#14 (interactive near/2 (technol* or software)):ti,ab,kw
#15 [or #14]
#16 MeSH descriptor: [Telemedicine] explode all trees
#17 (telehealth* or tele-health* or telemedicine* or tele-medicine*):ti,ab,kw
#18 (mhealth or m-health or mobile next health*):ti,ab,kw
#19 [or #16-#18]
#20 #5 or #9 or #13 or #15 or #19
Flow chart of study selection process

Finally included studies

| Reference No. | Article                                                                 |
|---------------|-------------------------------------------------------------------------|
| SR1           | Coorey, G.M., et al., Effectiveness, acceptability and usefulness of mobile applications for cardiovascular disease self-management: Systematic review with meta-synthesis of quantitative and qualitative data. European Journal of Preventive Cardiology, 2018. 25(5): p. 505-521. |
| SR2           | Gandapur, Y., et al., The role of mHealth for improving medication adherence in patients with cardiovascular disease: A systematic review. European Heart Journal - Quality of Care and Clinical Outcomes, 2016. 2(4): p. 237-244. |
| SR3           | Hamilton, S.J., et al., Smartphones in the secondary prevention of cardiovascular disease: A systematic review. BMC Cardiovascular Disorders, 2018. 18(1). |
| SR4           | Rawstorn, J.C., et al., Telehealth exercise-based cardiac rehabilitation: A systematic review and meta-analysis. Heart, 2016. 102(15): p. 1183-1192. |

SR = systematic reviews.

Evidence table for assessment of risk of bias and quality

Methodological quality of systematic reviews using GRADE and LOE using SIGN methods

| Reference No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | GRADE | LOE |
|---------------|---|---|---|---|---|---|---|---|-------|-----|
| SR1           | 1 | 1 | 1 |   |   |   |   |   | Very low (1) | 1-   |
| SR2           | 1 | 1 | 1 |   |   |   |   |   | Very low (1) | 1-   |
| SR3           | 1 | 1 | 1 |   |   |   |   |   | Very low (1) | 1-   |
1. Limitation, 2. Inconsistency, 3. Indirectness, 4. Imprecision, 5. Publication bias, 6. Large magnitude effect, 7. All plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect. 8. Dose response gradient.

GRADE = grades of recommendation assessment, development and evaluation; LOE = level of evidence; SIGN = Scottish Intercollegiate Guidelines Network; SR = systematic reviews.
*Korean literature search and selection*

Korean literatures were searched on RISS, KMbase, and KoreaMed, using terms “심장재활” and “cardiac rehabilitation.”

**Flow chart of study selection process**

1. PubMed search
   1.1 Guidelines in PubMed were searched using the term “cardiac rehabilitation.”
   Search "cardiac rehabilitation"[TIAB] OR "cardiac rehabilitation"[MeSH] Filters: Consensus Development Conference; Guideline; NIH; Practice Guideline
   PubMed date: February 2, 2018
   Search results: 86

   1.2 Guidelines in PubMed were searched using specific key terms such as “myocardial infarction.”
   Search "cardiac rehabilitation"[TIAB] OR "cardiac rehabilitation"[MeSH] Filters: Consensus Development Conference; Guideline; NIH; Practice Guideline
   PubMed date: February 2, 2018
   Search results: 68 → 22 were selected after reviewing the title and abstract

2. Review the reference lists of two recent systemic reviews of cardiac rehabilitation guidelines
   2.1 Abel et al. article: 59 articles
   Abell, Bridget, Paul Glasziou, and Tammy Hoffmann. "Exploration of the methodological quality
and clinical usefulness of a cross-sectional sample of published guidance about exercise training and physical activity for the secondary prevention of coronary heart disease." BMC cardiovascular disorders 17.1 (2017): 153.

2.2 Serón article: 9 articles
Serón, Pamela, et al. "Evaluation of the quality of clinical guidelines for cardiac rehabilitation: a critical review." Journal of cardiopulmonary rehabilitation and prevention 35.1 (2015): 1-12.

3. Search of the database recorded in the guideline Search term: “cardiac rehabilitation”
Search date: January 15, 2018

| No. | Guideline                                           | Homepage URL                                                         | Search results |
|-----|-----------------------------------------------------|---------------------------------------------------------------------|----------------|
| 1   | National Electronic Library for Health guidelines finder | https://www.evidence.nhs.uk/                                         | 89             |
| 2   | National guidelines clearinghouse                   | https://www.guideline.gov                                            | 10             |
| 3   | Scottish Intercollegiate Guidelines Network         | https://www.sign.ac.uk/                                              | 2              |
| 4   | Guidelines International Network                    | http://www.g-i-n.net/                                               | 5              |
| 5   | Canadian Medical Association Infobase (Canadian guidelines) | https://www.cma.ca/en/Pages/cpg-by-specialty.aspx?categoryCode=CARDIO | 1              |
| 6   | National Health and Medical Research Council        | https://www.nhmrc.gov.au/guidelines/search                           | 1              |
| 7   | Clinical Practice Guidelines (Australian Guidelines) | https://www.clinicalguidelines.gov.au/                              | 0              |
| 8   | New Zealand Guidelines Group                        | https://www.health.govt.nz/about-ministry/ministry-health-websites/new-zealand-guidelines-group | 0              |
| 9   | BMJ clinical evidence                               | http://clinicalevidence.bmj.com/                                    | 17             |
| 10  | Cochrane Database of Systematic Reviews             | http://onlinelibrary.wiley.com/cochranelibrary/search/              | 16             |
| 11  | Database of Abstracts of Reviews of Effects         | http://onlinelibrary.wiley.com/cochranelibrary/search/              | 25             |
| 12  | Heath Technology Assessment Database                | http://onlinelibrary.wiley.com/cochranelibrary/search/              | 19             |