|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| * **Supplemental Digital Content 1. Description of Included Studies** | | | | | | | |
| * **Author** * **Study Design** * **PR or CR** | * **Sample Size** * **Patient Type** | * **Subjects, n;** * **Male/Female; (Mean Age)** | * **Follow-up Duration; Patients at Completion of Study** | * **QoL Instruments** | * **Other Outcomes** | * **Interventions** | * **Main Conclusions** |
| * Nilesh et al (2013) * Pros * PR | * n=60 * COPD | * 43 Male * 17 Female * (68yr) | * 4 wk | * 1. CRQ | * - 6MWD * - Borg scale | * PR | * PR helps in both subjective and objective improvement in COPD patients |
| * Chair et al (2013) * RCT * CR | * n=146 * - Control: n=73 * - Interview: n=73 | * 20/53 (66yr) * 26/47 (66yr) | * 12 mo * 64 * 52 | * 1. SF-36 | * - BP * - BMI * - Cholesterol * - Medication compliance | * 6-mo CR with motivational interviews intervention | * No change in clinical outcomes between patients who received motivational interviews |
| * Stauber et al (2013) * Comp * CR | * n=589 * - PAD: n=69 * - CAD: n=520 | * 45/24 (68yr) * 421/79 (81yr) |  | * 1. SF-36 * 2. GMS * 3. HADS | * - BMI * - Predicted exercise capacity * - Walking distance | * 12-wk CR | * Decrease of pre- to post-rehabilitation in depression symptoms in CAD but not PAD; decrease in both groups for anxiety |
| * Berton et al (2013) * Retro * PR | * n=102 * COPD * FFM * - Depleted: n=31 * -Nondepleted: n=31 | * 65/37 * 10/21 * 10/21 | * 12 wk | * SGRQ | * - 6MWD * - FFM * - FEV1 * - FVC | * PR | * FFM-depleted improved with HRQoL more than FFM-nondepleted |
| * Janssen et al (2013) * Pros * CR | * n=158 * CAD | * 127/31 (58yr) | * 12 wk | * 1. Brief Illness Perception Questionnaire * 2. MacNew |  | * 3-mo CR | * Illness perception increased significantly between the beginning of treatment (T0)and the end of treatment (T1); significant increase in QoL |
| * Gurgun et al (2013) * RCT * PR | * n=46 * COPD * - Standard PR: n=15 * - PR+nutritional support: n=15 * Control: n=15 | * 15/0 (66yr) * 13/2 (66yr) * 16/0 (67yr) | * 8 wk | 1. Medical Research Council (MRC) questionnaire   * 2. Borg scale * 3. SGRQ * 4. HADS | * - BMI * - 6MWD * - ISWT * - FFM | * Patients divided between usual care; standard PR; and PR with nutritional support | * No significant change between groups in SGRQ; with PRNS and PR there was a significant increase in BMI |
| * Sagar et al (2012) * Comp * CR | * Post-CABG * - CR: n=15 * - Home-based: n=15 | * (59yr) * (58yr) | * 4 wk | * 1. SF-36 | * - Heart rate * - 6MWD | * - CR * - Home-based CR | * Pre to postintervention there was a significant increase in exercise capacity; however, between groups there was no significant difference in SF-36 domain scores |
| * Yoshimi et al (2012) * Retro * PR | * n=37 * COPD | * (68yr) | * 6 wk; 31 | * 1. SGRQ | * - 6MWD * - PI max * - PE max * - Respiratory muscle strength * - Expiratory flow (EF) | * PR |  |
| * Dodd et al (2012) * Pros * PR | * n=118 * COPD | * 60/58 (73yr) | * 8 wk * T3: 6 mo | * 1. CAT * 2. CRQ-SR | * ISW | * PR testing new measure for the CAT | * Significant change in CAT at end of PR and CRQ-SR all domains; to T 3 there was less significant change in domains |
| * Shah et al (2012) * Pros * PR | * n=30 * Chronic respiratory disease | * 24/6 (56yr) | * 8 wk | * 1. CRQ | * 6MWD | * PR | * Significant change in 6MWD and QoL |
| * Ringbaek et al (2012) * Pros * PR | * n=90 * COPD | * 32/68 (69yr) | * 7 wk | * 1. CAT * 2. SGRQ * 3. CCQ | * - FEV1 * - BMI | * PR | * CAT and CCQ easier and quicker to administer |
| * Bratas et al (2012) * Pros * PR | * n=161 * COPD | * 79/82 (65yr) | * T2=4 wk; 136 * T3=6 mo; 111 | * 1. SGRQ * 2. HADS | * Spirometry tests | * PR | * T1 to T2: significant difference; T2 to T3: decrease in significance; T1 to T3: no significant change |
| * Puhan et al (2012) * RCT * PR | * n=36 * COPD * - Early PR: n=19 * - Late PR: n=17 | * 12/7 (67yr) * 9/8 (66yr) | * 12 wk * 15 * 13 | * 1. CRQ * 2. MRC * 3. Feeling Thermometer | * FEV 1 | * PR * Early PR group started at 2 wk from exacerbation; * late PR group started after 6 mo from exacerbation | * CRQ dyspnea * Early showed a significant change; late, showed no significant change; no difference in exacerbations |
| * van Gestel et al (2012) * RCT * PR | * n=40 * COPD * - Respiratory feedback training: n=20 * -Control: n=20 | * RBF: 9/11 (66yr) * Control: 8/12 (66yr) | * 4 wk; 40 | * 1. CRQ | * - HRV * - Spirometry * - Whole body plethysmography * - Diffusion capacity * - 6MWD | * PR with controlled breathing training | * Patients had difficulty with training so it was difficult to ascertain if intervention caused significant changes |
| * Mosayebi et al (2011) * Pros * CR | * n=89 * CABG * - CR: n=40 * - No CR: n=40 | * 25/15 (62yr) * 25/15 (64yr) | * 10 wk & 2 yr | * SF-36 | * - Cardiac severity symptoms * - NYHA questionnaire | * CR | * No significant difference in NHYA class between groups in general health, physical function and mental health pre- to post- testing |
| * Beauchamp et al (2010) * Prospective * PR | * n=38 * - COPD * - All in PR | * 17/12 (69yr) | * 6 wk; 29 | * CRQ | * - 6MWD * - ABC scale * - TUG * - Berg Balance Scale | * PR with balance exercises to prevent falls | * There was a significant increase in 6MWD but no significant difference in balance tests |
| * Yohannes et al (2010) * Pros * CR | * n=189 * Post-MI | * 76/113 (61yr) | * 6 wk; 147 * 12 mo; 105 | * 1. HADS * 2. MacNew | * Total daily energy expenditure | * CR 2 times/wk for 6 wk | * The dropouts in this study were mainly young females |
| * Beckie et al (2010) * RCT * CR | * n=252 * - Tailored CR (n=141) * - Traditional CR (n=111) | * Women only (63yr) * Women only (64yr) | * 13 wk; 236 (137/99) * 37 wk; 225 (133/92) | * 1. MDT questionnaire, 2. SASS | * - BP * - BMI * - Body fat composition * - Lipid profiles * - Serum glucose * - Bruce protocol for exercise tolerance * - Urine continence * - Exercise attendance | * A tailored CR program that included motivational interviewing guided by the transtheoretical model of behavioral change | * A tailored CR intervention designed for women improved global QoL |
| * Izawa et al (2010) * Pros * CR | * n=442 * - Middle-aged CR group: n=242 * - Older aged CR group; n=200 | * 203/39 (55yr) * 164/36 (71yr) | * 3 mo | * 1. SEPA * 2. SF-36 | * - BMI - Peak ; index of exercise capacity * - Handgrip strength * - Knee extension muscle strength * - Assessment of left ventricular ejection fraction by echocardiography | * A customized exercise-based supervised phase 2 CR outpatient program. | * There was a greater improvement from an exercise-based, supervised recovery-phase 2 CR outpatient program in middle-aged vs older patients |
| * Fast et al (2009) * Pros * CR | * 42 pairs of patients * and spouses | * 30/12 (63yr) * 30/12 (63) | * 6 wk * No dropouts | * SF-36 |  | * Phase 2 CR program | * Improvement of patient QoL was mirrored by spouse viewpoint of patient QoL |
| * Jones et al (2009) * Retro * PR | * n=480 * PR patients with PTSD: n=100 | * 65/35 (68yr) | * 7-9 wk; 70 | * 1. CRQ, * 2. SF-12 * 3. HADS * 4. PDS * 5. IES-R | * Smoking status | * PR | * Post-traumatic stress disorder was present in 8% of COPD patients referred for PR |
| McGrady et al (2009)  Pros   * CR | * CR patients: n=380 | * 241/139 (61yr) | * 12 wk; 190 | * 1. Beck * 2. SF-36 | * - Height * - Weight * - BMI * - Abdominal girth * - Serum lipid profile * - Dietary habits via the Diet Habit Survey * - 12MWT | * CR | * Assessment of psychological distress early in CR showed that dropouts had higher depression and anxiety scores and lower QoL |
| * aMcKee et al (2009) * Pros * CR | * n=329 * CR patients | * NR | * 6 wk; 187 | * SF-36 |  |  |  |
| * aRiaz et al (2009) * Pros * CR | * n=60 * PR patients | * NR | * 4 wk; 49 | * SF-36 |  |  |  |
| * Bailey et al (2008) * Retro * PR | * n=166 * PR patients | * 63/76 (68yr) | * 8 wk; 139 | * 1. SF-36 * 2. UCSD-SOB | * - 6MWT * - BMI * - FVC * - FEV1 | * PR: 28 sessions over 8 wk | * PR has a positive impact on 6MWT distance and perceived QoL in individuals with COPD; however, 6MWT results and perceived QoL had no relationship |
| * Jeger et al (2008) * Pros * CR | * n=99 * PR patients with PAD | * 87/12 (66yr) | * 3-18 mo | * PLC | * - Reason for CR * - Cardiovascular risk factors * - Medications * - Left ventricular ejection fraction * - Symptom-limited cycle exercise test | * Outpatient CR | * Patients with PAD undergoing CR have a similar benefit; however, they have higher dropout rates |
| * aMaes et al (2008) * Pro * CR | * n=6749 * CR patients | * 5079/1670 | * T2; 1654 | * MacNew |  |  |  |
| * Maltais et al (2008) * RCT * PR | * n=252 * - PR patients (n=126) * - Home-based PR (n=126) | * 72/54(66yr) * 68/58(66yr) | * 3 mo; * 114/119 * 1 yr; * 109/107 | * 1. CRQ * 2. SGRQ | * - Pulmonary function test * - Exercise testing * - Weekly for the 8-wk exercise program and monthly diary cards for the remainder of the study | * Standard care: outpatient hospital-based program; * self-monitored, home-based rehabilitation. | * Home rehabilitation is a useful, equivalent alternative to outpatient rehabilitation in patients with COPD |
| * Benzer et al (2007) * Comp * CR | * CR exercise-based inpatients: n=62 * Exercise-based CR outpatient: n= 87 * Usual care-CR n=67 | * 53/9 (59yr) * 76/11 (50yr) * 41/26 (61yr) | * 1 mo & 3 mo | * 1. MacNew * 2. HADS | * Routine clinical data | * Exercise-based CR | * After 1 mo, significant improvements were achieved in patients attending inpatient as well as outpatient exercise-based CR when compared to no exercise-based CR |
| * Gunstad et al (2007) * Retro * CR | * CR patients; n=388 | * 272/116 (67yr) | * 12 wk | * SF-36 | * Functional work capacity | * Phase 2 CR | * CR participants meeting criteria for class II/III obesity (BMI >35 kg/m2) exhibit lower functional exercise capacity at both baseline and completion of CR |
| * Haugen et al (2007) * Comp * PR | * -Warm climate * - Cold climate; * n=104 (65/39) | * Warm: 37/23 (61y) * Cold: 24/12 (59yr) | * 4 wk; 60/36 | * 1. SGRQ * 2. HADS | * - 6MWT * - Pulmonary function tests * - Data on exacerbations, hospitalizations and physician visits | * PR in Spain-warm climate; PR in Norway-cold climate | * No significant long-term differences for improvement in QoL was demonstrated after PR for COPD in a subtropical vs a temperate climate |
| * Hevey et al (2007) * Comp * CR | * - CR+CBT; n=185 * - CR only; n=131 | * 143/42 (62yr) * 104/27 (62yr) |  | * 1. HADS * 2. HCS * 2. QLI * 3. CV-III | * Duke Activity Status Index | * Multidisciplinary CR | * Changes in QoL were significantly related to the initial levels of distress found in cardiac patients regardless of CR attendance. |
| * Lotshaw et al (2007) * Retro * PR | * - Water-based PR patients; n=20 * - Land-based PR patients; n=20 | * 8/12 (65yr) * 9/11 (71yr) |  | * SF-36 | * - 6MWT * - 6 repetition maximum strength test | * Multifaceted PR with a water-based exercise program; multifaceted PR program with a land-based exercise program | * Both groups improved in all outcome measurements and there was no difference found in the improvements between the land-based or water-based groups |
| * Mandel et al (2007) * RCT * CR | * - CR alone; n=33 * - CR+music therapy; n=35 | * 17/16 (64yr) * 17/18 (65yr) | * 1 mo; 18/31 * 4 mo; 6/26 * 10 mo; 5/26 | * 1. STAI-T * 2. CES-D * 3. BSI * 4. SF-36 | * - Pre-exercise blood pressure * - Comorbid medical conditions * - Medication usage * - Exercise capacity * - Weight * - Diet * - Smoking behavior | * CR | * Findings suggested that some health-related outcomes may be affected positively by participation in music therapy in addition to CR. |
| * Mildestvedt et al (2007) * Pros * CR | * Patients; n=217 | * 176/41 (54.9yr) | * 6 mo; 181 * 24 mo; 177 | * 1. Treatment Self-Regulation Questionnaire * 2. ADI * 3. GE * 4. Physical activity measure | * - Household income * - Smoking status * - Disease severity | * 4-wk CR program | * Autonomous self-regulation was lowest amongst smokers and female participants; participants with high scores of emotional distress predicted lower motivation with all measures; there was no association between socioeconomic status and ability to make lifestyle changes |
| * Paz-Diaz et al (2007) * Pros * PR | * n=24 * - Control, n=14 * - PR, n=10 | * Control: 12/2 (62yr) * PR: 6/4 (67yr) | * 2 mo * No loss to followup | * 1. Beck * 2. STAI * 3. MRC * 4. SGRQ | * Pulmonary function testing | * Exercise PR | * In patients with severe COPD, PR induced important changes in depression and anxiety independent of changes in dyspnea and QoL |
| * aPuhan et al (2007) * Retro * PR | * PR patients; n=281 | * 104/73 (69yr) | * 12 wk; 177 (86/91) | * 1. CRQ-IA, * 2. CRQ-SA, * 3. SGRQ * 4. SF-36 * 5. FT * 6. SG * 7. Health Utilities Index |  | * PR | * Disease-specific measures such as the CRQ and SGRQ regarding dyspnea are more responsive than the generic HRQoL tools |
| * Sanderson et al (2007) * Retro * CR | * CR patients; n=616 | * 437/179 (62yr) | * 3-4 mo | * SF-36 | * - Risk factors such as diabetes, hypertension and dyslipidemia * -Smoking * - Obesity based on BMI * - Physical activity pattern | * CR | * The degree of improvement from CR was less for black vs white patients |
| * Vizza et al (2007) * Pros * CR | * CR patients; n=214 | * 88/88 | * 12 wk (T1); 176 * 1 yr (T2) | * 1. CES-D, * 2. PSS * 3. Cook-Medley Hostility scale * 4. MCS - SF-36 | * - Blood samples were taken after overnight fast: * ⦁ HDL cholesterol * ⦁ Total cholesterol * ⦁ Triglycerides * - BMI * - General endurance | * The Ornish Program for Reversing Heart Disease | * A comprehensive lifestyle intervention can reduce multiple psychometric risk factors and produced clinically relevant improvement in measures of depression, stress and mental health |
| * Yohannes et al (2007) * Pros * CR | * CR patients with a diagnosis of myocardial infarction; n=189 | * 129/60 (61.4yr) | * 6 wk; 42 | * 1. QoL after Myocardial Infarction Questionnaire * 2. IPQ * 3. HADS |  | * CR with 12 exercise sessions and 6 interactive lectures from experts in the field. | * Female patients are more likely to dropout of CR than men |
| * Aldana et al (2006) * Comp * CR | * - Ornish program; 28 * - CR patients; n=28 * - Usual care; n=28 | * 24/4 (56.65yr) * 20/8 (59.99yr) * 25/3 (58.75yr) | * 3/6 mo; 25/19 | * 1. SF-36 * 2. CES-D * 3. STAI | * Cook-Medley Hostility Scale | * Control group included standard care which included usually scheduled outpatient visits; CR patients engaged in supervised classes 2 times/wk for 1 hr; Ornish Program included 3 stages with intensive lifestyle changes. | * Ornish program participants demonstrated significant improvements in all outcome measures |
| * Alexander et al (2006) * Retro * CR | * CR patients; n=153 | * 114/39 (69yr) | * 3 mo; 152 * 1 yr; 94 | * SF-36 |  | * CR program which consisted of monitored aerobic exercise and resistance training. | * Significant improvements in QoL short-term and long-term regardless of patient adherence rates |
| * Aude et al (2006) * Retro * CR | * Rural CR patients; n=121 | * 83/38 (65yr) | * Post-CR | * SF-36 |  | * CR in a rural setting | * Participation in rural CR programs may improve patient perceptions of QoL and health |
| * aBelza et al (2005) * Pros * PR | * Male PR patients; n=58 | * 58 (66yr) | * 8 wk; 58 | * 1. SOLDQ * 2. SF-36 * 3. PFSDQ * 4. MAF |  |  |  |
| * Chan et al (2005)45 * Pros * CR | * CR patients; n=182 | * 100/45 (62.72yr) | * 6 mo; 145 | * SF-36 |  | * 7-wk phase 2 CR program; 2 hr/wk with an exercise and an education component. | * Improvement in perceived QoL was evident over 6-mo |
| * aLeal et al (2005) * Pros * CR | * CR patients * n=150 | * 127/23 (59yr) | * 2 mo; 48 | * 1. MacNew * 2. HADS * 3. SF-36 |  |  |  |
| * aPuhan et al (2005) * Pros * PR | * Pre- and post-PR; * n=84 | * 43/38 (67yr) | * 12 wk; 81 | * 1. Feeling Thermometer * 2. Standard Gamble |  |  |  |
| * Ries et al (2005) * Pros * PR | * Patients with * severe emphysema; * n=1218 | * 746/472 (67.1yr) | * 6-10 wk; 1218 | * 1. SGRQ * 2. SF-36 * 3. UCSD-SOB * 4. QWB | * - 6MWT * - Borg scale for exercise * - Pulmonary function tests * - Oxygen flow | * National Emphysema Treatment Trial; PR | * The NETT experience demonstrated the effectiveness of PR in patients with severe emphysema |
| * Verrill et al (2005) * Pros * PR | * PR patients; n=590 | * 281/309 (66.7yr) | * 8-12 wk; 429 * 24 wk; 78 | * 1. SOBQ * 2. QLI-VIII * 3. SF-36 | * - 6MWT | * North Carolina PR program | * Physical performance, as measured by the 6MWT, continued to improve up to 24 wk of PR participation; QoL and the perception of dyspnea improved after 12 wk of PR with improvements maintained up to 24 wk of PR participation |
| * Aoun et al (2004) * Pros * CR | * Heartsmart patients; n=203 | * 44/56 (61yr) | * 3 mo; 98 * 6 mo; 63 | * UBQ-H | * - Smoking status * - BP, cholesterol, dietary intentions * - Medication regime * - Self efficacy of patients to exercise * - Active Australian Physical Activity survey | * Heart Smart program which consisted of a 7 wk bi-weekly physical activity session and education program | * HeartSmart participants demonstrated significant improvements in QoL, compliance with medication, dietary behaviour, weight-loss and physical activity |
| * California PR Collaborative Group (2004) * Pros * PR | * PR patient; n=647 | * 273/374 (68yr) | * 6-8 wk; 521 * 3,6 mo; 415 | * 1. SF-36 * 2. SOBQ | * Healthcare utilization | * Regular PR | * PR was effective in improving symptoms, QoL and reducing the utilization of healthcare resources over 18 mo |
| * Focht et al (2004) * RCT * CR | * - Usual CR; n=74 * - CBT CR patients; n=73 | * 37/37 (64y) * 40/33 (64y) | * 3 mo; 63/64 * 12 mo; 55/60 | * SF-36 | * Attendance to structured exercise therapy session. | * A multi-component CR program based on social-cognitive theory and group dynamics for use in older adults. | * Improvement in QoL among older adults enrolled in CR differed as a function of treatment, gender and initial health status |
| * aHevey et al (2004) * Comp * CR | * CR participants/ * cardiac patients; * n=1485 (675/810) | * 308/103 (62.1y) * 285/90 (62.7y) | * 10 wk; 411/375 | * 1. HADS * 2. Health complaints scale * 3. QLI-CV III * 4. SSAI * 5. MacNew * 6. CDS * 7. GMS * 8. HPPQ * 9. SF-36 |  |  |  |
| * Izawa et al (2004) * Pros * CR | * Acute myocardial infarction patients; n=109 | * 89/20 (63.5yr) | * 1 mo; 109 * 6 mo; 90 | * SF-36 | * - Exercise capacity * - Handgrip strength * - Knee-extension muscular strength * - Clinical characteristics * - Evaluation of exercise maintenance * - Physiological outcomes | * CR plus exercise maintenance over 6-mo | * 82.6% of patients continued exercise for more than 6 mo after CR |
| * Sin et al (2004) * Retro * CR | * CR patients; n=206 | * 100/46 (60yr) | * 14 wk; 146 * 1 yr; 35 | * SF-36 | * Physical Activity Questionnaire | * CR which consisted of 8-14 wk of contact | * Some personal factors and health status are significant factors influencing the participant adherence to physical activity recommendations and QoL in CR |
| * aWilliams et al (2003) * Pros * PR | * - CRQ-SR patients; n=80 * - CRQ-IL+CRQ-SR patients; n=115 | * 59/21 (67.7yr) * 81/34 (66.2yr) | * 7 wk | * 1. CRQ-SR * 2. CRQ-IL |  |  |  |
| * Verrill et al (2003) * Pros * CR | * CR patients; n=630 | * 424/206 (61yr) |  | * 1. Ferrans and Powers QoL Inventory (QoLI) | * 6MWT | * Short-term outpatient CR | * CR improved 6MWT performance in patients aged 40 to 89 yr; no relationship was found between 6MWT and any domain of the QOLI. |
| * ade Torres et al (2002) * Pros * PR | * PR patients with COPD | * 18/19 (63yr); 37 | * 6-8 wk | * 1. SGRQ * 2. CRQ * 3. SF-36 * 4. MRC * 5. BDI/TDI * 6. VAS |  |  |  |
| * Glazer et al (2002) * Pros * CR | * CR patients with coronary heart disease | * 34/12 (58yr); 46 | * 12 wk | * 1. Life Orientation Test * 2. Beck Depression Inventory * 3. STAI * 4. Physical Symptom Incidence and * Distress Scale | * - BMI * - max * - Physical symptom reporting | * CR | * Depression appeared to have a significant influence on adherence and improvement among CR participants |
| * Goss et al (2002) * Pros * CR | * CR patients after bypass surgery | * 879/194 (64yr); 1073 | * 6 mo; 947 * 1 yr; 691 | * 1. SF-36 * 2. Seattle Angina Questionnaire | * - Comorbidity * - Smoking * - Cardiac health status | * Participants with >8 wk of CR; participants with <8 wk of CR; nonparticipants | * Participation in post-CABG CR, defined by patient self-report in a general practice environment, was not highly correlated with health-status improvement |
| * Jamieson et al (2002) * Pros * CR | * CR patients | * 217/84 (62yr); * 301 | * 3 mo | * SF-36 | * - Type of cardiac procedure * - Risk of subsequent cardiac event * - Number of comorbid factors | * Comprehensive outpatient phase 2 CR | * Older age, female gender, high risk stratification and multiple comorbidities were related to poorer CR outcomes across multiple dimensions of QoL |
| * Stulbarg et al (2002) * RCT * PR | * PR patients with COPD * 1. Training group received dyspnea self-management (DM) training+treadmill exercise for 8 wk; 24 30-min sessions, 3 times/wk * 2. Exposure group received DM+4 30-min treadmill exercise sessions 2 wk apart * 3. DM training only | * 22/12; (66.2yr) * 19/14 (67.2yr) * 16/20(65.7yr) * 113 (34/33/36) | * 8 wk-103 | * 1. BDI/TDI * 2. CRQ * 3. SF-36 | * - Spirometry * - Arterial blood gas analysis * - 6MWT | * Dyspnea self-management in PR | * Exercise training substantially improved the impact of a dyspnea self-management program with a home walking prescription. |
| * Turner et al (2002) * Pros * CR |  | * 1514/388 (59.9yr/62.7yr); * 1902 | * Completion; 1443 | * HADS | * predicted from the treadmill test | * Hospital-linked, community-based CR | * There is close interaction that exists among depression, failure to comply with lifestyle advice, defaulting from CR, and prognosis for cardiac patients |
| * White et al (2002) * RCT * PR | * - PR patients with severe COPD * - Patients with brief advice | * 36/18 (67yr) * 35/14 (67yr) * 103 (54/49) | * 12 wk; 84 | * 1. CRQ * 2. SF-36 * 3. HADS | * - Ventilatory function * - Shuttle walking distance | * PR | * In patients with severe COPD a short outpatient PR program of low intensity achieved small but significant improvement in shuttle walking distance compared with brief advice. |
| * Finnerty et al (2001) * RCT * PR | * - PR patients with COPD * - Control | * 25/11 (70.4yr) * 19/10 (68.4yr) * 73 (33/40) | * 6 wk; 65 (36/29) | * SGRQ | * - BMI * - Dietary habits | * 6-wk outpatient PR | * A 6-wk outpatient-based program significantly improved QoL in patients with moderate to severe COPD. |
| * aSingh et al (2001) Retro * PR | * PR patients with COPD | * 58/39 (67yr) * 97 | * 7 wk; 34 | * 1. GQoL * 2. CRQ * 3. SGRQ * 4. BPQ * 5. The Things People Do |  |  |  |
| * Verrill et al (2001) * Pros * CR | * CR patients | * 282/135 (48.4yr) * 420 | * 12 wk; 339 | * Ferrans and Powers QoL-Cardiac III |  | * Multidisciplinary North Carolina PR programs | * Patients who participated in Phase 2 multidisciplinary North Carolina CR programs and completed the protocol improved QoL parameters. |
| * Bowen et al (2000) * Retro * PR | * PR patients | * 45/104 (69yr) * 149 |  | * PFSS | * - BMI * - Medications * - Supplemental oxygen requirement | * Connecticut Pulmonary Rehabilitation Consortium program | * Indicators of functional status are strong predictors of survival in patients with advanced lung disease. |
| * Guell et al (2000) * RCT * PR | * PR patients with COPD | * 60 (65yr) * (30/30) | * 6 mo; 24/23 * 9 mo; 6/7 | * CRQ | * - Lung function testing * - 6MWT * - Progressive exercise test | * Outpatient PR program with COPD patients | * Outpatient rehabilitation programs can achieve worthwhile benefits that persist for a period of 2 yr. |
| * Morrin et al (2000) * Retro * CR | * CR patients | * 93/33 * 126 | * 12 wk * 6 mo | * SF-36 | * - Resting BP * - Plasma lipid values * - Physical activity measured as weekly energy expenditure * - BMI | * A multiphase, multidisciplinary CR program | * Coronary risk factors and QoL improved at variable rates in this CR program, with physical activity levels improving earlier in the program and mental health adjustment occurring later. |
| * O’Farrell et al (2000) * Retro * CR | * CR patients | * 317 (59yr)/70 (61yr) * 387 | * 12 wk | * SF-36 | * - Risk factor profile * - Aerobic capacity * - Activity values | * 3-mo multifactorial CR | * Although women enter CR programs in poorer cardiovascular health and with lower QoL scores than men, they benefit equally in terms of cardiovascular fitness, risk factor modification and QoL. |
| * Sledge et al (2000) * Retro-matched case * CR | - CR patients  - Usual care | * 44/1 * 42 | * 8 wk | * SF-36 |  | * CR using an interdisciplinary approach to rehabilitation. | * More intensive programming may be a useful component of cardiac treatment in improving short-term QoL. |
| * Troosters et al (2000) * RCT * PR | * - PR patients with COPD * - Control | * 31/29 (60yr) * 30/20 (60yr) * 100 * (50/50) | * 6 mo; 34/28 * 18 mo; 26/23 | * CRQ | * - Pulmonary function test * - Isometric quadriceps strength test * - Inspiratory and expiratory muscle strength * - 6MWT * - Maximal exercise capacity | * Outpatient PR program for 6 mo | * Outpatient training resulted in significant and clinically relevant changes in 6MWT, maximal exercise performance, peripheral and respiratory muscle strength and QoL. |
| * Ades et al (1999) * Pros * CR | * CR patients | * 227/76 (60.6yr) * 303 | * 12 wk; 218 | * 1. SF-36 * 2. Geriatric Depression Questionnaire | * - Symptom-limited treadmill exercise test * - Strength measured by determination of a single-repetition maximal lift * - A comorbidity score | * Exercise-based CR | * Self-reported physical function in coronary patients is related to age, sex, fitness and mood state |
| * Berkhuysen et al (1999) * RCT * CR | * - High frequency exercise * - Low frequency exercise | * 52/11 (52yr) * 62/5 (52.9yr) * 130 * (58/58) | * 6 wk; 116 | * 1. GHQ * 2. SF-36 |  | * 6-wk outpatient CR | * The frequency of aerobic exercise has a positive independent effect on psychological outcomes after CR |

* Abbreviations: ADI, Anxiety, Depression, Irritability scale; BDI/TDI, baseline and transition dyspnea indexes; BMI, body mass index; BP, blood pressure; BPQ, Breathing Problems Questionnaire; BSI, Brief Symptom Inventory; CABG, coronary artery bypass graft; CAD, coronary artery disease; CAT, COPD Assessment Test; CCQ, COPD Clinical Questionnaire; CDS, Cardiac Depression Scale; CES-D, Center for Epidemiological Study-Depression; Comp, nonrandomized comparison trial; COPD, chronic pulmonary disease; CR, cardiac rehabilitation; CRQ-IA, Chronic Respiratory Disease Questionnaire-interviewer administered; CRQ-IL, Chronic Respiratory Disease Questionnaire-interviewer led; CRQ-SA, Chronic Respiratory Disease Questionnaire-self- administered; CRQ-SR, Chronic Respiratory Disease Questionnaire-self-reported; CV-III, Cardiac Version III; EF, ejection fraction; FEV1, forced expiratory volume in 1 sec; FFM, fat-free mass; FT, Feeling Thermometer; FVC, forced vital capacity; GE, General Expectancy; HADS, Hospital Anxiety and Depression Index; GHQ, General Health Questionnaire; GMS, Global Mood Scale; GQoL, Generic Quality of Life; HCS, Health Complaints Scale; HDL, high-density lipoprotein; HPPQ, Heart Patient Psychological Questionnaire; HRQoL, health-related quality of life; HRV, heart rate variability; IES-R, Impact of Events Scale-Revised; ISWT, Intermittent Shuttle Walk Test; MacNew, Quality of Life After Myocardial Infarction questionnaire; MAF, Multidimensional Assessment of Fatique; MRC, Medical Research Council; NR, not reported; NETT, National Emphysema Treatment Trial; NYHA, New York Heart Association; PDS, Post-traumatic stress Diagnostic Scale; PE, expiratory pressure; PI, inspiratory pressure; PAD, peripheral artery disease; PFDSQ, Pulmonary Functional Status Dyspnea Questionnaire; PFSS, Pulmonary Function Status Scale; Pros, prospective longitudinal non-randomized trial; PR, pulmonary rehabilitation; PTSD, post-traumatic stress disorder; QLI-Qol, Quality of Life Index; QLI-CVIII, Quality of Life Index-Cardiac version III; QLI-VIII, Ferrans and Powers Quality of Life Index-version III; QoL, quality of life; QoLI, Quality of Life Inventory; RCT, randomized controlled trial; Retro, retrospective non-randomized trial; SF-36, Short Form-36 health questionnaire; SG, Standard Gamble; SGRQ, St George’s Respiratory Questionnaire; SOBQ, Shortness of Breath Questionnaire; SOLD-Q, Seattle Obstructive Lung Disease Questionnaire; STAI, Spielberger State-Trait Anxiety Inventory; STAI-T, State-Trait Anxiety Inventory-Trait; TUG, Timed Up and Go test; UCSD-SOB, University of California San Diego Shortness of Breath questionnaire; UBQ-H, Utility-based Quality of Life-Heart QoL survey; VAS, Visual Analog Scale; , oxygen uptake; 6MWD, 6-min walk distance; 12MWT, 12-min walk test.

aThese studies specifically examined the use of QoL measures and their responsiveness to both CR and PR.

Note: Refer to the SDC Reference List for the full citations of these studies.