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

https://doi.org/10.1177/2047487317739978

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**Table 1. Potential explanatory variables explored in univariate meta-regression**

| Variable | Levels* |
|---|---|
| Targeting of psychological interventions | 'non-selected population (including not reported)', 'population with clinically established psychological disorder' |
| Mode of intervention delivery | 'individual (including not reported)', 'group or mix of individual & group' |
| Family involvement in intervention | 'no (including not reported)', 'yes' |
| Cardiac risk factor education included as part of the intervention | 'no (including not reported)', 'yes' |
| Behaviour change for cardiac risk factors included as part of the intervention | 'no (including not reported)', 'yes' |
| Psychological treatment targets | |
| Depression | 'no (including not reported)', 'yes' |
| Anxiety | 'no (including not reported)', 'yes' |
| Stress management | 'no (including not reported)', 'yes' |
| Type A behaviour | 'no (including not reported)', 'yes' |
| Psychological components | |
| Relaxation | 'no (including not reported)', 'yes' |
| Cognitive techniques | 'no (including not reported)', 'yes' |
| Emotional support and/or client-led discussion | 'no (including not reported)', 'yes' |
| Adjunct pharmacology | 'no (including not reported)', 'yes' |

* First level coded '0', second level coded '1' in regression models

**Table 2. Study, participant, and intervention characteristics**

| **Study characteristics (35 Studies)** | **n studies** |
|---|---|
| Study location | |
| Europe | 19 |
| North America | 12 |
| Australia | 4 |
| China | 1 |
| Median sample size (range) | 123 (42, 2481) |
| Duration of follow-up, months (range)* | 12 (6, 128) |
| Median duration of follow-up, months (range)* | 12 (6, 128) |
| Population characteristics | |
| Median of study mean ages, years (range) | 59.6 (53, 67) |
| Median proportion of males (range) | 77 (0, 100) |
| Cardiac indication on referral, % | |
| MI | 65.7 |
| Revascularisation procedure | 27.4 |
| Psychological disorder present at baseline | |
| All sample (inclusion criterion) | 12 |
| Mixed (observed, not required)‡ | 11 |
| None (exclusion criterion) | 3 |
| Not reported | 11 |
| Intervention characteristics | |
| Setting† | |

| | |
|---|---|
| Hospital | 9 |
| Clinic | 7 |
| Home-based | 4 |
| Mixed (inpatient, other support) | 2 |
| Not reported | 13 |
| Median treatment contact hours (range) | 12 (2, 96) |
| Mode of delivery | |
| Group | 20 |
| Individual (including not reported) | 10 |
| Mixed (group/individual) | 5 |
| Family involvement with treatment | |
| Yes | 11 |
| Not reported | 24 |
| Psychological treatment aims/components | |
| Multiple aims/components | 23 |
| Single aim/component | 12 |
| Treatment aims | |
| Stress | 22 |
| Depression | 17 |
| Anxiety | 16 |
| Type A behaviour (including anger/hostility) | 12 |
| Improving disease adjustment | 11 |
| Treatment components | |
| Relaxation techniques | 20 |

| | |
|---|---|
| Self-awareness and self-monitoring | 20 |
| Cognitive challenge or restructuring | 19 |
| Emotional support or client-led discussion | 15 |
| Treatment co-interventions | |
| Behavioral change for cardiac risk factors | 19 |
| Awareness of cardiac risk factors | 16 |
| Psycho-pharmacological prescribing | 3 |

* The length of follow-up of clinical events; psychological outcomes were often followed-up for shorter periods within the overall assessment schedule.

† Clinical settings can include cardiac rehabilitation units, hospital out-patient clinics or community centres.

‡ Includes 2 studies where the inclusion criterion was a confirmed psychopathology and/or another indicating condition.

**Table 3. Results from the pooled analysis of mortality and cardiovascular morbidity**

| Outcome (median follow-up) | Number of Participants (Studies) | Number of events | | RR (95% CI) | Statistical Heterogeneity $I^2$ (p-value) | GRADE Quality of Evidence |
|---|---|---|---|---|---|---|
| | | Intervention | Comparator | | | |
| Total mortality (13 months) | 7776 (23) | 319/3899 | 352/3877 | 0.90 (0.77, 1.05) | 2% (0.43) | Moderate* |
| Cardiovascular mortality (57 months) | 4792 (11) | 140/2561 | 161/2231 | 0.79 (0.63, 0.98) | 0% (0.76) | Low*† |
| Revascularisation (CABG/PCI) (12 months) | 6822 (13) | 395/3429 | 412/3393 | 0.94 (0.81, 1.11) | 8% (0.36) | Moderate* |
| Non-fatal MI (30 months) | 7845 (13) | 340/4114 | 355/3731 | 0.82 (0.64, 1.05) | 41% (0.07) | Low*‡ |

*Random sequence generation, allocation concealment or blinding of outcome assessors poorly described in ≥50% of included studies.

†Egger tests suggests evidence of asymmetry. ‡ 95% confidence intervals includes both no effect and appreciable benefit or harm (i.e. 95% confidence interval <0.75 or >1.25).

GRADE: moderate = further research is very likely to have an important effect in confidence of the estimated effect, and may change the estimate; low = further research is very likely to have an important effect in confidence in the estimated effect and is likely to change the estimate.

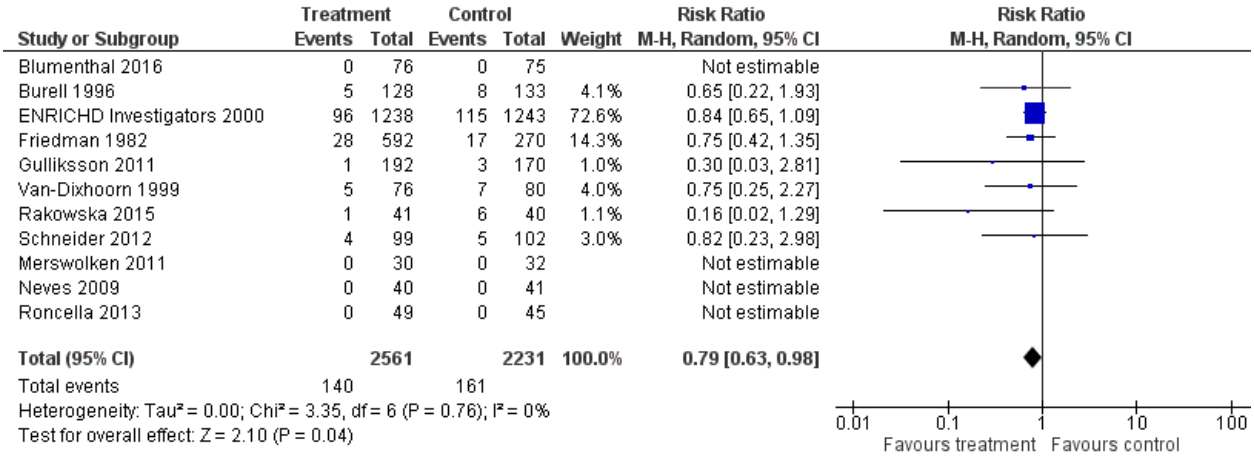
**Table 4. Results from the pooled analysis psychological outcomes**

| Outcome (median follow-up) | Number of Participants (Studies) | SMD (95% CI) (Intervention – Comparator) | Statistical Heterogeneity $I^2$ (p-value) | GRADE Quality of Evidence |
|---|---|---|---|---|
| Depression (12 months) | 5829 (19) | -0.27 (-0.39, -0.15) | 69% (<0.001) | ++-- Low*‡ |
| Anxiety (12 months) | 3165 (12) | -0.24 (-0.38, -0.09) | 47% (0.03) | ++-- Low*† |
| Stress (12 months) | 1255 (8) | -0.56 (-0.88, -0.24) | 86% (0.<0.001) | +--- Very low*‡§ |

* Random sequence generation, allocation concealment or blinding of outcome assessors were poorly described in ≥50% of included studies. † Egger tests suggests evidence of asymmetry. ‡ Moderate heterogeneity ($I^2$ >50%). § 95% CIs around the SMD did not include the value of a +5 at either lower or upper limits (indicative of clinical significance).

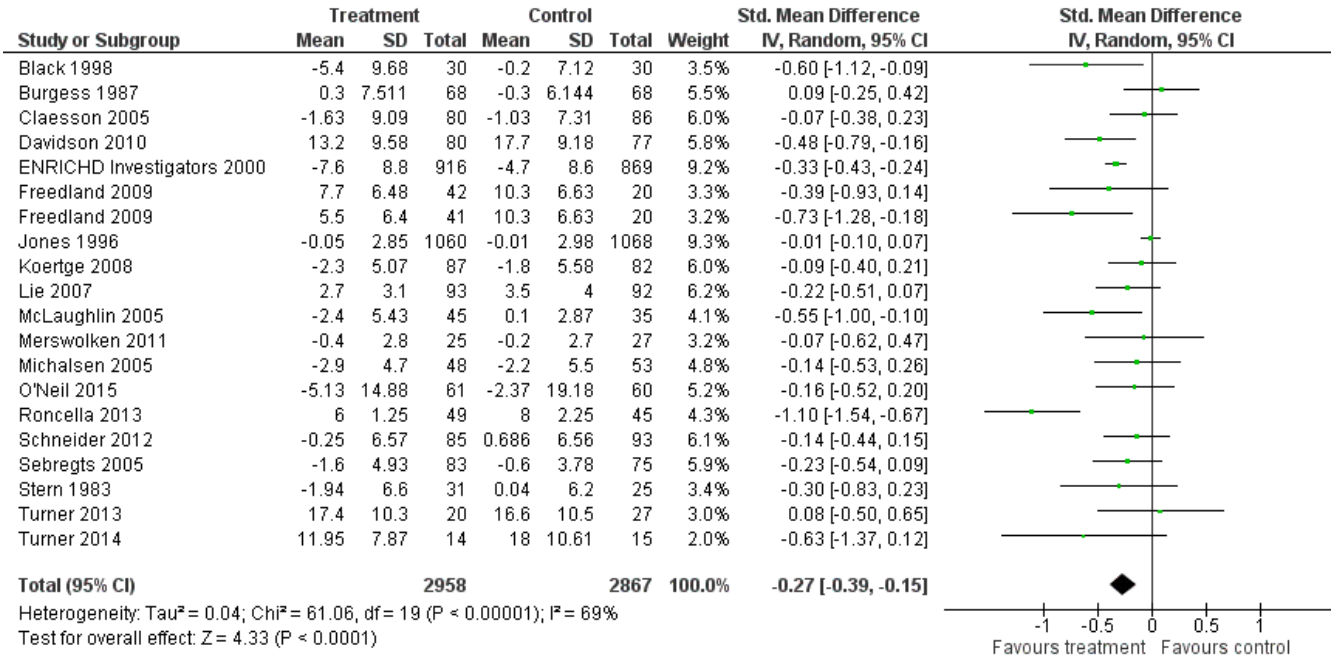
GRADE: moderate = further research is very likely to have an important effect in confidence of the estimated effect, and may change the estimate; low = further research is very likely to have an important effect in confidence in the estimated effect and is likely to change the estimate; very low quality= the estimate is very uncertain.

**Figure 1. Forest plot of psychological intervention versus usual care: cardiovascular mortality**



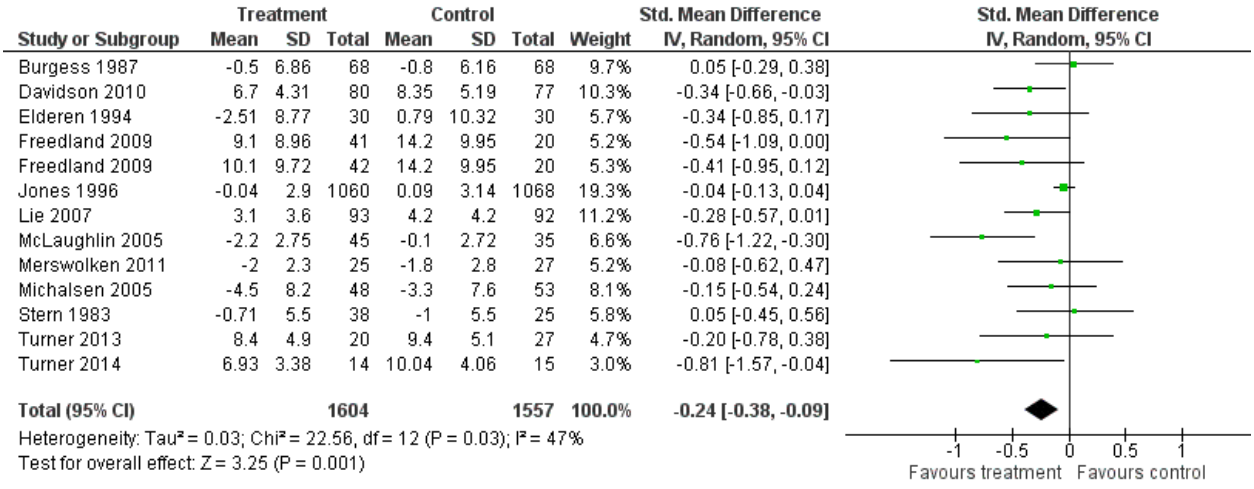

**Legend:** Reproduced from Richards et al (2017)[8]

**Figure 2. Forest plot of psychological intervention versus usual care: depression**



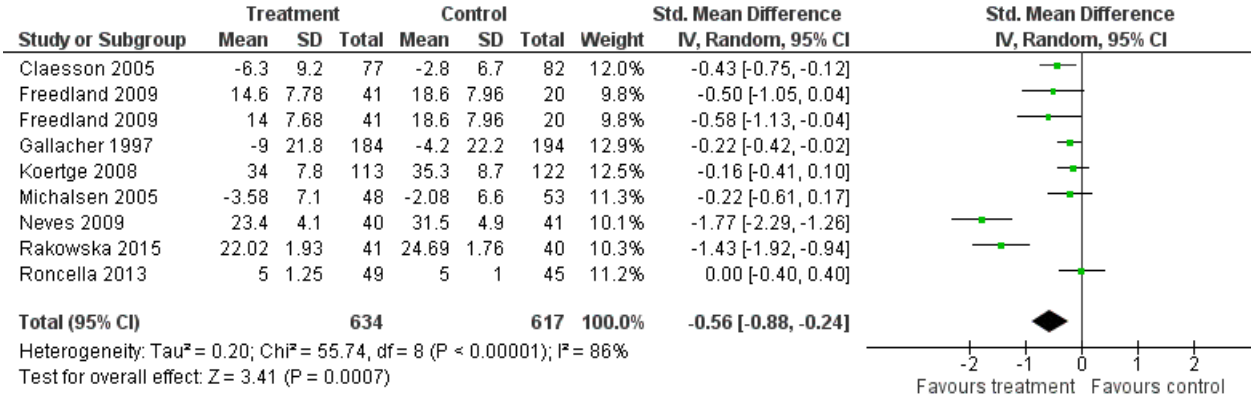

**Legend:** Reproduced from Richards et al (2017)[8]

**Figure 3. Forest plot of psychological intervention versus usual care: anxiety**




**Legend:** Reproduced from Richards et al (2017)[8]

**Figure 4. Forest plot of psychological intervention versus usual care: stress**




**Legend:** Reproduced from Richards et al (2017)[8]