

Psychological interventions for diabetes-related distress in adults with type 2 diabetes mellitus

ABSTRACT

Background: Many adults with type 2 diabetes mellitus (T2DM) experience a psychosocial burden and mental health problems associated with the disease. Diabetes-related distress (DRD) has distinct effects on self-care behaviours and disease control. Improving DRD in adults with T2DM could enhance psychological well-being, health-related quality of life, self-care abilities and disease control, also reducing depressive symptoms.

Objectives: To assess the effects of psychological interventions for diabetes-related distress in adults with T2DM.

Search methods: We searched the Cochrane Library, MEDLINE, Embase, PsycINFO, CINAHL, BASE, WHO ICTRP Search Portal and ClinicalTrials.gov. The date of the last search was December 2014 for BASE and 21 September 2016 for all other databases.

Selection criteria: We included randomised controlled trials (RCTs) on the effects of psychological interventions for DRD in adults (18 years and older) with T2DM. We included trials if they compared different psychological interventions or compared a psychological intervention with usual care. Primary outcomes were DRD, health-related quality of life (HRQoL) and adverse events. Secondary outcomes were self-efficacy, glycosylated haemoglobin A1c (HbA1c), blood pressure, diabetes-related complications, all-cause mortality and socioeconomic effects.

Data collection and analysis: Two review authors independently identified publications for inclusion and extracted data. We classified interventions according to their focus on emotion, cognition or emotion-cognition. We performed random-effects meta-analyses to compute overall estimates.

Main results: We identified 30 RCTs with 9177 participants. Sixteen trials were parallel two-arm RCTs, and seven were three-arm parallel trials. There were also seven cluster-randomised trials: two had four arms, and the remaining five had two arms. The median duration of the intervention was six months (range 1 week to 24 months), and the median follow-up period was 12 months (range 0 to 12 months). The trials included a wide spectrum of interventions and were both individual- and group-based. A meta-analysis of all psychological interventions combined versus usual care showed no firm effect on DRD (standardised mean difference (SMD) -0.07; 95% CI -0.16 to 0.03; $P = 0.17$; 3315 participants; 12 trials; low-quality evidence), HRQoL (SMD 0.01; 95% CI -0.09 to 0.11; $P = 0.87$; 1932 participants; 5 trials; low-quality evidence), all-cause mortality (11 per 1000 versus 11 per 1000; risk ratio (RR) 1.01; 95% CI 0.17 to 6.03; $P = 0.99$; 1376 participants; 3

trials; low-quality evidence) or adverse events (17 per 1000 versus 41 per 1000; RR 2.40; 95% CI 0.78 to 7.39; P = 0.13; 438 participants; 3 trials; low-quality evidence). We saw small beneficial effects on self-efficacy and HbA1c at medium-term follow-up (6 to 12 months): on self-efficacy the SMD was 0.15 (95% CI 0.00 to 0.30; P = 0.05; 2675 participants; 6 trials; low-quality evidence) in favour of psychological interventions; on HbA1c there was a mean difference (MD) of -0.14% (95% CI -0.27 to 0.00; P = 0.05; 3165 participants; 11 trials; low-quality evidence) in favour of psychological interventions. Our included trials did not report diabetes-related complications or socioeconomic effects. Many trials were small and were at high risk of bias for incomplete outcome data as well as possible performance and detection biases in the subjective questionnaire-based outcomes assessment, and some appeared to be at risk of selective reporting. There are four trials awaiting further classification. These are parallel RCTs with cognition-focused and emotion-cognition focused interventions. There are another 18 ongoing trials, likely focusing on emotion-cognition or cognition, assessing interventions such as diabetes self-management support, telephone-based cognitive behavioural therapy, stress management and a web application for problem solving in diabetes management. Most of these trials have a community setting and are based in the USA.

Authors' conclusions: Low-quality evidence showed that none of the psychological interventions would improve DRD more than usual care. Low-quality evidence is available for improved self-efficacy and HbA1c after psychological interventions. This means that we are uncertain about the effects of psychological interventions on these outcomes. However, psychological interventions probably have no substantial adverse events compared to usual care. More high-quality research with emotion-focused programmes, in non-US and non-European settings and in low- and middle-income countries, is needed.

Keyword: Psychological; Interventions; Diabetes-related distress; Adults; Type 2 diabetes mellitus