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[Intervention Review]

Psychological therapies for the management of chronic pain (excluding headache) in adults

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ABSTRACT

Background

Chronic non-cancer pain, a disabling and distressing condition, is common in adults. It is a global public health problem and economic burden on health and social care systems and on people with chronic pain. Psychological treatments aim to reduce pain, disability and distress. This review updates and extends its previous version, published in 2012.

Objectives

To determine the clinical efficacy and safety of psychological interventions for chronic pain in adults (age ≥ 18 years) compared with active controls, or waiting list/treatment as usual (TAU).

Search methods

We identified randomised controlled trials (RCTs) of psychological therapies by searching CENTRAL, MEDLINE, Embase and PsycINFO to 16 April 2020. We also examined reference lists and trial registries, and searched for studies citing retrieved trials.

Selection criteria

RCTs of psychological treatments compared with active control or TAU of face-to-face therapies for adults with chronic pain. We excluded studies of headache or malignant disease, and those with fewer than 20 participants in any arm at treatment end.

Data collection and analysis

Two or more authors rated risk of bias, extracted data, and judged quality of evidence (GRADE). We compared cognitive behavioural therapy (CBT), behavioural therapy (BT), and acceptance and commitment therapy (ACT) with active control or TAU at treatment end, and at six month to 12 month follow-up. We did not analyse the few trials of other psychological treatments. We assessed treatment effectiveness for pain intensity, disability, and distress. We extracted data on adverse events (AEs) associated with treatment.

Main results

We added 41 studies (6255 participants) to 34 of the previous review's 42 studies, and now have 75 studies in total (9401 participants at treatment end). Most participants had fibromyalgia, chronic low back pain, rheumatoid arthritis, or mixed chronic pain. Most risk of bias domains were at high or unclear risk of bias, with selective reporting and treatment expectations mostly at unclear risk of bias. AEs were inadequately recorded and/or reported across studies.

CBT

The largest evidence base was for CBT (59 studies). CBT versus active control showed very small benefit at treatment end for pain (standardised mean difference (SMD) -0.09, 95% confidence interval (CI) -0.17 to -0.01; 3235 participants; 23 studies; moderate-quality evidence), disability (SMD -0.12, 95% CI -0.20 to -0.04; 2543 participants; 19 studies; moderate-quality evidence), and distress (SMD -0.09, 95% CI -0.18 to -0.00; 3297 participants; 24 studies; moderate-quality evidence). We found small benefits for CBT over TAU at treatment end for pain (SMD -0.22, 95% CI -0.33 to -0.10; 2572 participants; 29 studies; moderate-quality evidence), disability (SMD -0.32, 95% CI -0.45 to -0.19; 2524 participants; 28 studies; low-quality evidence), and distress (SMD -0.34, 95% CI -0.44 to -0.24; 2559 participants; 27 studies; moderate-quality evidence). Effects were largely maintained at follow-up for CBT versus TAU, but not for CBT versus active control.

Evidence quality for CBT outcomes ranged from moderate to low. We rated evidence for AEs as very low quality for both comparisons.

BT

We analysed eight studies (647 participants). We found no evidence of difference between BT and active control at treatment end (pain SMD -0.67, 95% CI -2.54 to 1.20, very low-quality evidence; disability SMD -0.65, 95% CI -1.85 to 0.54, very low-quality evidence; or distress SMD -0.73, 95% CI -1.47 to 0.01, very low-quality evidence). At follow-up, effects were similar. We found no evidence of difference between BT and TAU (pain SMD -0.08, 95% CI -0.33 to 0.17, low-quality evidence; disability SMD -0.02, 95% CI -0.24 to 0.19, moderate-quality evidence; distress SMD 0.22, 95% CI -0.10 to 0.54, low-quality evidence) at treatment end. At follow-up, we found one to three studies with no evidence of difference between BT and TAU.

We rated evidence for all BT versus active control outcomes as very low quality; for BT versus TAU. Evidence quality ranged from moderate to very low. We rated evidence for AEs as very low quality for BT versus active control. No studies of BT versus TAU reported AEs.

ACT

We analysed five studies (443 participants). There was no evidence of difference between ACT and active control for pain (SMD -0.54, 95% CI -1.20 to 0.11, very low-quality evidence), disability (SMD -1.51, 95% CI -3.05 to 0.03, very low-quality evidence) or distress (SMD -0.61, 95% CI -1.30 to 0.07, very low-quality evidence) at treatment end. At follow-up, there was no evidence of effect for pain or distress (both very low-quality evidence), but two studies showed a large benefit for reducing disability (SMD -2.56, 95% CI -4.22 to -0.89, very low-quality evidence). Two studies compared ACT to TAU at treatment end. Results should be interpreted with caution. We found large benefits of ACT for pain (SMD -0.83, 95% CI -1.57 to -0.09, very low-quality evidence), but none for disability (SMD -1.39, 95% CI -3.20 to 0.41, very low-quality evidence), or distress (SMD -1.16, 95% CI -2.51 to 0.20, very low-quality evidence). Lack of data precluded analysis at follow-up.

We rated evidence quality for AEs to be very low. We encourage caution when interpreting very low-quality evidence because the estimates are uncertain and could be easily overturned.

Authors' conclusions

We found sufficient evidence across a large evidence base (59 studies, over 5000 participants) that CBT has small or very small beneficial effects for reducing pain, disability, and distress in chronic pain, but we found insufficient evidence to assess AEs. Quality of evidence for CBT was mostly moderate, except for disability, which we rated as low quality. Further trials may provide more precise estimates of treatment effects, but to inform improvements, research should explore sources of variation in treatment effects. Evidence from trials of BT and ACT was of moderate to very low quality, so we are very uncertain about benefits or lack of benefits of these treatments for adults with chronic pain; other treatments were not analysed. These conclusions are similar to our 2012 review, apart from the separate analysis of ACT.

PLAIN LANGUAGE SUMMARY

What are the benefits and risks of psychological therapies for adults with persistent and distressing pain that is neither cancer-related nor a headache?

Why this question is important

Many people experience pain that lasts more than three months that is neither cancer-related nor a headache. The search for a diagnosis and pain relief is often long and can be discouraging. For some, persistent pain leads to disability, depression, anxiety and social isolation.

Psychological treatments (talking and behaviour therapies) aim to help people change the way they manage pain, to minimise disability and distress. To find out how effective these treatments are when delivered by a trained psychologist, and whether they cause any unwanted (adverse) effects, we reviewed the research evidence.

How we identified and assessed the evidence

First, we searched for all relevant studies in the medical literature. We then compared the results, and summarised the evidence from all the studies. Finally, we assessed the quality of the evidence. We considered factors such as the way studies were conducted, study sizes, and consistency of findings across studies. Based on our assessments, we rated the evidence as being of very low, low, moderate or high certain quality.

What we found

We found 75 studies that included 9401 people with a range of chronic pain conditions, including fibromyalgia, chronic low back pain, rheumatoid arthritis, and a mixture of persistent pain conditions. The average age of participants was 50, and the average duration of their pain was nine years. In the studies, people were followed for up to three years after the end of their treatment.

Studies evaluated the following psychological treatments: cognitive behavioural therapy (CBT, 59 studies), behavioural therapy (BT, eight studies), acceptance and commitment therapy (ACT, five studies) or another psychological therapy (six studies). We report the findings for the main treatment that was evaluated, CBT. CBT focuses on changing the way someone thinks and behaves, to help them manage their symptoms better. Results are averages for the whole population studied: individuals within the population may change more or less than the average.

The evidence suggests that:

- On average, compared to people who receive no treatment for their pain, people treated with CBT probably experience slightly less pain and distress by the end of the treatment and six to 12 months later (moderate-quality evidence). They may also experience slightly less disability on average (low-quality evidence).

- On average, compared to people who receive a non-psychological treatment for their pain (such as an exercise programme, or education about managing pain), people treated with CBT probably experience very slightly less pain, disability and distress by the end of the treatment (moderate-quality evidence). On average, six to 12 months later, they probably experience very slightly less pain and distress (moderate-quality evidence), but levels of disability may be similar to those of people who received a non-psychological treatment (low-quality evidence).

We do not know if CBT causes more, fewer or similar numbers of adverse effects than no treatment or another treatment, because the evidence is of very low quality.

What this means

CBT has the largest evidence base of all the psychological therapies for persistent pain that we reviewed. The evidence indicates that :

- On average, when compared to no treatment or a non-psychological treatment, CBT probably reduces pain and distress by small or very small amounts;

- On average, compared to no treatment, CBT may reduce levels of disability at the end of the treatment by a small amount. Compared to a non-psychological treatment, CBT probably reduces disability at the end of the treatment by a very small amount on average.

- On average, compared to no treatment, CBT may make a small difference to disability six to 12 months after the treatment. Compared to a non-psychological treatment, however, it may make little to no difference on average.

There is insufficient evidence to draw conclusions about the risks of CBT, and psychological therapies in general, for treating persistent pain.

How-up-to date is this review?

The evidence in this Cochrane Review is current to April 2020.