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Non-steroidal anti-inflammatory drugs for chronic low back pain.

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Abstract

BACKGROUND: Chronic back pain is an important health problem. Non-steroidal anti-inflammatory drugs (NSAIDs) are widely used to treat people with low back pain, especially people with acute back pain. Short term NSAID use is also recommended for pain relief in people with chronic back pain. Two types of NSAIDs are available and used to treat back pain: non-selective NSAIDs and selective COX-2 NSAIDs. In 2008, a Cochrane review identified a small but significant effect from NSAIDs compared to placebo in people with chronic back pain. This is an update of the Cochrane review published in 2008 and focuses on people with chronic low back pain.

OBJECTIVES: To determine if NSAIDs are more efficacious than various comparison treatments for non-specific chronic low back pain and if so, which type of NSAID is most efficacious.

SEARCH METHODS: We searched CENTRAL, MEDLINE, EMBASE, PubMed and two clinical trials registry databases up to 24 June 2015 for randomized controlled trials (RCTs) published in English, German or Dutch. We also screened references cited in relevant reviews.

SELECTION CRITERIA: We included RCTs (double-blind and single-blind) of NSAIDs used to treat people with chronic low back pain.

DATA COLLECTION AND ANALYSIS: Two review authors independently screened trials for inclusion in this Cochrane review according to the inclusion criteria. One review author extracted the data, and a second review author checked the data. Two review authors independently evaluated the risk of bias of all included trials. If data were clinically homogeneous, we performed a meta-analysis and assessed the quality of evidence using the GRADE approach.

MAIN RESULTS: We included 13 trials in this Cochrane review. Ten studies were at 'low' risk of bias. Six studies compared NSAIDs with placebo, and included 1354 participants in total. There is low quality evidence that NSAIDs are more effective than placebo, with a mean difference in pain intensity score from baseline of -3.30 (95% CI -5.33 to -1.27) on a 0 to 100 visual analogue scale (VAS) with a median follow-up of 56 days (interquartile range (IQR) 13 to 91 days). Four studies measured disability using the Roland Morris Disability Questionnaire. There is low quality evidence that NSAIDs are more effective than placebo on disability, with a mean difference from baseline of -0.85 (95% CI -1.30 to -0.40) on a scale from 0 to 24 with a median follow-up of 84 days (IQR 42 to 105 days). All six placebo controlled studies also reported adverse events, and suggested that adverse events are not statistically significant more frequent in participants using NSAIDs compared to placebo (RR 1.04, 95% CI 0.92 to 1.17). Due to the relatively small sample size and relatively short follow-up in most included trials, it is likely that the proportion of patients experiencing an adverse event is underestimated.Two studies compared different types of non-selective NSAIDs, namely ibuprofen versus diclofenac and piroxicam versus indomethacin. The trials did not find any differences between these NSAID types, but both trials had small sample sizes. One trial reported no differences in pain intensity between treatment groups that used selective or non-selective NSAIDs. One other trial compared diflunisal with paracetamol and showed no difference in improvement from baseline on pain intensity score. One trial showed a better global improvement in favour of celecoxib versus tramadol.One included trial compared NSAIDs with 'home-based exercise'. Disability improved more in participants who did exercises versus participants receiving NSAIDs, but pain scores were similar.

AUTHORS' CONCLUSIONS: Six of the 13 included RCTs showed that NSAIDs are more effective than placebo regarding pain intensity. NSAIDs are slightly more effective than placebo regarding disability. However, the magnitude of the effects is small, and the level of evidence was low. When we only included RCTs at low risk of bias, differences in effect between NSAIDs and

placebo were reduced. We identified no difference in efficacy between different NSAID types, including selective versus non-selective NSAIDs. Due to inclusion of RCTs only, the relatively small sample sizes and relatively short follow-up in most included trials, we cannot make firm statements about the occurrence of adverse events or whether NSAIDs are safe for long-term use.

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