Antidepressants for pain management in adults with chronic pain: a network meta-analysis

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Plain language summary

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What was the question?

Chronic pain is pain that lasts for more than 3 months. Over one-third of people across the world experience chronic pain. This often has a detrimental impact on people's mood, disability and well-being. Antidepressants are often prescribed to reduce pain, but we are not sure which antidepressants work best for different types of pain, or whether they are safe.

We wanted to find out whether antidepressants were effective and safe for management of chronic pain.

What did we do?

We searched for studies that had compared any antidepressant with any other treatment for any type of chronic pain (except headache). We compared all the treatments against each other using a statistical method called network meta-analysis. This method allows us to rank the treatments in order of best to worst for each outcome.

What did we find?

We found 176 studies that included a total of 28,664 people with chronic pain.

Most of the studies (83/176) compared an antidepressant with a placebo (which looks like the real medicine but does not have any medicine in it).

The evidence from our analysis suggests that:

- Duloxetine is the antidepressant that we have the most confidence in. It was the best antidepressant for reducing pain and improving physical function.
- A standard dose of duloxetine was equally as effective for reducing pain as a high dose of duloxetine.
- Milnacipran was also effective at reducing pain, but we are not as confident in this result as in the one for duloxetine because there were fewer studies with fewer people involved.

Aside from duloxetine and milnacipran, we do not have confidence in the results from any other antidepressant included in this review, and even for duloxetine and milnacipran, we do not know the long-term effects.

It is important to recognise that the lack of evidence for the majority of antidepressants in this review does not necessarily equal a lack of benefit. Rather, this means that the large, high-quality trials required for us to be certain of an antidepressant's effectiveness have not been undertaken.

Altogether, although duloxetine and milnacipran are effective, the results of this review should not be read as an encouragement to prescribe antidepressants where other non-pharmacological intervention could be equally effective, especially in the absence of good evidence on side effects and safety. These conclusions were informed by our patient and public involvement group.

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This article

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