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Study Design: Systematic Review and Network Meta-Analysis

Abstract:

Question: Which is the most effective conservative intervention for patients with non-specific chronic neck pain (CNSNP)?

Design: A systematic review and network meta-analysis of [randomised clinical trials](#).

Participants: Adults with CNSNP of at least 3 months duration.

Interventions: All available pharmacological and non-pharmacological interventions.

Outcome measure: The primary outcomes were pain intensity and disability. The secondary outcome was adverse events.

Results: Overall, 119 RCTs (12,496 patients; 32 interventions) were included. Risk of bias was low in 50.4% of trials, unclear in 22.7% and high in 26.9%. Compared with inert treatment, a combination of active and/or passive multimodal non-pharmacological interventions (eg, exercise and manual therapy) were effective for pain on a 0-to-10 scale at 1 month (MD range 0.84 to 3.74) and at 3 to 6 months (MD range 1.06 to 1.49), and effective on disability on a 0-to-100 scale at 1 month (MD range 10.26 to 14.09) and 3 to 6 months (MD range 5.60 to 16.46). These effects ranged from possible to definite clinical relevance. Compared with inert treatment, anti-inflammatory drugs alone or in combination with another non-pharmacological treatment did not reduce pain at 1 month or 3 to 6 months. At 12 months, no superiority was found over inert treatment on both outcomes. Most mild adverse events were experienced following acupuncture/dry needling intervention. On average, the evidence varied from low to very low certainty.

Conclusions: While multimodal non-pharmacological interventions may reduce pain and disability for up to 3 to 6 months of follow-up when compared with inert treatment, the evidence was very uncertain about their effects. Better quality and larger trials are needed to improve the certainty of evidence.

Key Findings:

- Multimodal interventions are recommended for patients with chronic non-specific neck pain
- In the short-term, a combination of active and passive treatment may be most beneficial for decreasing pain.
- In the intermediate term, education with exercise, physical agents and mind-body practices may decrease pain, while a combination of active and passive treatment may decrease pain.
- In the long term, no greater effect was noted between interventions and inert treatment on pain and few conservative treatments seemed effective on disability.



Reviewer Summary:

Overall, multimodal treatment is beneficial for patients with non-specific chronic neck pain. A combination of both active and passive treatment is most effective in decreasing pain in the short term as well as disability in the intermediate term. There are differences in treatment effect on pain versus disability with disability being more effected by physical agents and relaxation in the short term while pain is more controlled by education with exercise and physical agents with mind-body practices in the intermediate term. This supports the use of a combination of passive and active treatment in clinical practice for short and intermediate effects on pain and disability; however, minimal difference in use of interventions versus inert treatment for pain level was noted in the long term. Due to some low certainty evidence used for this meta-analysis, caution should be taken when interpreting results and the need for higher quality trials is required to determine more accurate intervention effects.