# Article information:

Which specific modes of exercise training are most effective for treating low back pain? Network meta-analysis - ProQuest
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# Article summary:

1. Low back pain is a common non-communicable disease that generates significant direct costs, and there is a need to identify effective interventions for treating non-specific chronic low back pain (CLBP).

2. Exercise training has been shown to be effective in reducing pain compared to non-exercise treatments, and specific types of exercise such as Pilates, stabilisation/motor control, and yoga have been found to be more effective than non-exercise comparators.

3. A network meta-analysis was conducted to compare the effectiveness of different types of exercise training and non-exercise treatments for CLBP, with outcomes including pain intensity, physical function, muscle strength and endurance, analgesic pharmacotherapy use, and mental health. The study found that resistance exercise training was the most effective intervention for reducing pain intensity and improving physical function in adults with non-specific CLBP.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled Which specific modes of exercise training are most effective for treating low back pain? Network meta-analysis aims to identify and evaluate the efficacy of interventions capable of treating non-specific chronic low back pain (CLBP) by conducting a systematic review and network meta-analysis (NMA) on the effectiveness of specific kinds of exercise training in adults with non-specific CLBP. The article provides a comprehensive overview of the research conducted, including the search strategy, inclusion and exclusion criteria, data extraction, risk of bias assessment, statistical analysis, and results.

Overall, the article is well-written and provides valuable insights into the effectiveness of different types of exercise training for treating non-specific CLBP. However, there are some potential biases and limitations that should be considered when interpreting the results.

One potential source of bias is publication bias. The authors only included studies published in peer-reviewed journals, which may have excluded relevant studies that were not published or were published in non-peer-reviewed sources. Additionally, the authors only included studies with a sample size of at least 20 patients to reduce the risk of publication bias affecting the results. However, this may have excluded smaller studies that could have provided valuable insights into the effectiveness of different types of exercise training.

Another potential limitation is that all included studies were parallel arm RCTs that compared an exercise training intervention with either a non-exercise training intervention or another exercise training intervention. This approach excludes other types of study designs that could provide valuable insights into the effectiveness of different types of exercise training.

Furthermore, while NMA can overcome some limitations associated with pairwise meta-analyses by incorporating data from RCTs that do not necessarily have the same kind of comparator groups in a ‘network’ of studies, it still relies on certain assumptions such as transitivity assumption. The authors did consider preintervention pain and disability as potential effect modifiers to assess transitivity assumption; however, there may be other unmeasured confounding variables that could affect treatment outcomes.

Additionally, while the article provides valuable insights into which specific modes of exercise training are most effective for treating low back pain based on their ranking using SUCRA probabilities and GRADE approach to evaluate quality evidence from NMA; it does not explore counterarguments or present both sides equally. For example, while resistance and stabilisation/motor control exercises were found to be effective compared to true control (no intervention), aerobic exercises were not found to be effective compared to true control; however, there may be other factors such as adherence rates or individual patient characteristics that could affect treatment outcomes.

In conclusion, while this article provides valuable insights into which specific modes of exercise training are most effective for treating low back pain based on their ranking using SUCRA probabilities and GRADE approach to evaluate quality evidence from NMA; it is important to consider potential biases and limitations when interpreting these results. Further research is needed to explore other types of study designs and potential confounding variables that could affect treatment outcomes.

# Topics for further research:

* Alternative study designs for evaluating the effectiveness of exercise training for non-specific chronic low back pain
* Adherence rates and their impact on the effectiveness of exercise training for low back pain
* Individual patient characteristics and their impact on the effectiveness of exercise training for low back pain
* The role of aerobic exercise in the treatment of non-specific chronic low back pain
* Non-exercise interventions for the treatment of non-specific chronic low back pain
* The impact of publication bias on the evaluation of interventions for non-specific chronic low back pain

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