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The effect of different types of breathing interventions on spinal pain and disability: a systematic review

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Abstract

Introduction: Individuals with spinal pain often show breathing dysfunctions, such as asthma, increased diaphragm fatiguability, and more pronounced thoracic breathing. However, the effect of different types of breathing interventions in this population remains unclear.

Aim: We aim to summarize the effects of different types of breathing interventions on pain and disability in individuals with spinal pain.

Methods: Databases were searched until January 2024. Studies describing therapies that used active instructions to modulate breathing or increase breathing awareness in adults with spinal pain were eligible. Breathing interventions were subdivided into slow deep breathing (SDB), respiratory resistive breathing (RRB), and breathing awareness (BA). The Downs and Black checklist was used to assess study quality.

Results: Twenty-two studies were included (n= 903), of which 19 received a fair to good quality score, and three a poor quality score. For SDB, 6 out of 11 and 2 out of 6 studies reported significant reductions in pain and disability, respectively. For RRB, 3 out of 6 studies reported significant reductions in both pain and disability. The one study examining BA did not find any reductions in pain or disability.

Conclusion: There are promising effects of SDB and RRB on spinal pain and disability. More studies regarding BA should be conducted. Future studies should focus on comparing different types of breathing interventions with each other and examining what works for whom, as breathing interventions do not flourish a one-size fits-all approach.

Footnotes

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