

Strength exercise dosage in chronic low back pain management: mapping the landscape of evidence and practice



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INTRODUCTION AND AIM OF THE STUDY.

Chronic low back pain (cLBP) is a major cause of disability worldwide. Exercise, especially strength training, is recommended to reduce pain and improve function. However, the optimal dosage of these programs remains unclear, with high variability in frequency, intensity, duration and progression across studies. This scoping review maps the literature on strength exercise dosage in cLBP, highlighting the main training variables and the heterogeneity of protocols used in clinical practice.

MATERIAL AND METHODS.

This scoping review followed the Joanna Briggs Institute (JBI) framework and was reported according to the PRISMA-ScR checklist. A three-step search was performed in MedLine, CINAHL, PEDro, and Cochrane Library. Keywords and index terms were identified from titles/abstracts of included studies and then applied across databases. Reference lists were also screened for additional studies. A standardized charting table was used to collect study design, language, country, participants, age, gender, treatment timeframe, and exercise characteristics (type, strength type, frequency, load, progression, sets/reps, rest). Clinical outcomes included pain, disability, quality of life, and follow-up.

RESULTS.

A total of 21 studies were included, with 9–180 participants, mostly adults aged 30–50. Treatment duration ranged 4–24 weeks, most commonly 12, with 1–5 weekly sessions (typically 2) lasting 20–90 minutes. Sets ranged 1–8, reps 8–15, often progressing when upper limits were reached. Internal load was usually %1RM (50–90%), with some adjusting based on performance; external load included dumbbells, barbells, kettlebells, or machines, though exact weights were often missing. Progression criteria were inconsistently reported: resistance increased in two-thirds, volume in one-third, frequency rarely. Pain improved in most studies, especially with higher baseline scores and high-intensity training. Reductions were notable both on VAS and NPRS. Disability and quality of life also improved, though heterogeneity.

CONCLUSIONS.

This scoping review mapped how strength exercise dosage is reported in chronic low back pain studies. Many lacked details on external load and progression, limiting reproducibility and clinical applicability. Clinicians should prescribe exercises with clear load, volume, frequency, and progression, guided by patient factors. Future research should report dosage consistently and study how intensity, volume, frequency, and progression affect outcomes.

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