Cognitive Behavioral Therapy as a Psychological Optimization Strategy in Spine Surgery: A Scoping Review

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INTRODUCTION:

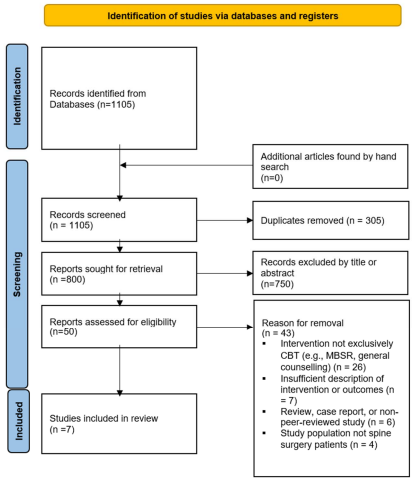
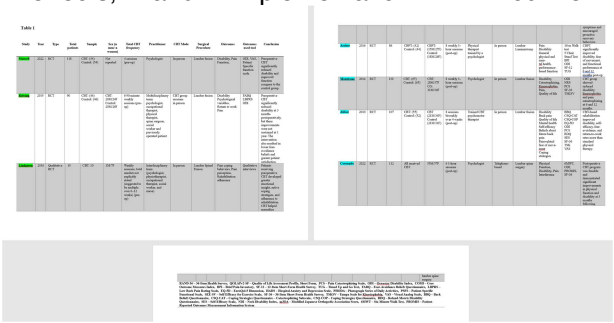
Psychological factors such as pain catastrophizing, depression, and fear-avoidance are linked to poor recovery after spine surgery. Cognitive Behavioral Therapy (CBT) offers a structured approach to address these issues but is underutilized and variably applied in surgical populations.

METHODS:

A scoping review was performed across PubMed, Ovid Medline, and Scopus to identify studies implementing CBT in adult spine surgery patients. Studies were included if they reported CBT interventions (preoperative or postoperative) with functional, psychological, or opioid-related outcomes. Seven studies met inclusion criteria.

RESULTS:

CBT was used preoperatively in 3 studies and postoperatively in 4 others. Across settings, CBT interventions improved disability (ODI), pain catastrophizing (PCS), and fear-avoidance beliefs (FABQ). Postoperative recovery was accelerated in patients who received CBT, especially those with high baseline psychological distress. Telehealth delivery demonstrated feasibility in selected cohorts. However, significant variability existed in number of sessions (range 3–12), mode of delivery (in-person vs. virtual), and provider background (psychologist vs. physiotherapist). Only a few studies followed patients beyond 6–12 months, with mixed evidence on sustained benefit.

DISCUSSION AND CONCLUSION:

CBT appears to improve early postoperative outcomes in spine surgery populations and may reduce reliance on opioids. Patients with high preoperative distress or catastrophizing may derive the greatest benefit. Despite promising results, heterogeneity in CBT protocols limits generalizability. There is a need for standardization and further research into combined pre/postoperative models, long-term effects, and implementation in routine surgical care.