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Effect of postoperative exercise on bowel function in patients with stage 1-3 colorectal cancer: a randomized controlled trial

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Background: Postoperative bowel dysfunction—including increased bloating, fecal incontinence, and embarrassment—is highly prevalent among colorectal cancer survivors and substantially impairs quality of life. Although exercise has shown promise for improving bowel motility, pelvic floor function, and overall physical recovery, little is known about which types of exercise are effective during the period when bowel dysfunction is most severe—specifically, from immediately after surgery to before adjuvant therapy. This study examined the effects of a structured postoperative exercise intervention on bowel function in patients with stage I–III colorectal cancer.

Methods: Thirty-two patients who underwent curative colorectal cancer surgery were recruited, and 28 participants were included in the final analysis. Participants were randomly allocated (1:1) to an exercise or usual-care control group using simple randomization. The intervention consisted of in-hospital bed-based exercises performed twice daily for 5–6 days, followed by supervised home-based core exercises delivered twice weekly for three weeks via video calls. The primary outcome was a composite bowel dysfunction score derived from core items of the EORTC QLQ-CR29, integrating bowel frequency, gas, bloating, fecal incontinence, and embarrassment.

Results: The exercise group demonstrated substantial improvements in bowel function, with composite scores decreasing from 70.0±102 at baseline to 18.9±23.5 post-intervention. In contrast, the control group exhibited worsening symptoms, with composite scores increasing from 98.7±75.9 to 182.1±167.3. Among composite components, embarrassment showed a particularly distinct between-group difference (exercise: 6.7±18.7 ⟶ 0.0±0.0; control: 2.6±9.2 ⟶ 43.6±43.9).

Conclusion: This randomized controlled trial indicates that a postoperative exercise program can significantly improve bowel function and prevent symptom deterioration in colorectal cancer patients. However, most participants presented with relatively mild baseline symptoms, and the small sample size and short follow-up restrict the generalizability of these findings. Larger and longer-term trials are warranted to validate the role of exercise-based interventions during early postoperative recovery.

Keywords

Colorectal cancer, Exercise, Bowel function, Early postoperative recovery

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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