

Effects of Prehabilitation in Abdominal Surgeries to Prevent Postoperative Complication

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Abstract

Introduction: Postoperative pulmonary complications (PPC) are common following abdominal surgery, and these complications vary based on the type of abdominal surgery, the patient's overall health, and the surgical technique used. Pulmonary complications are caused by postoperative pathophysiological reduction in lung volumes, respiratory muscle function, mucociliary clearance, and pain inhibition of respiratory muscles. Prehabilitation is a proactive approach to preparing and strengthening the body before the procedure, which aims to enhance postoperative recovery, reduce complications, and improve overall outcomes.

Methods: In this study, 80 participants were assigned based on inclusion and exclusion criteria, randomized by computerised block randomization with assessor blinding. The intervention group will receive prehabilitation 6-8 sessions, including inspiratory muscle training, muscle strengthening, and mobilisation. The control group will receive a single education session and a pre-rehabilitation booklet. The outcome measures used are the Melbourne scale to measure pulmonary complications and the 6-minute walk test to measure functional capacity, which measures the quality of life.

Results: The collected data was tabulated and analysed using the software jasp. The results showed that there were statistically significant changes in postoperative pulmonary complication (p-value – 0.018) and functional capacity (p-value - <0.001) in the experimental group, and there were no statistically significant changes in length of stay and quality of life.

Conclusion: The above results show that prehabilitation reduces postoperative pulmonary complications and improves functional capacity. However, there is not much difference in the length of hospital stay and quality of life due to removal of drain, wound infection and physical activity.