

**THE EFFECT OF RESPIRATORY EXERCISE AFTER LAPAROSCOPIC
SURGERY ON PAIN, ANXIETY, NAUSEA-VOMITING AND RESPIRATORY
PARAMETERS**

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Laparoscopic surgery is a form of treatment that provides the desired result with smaller incisions, a more aesthetic, stress-free and less painful experience. Although it offers less pain than open surgery, patients experience intense pain in the postoperative period. Breathing exercises reduce the level of anxiety in the postoperative period, increase sleep quality and accelerate recovery. It is among the duties and responsibilities of nurses working in surgical clinics to provide breathing exercise training to patients in the preoperative period and to ensure that they are applied in the postoperative period. Although there are studies in the literature showing that respiratory exercise in surgical patients relieves pain, no study has been found in which anxiety, nausea-vomiting and respiratory parameters are included. The aim of this study is to examine the effects of respiratory exercise applied to laparoscopic surgery patients on postoperative pain, anxiety, nausea-vomiting and respiratory parameters.

The randomized controlled intervention type study was conducted between September 2022 and August 2023 at the General Surgery Clinic of Bartın State Hospital. The sample consisted of 90 patients who underwent laparoscopic surgery. The patients included in the study were randomly assigned to 2 groups. Patients who met the research criteria were provided with a computer-generated sequencing to be assigned as 45 intervention and 45 control groups. The sample power was calculated as 0.86 with 0.05 error and 0.65 effect size, according to the posthoc calculation result with the G-power 3.1 program.

Information Form, Visual Comparison Scale, State-Trait Anxiety Scale, Form for Evaluation of Nausea-Vomiting, and Respiratory Monitoring Form were used to collect research data. SPSS 21.00 statistical package program was used to evaluate the data. Fisher Exact, Chi-square test, Student T-Test, Mann-Whitney U-Test, Paired Sample T-Test and ANOVA test methods were used to analyze the data after the program.

The decrease in pain ($p=0.104$; $p<0.01$), nausea ($p=0.783$; $p=0.018$), state ($p=0.068$; $p<0.01$) scores measured at 0 and 24 hours postoperatively in the intervention group; the increase in SpO_2 value ($p=0.713$; $p<0.01$) was found to be statistically significant. In comparisons within

the group, there was no statistically significant difference between the respiratory rates of the intervention and control groups ($p>0.05$), while a significant difference was found between the mean pain scores and SpO_2 values at the 0th and 24th hours in the patients in the intervention group ($p<0.05$). State Anxiety Scale mean scores evaluated at the 24th postoperative hour were found to be statistically significant, with the control group having a higher anxiety score than the intervention group ($p<0.05$).

In conclusion; in this study, it was found that respiratory exercise applied in the post-surgical period had a positive effect on pain, anxiety, nausea-vomiting and respiratory parameters. In line with this result, it is suggested that nurses should use non-pharmacological breathing exercises more effectively in patient treatment and care.

Keywords: Laparoscopic surgery, respiratory exercise, pain, anxiety

