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**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

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EQUIVALENCE OF IN-PERSON AND ONLINE PATIENT EDUCATION IN REDUCING PREOPERATIVE ANXIETY FOR PATIENTS UNDERGOING LAPAROSCOPIC CHOLECYSTECTOMY

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Background and Aim: In-person patient education is recognised as an effective measure to control preoperative anxiety, reduce pain, and positively impact recovery after the surgery. However, contact teaching creates organisational challenges, requires time from both patients and medical staff, leading to increased costs. Current fast lifestyle, trend towards day-care surgery and widespread internet technologies raise the question whether online education could be comparable to in-person one.

Materials and Methods: patients undergoing elective laparoscopic cholecystectomy were included in the study and randomly assigned to either intervention (in-person or online education) or control group. Intervention group attended education course 10-14 days before the surgery. Preoperative anxiety on the day before surgery was assessed using APAIS score. Anxiety, postoperative recovery and satisfaction scores were compared between the groups using independent sample t-test. Clinical trial registration No. NCT05208580 (ClinicalTrials.gov).

Results: 85 patients were included: 53 in intervention group (25 in-person and 28 online courses) and 32 controls. Intervention group had lower APAIS anxiety scores (13.49 vs. 18.31, $p < 0.001$). Patients who underwent preoperative classes had less nausea (7.5% vs. 34.4%, $p = 0.004$) and pain (1.8 vs. 2.7, $p < 0.001$) on postoperative day 2. This possibly led to better QoR-40 recovery scores (181.4 vs. 168.2, $p < 0.001$) and satisfaction with provided healthcare (HCAPS score 82.62 vs. 77.1, $p < 0.001$).

No difference in APAIS anxiety score was found between in-person and online education groups (10.13 vs. 10.9, $p = 0.596$). These groups did not differ based on postoperative recovery and satisfaction scores as well. However, online group felt less pain on first postoperative day (0.6 vs. 1.4, $p = 0.037$).

Conclusions: Patient education statistically and clinically significantly reduces preoperative patient anxiety and improves recovery after the surgery. In-person and online education are similar when reducing anxiousness before the laparoscopic cholecystectomy.

Keywords: cholecystectomy, patient education, preoperative anxiety