

ABSTRACT

Background: Pain is a stressful and a global health problem, and children are the most vulnerable and under-served population. Breakthrough pain is a brief increase in pain that happens either spontaneously or in response to a particular predictable or unanticipated trigger, despite background pain that was relatively stable and effectively managed. Moderate to severe postoperative pain in the pediatric population is associated with physiological, psychological, and emotional adverse effects. This study aimed to determine the incidence of post-operative breakthrough pain and its risk factors among children who underwent open abdominal surgery.

Methods: An observational prospective cohort study was conducted from June to October 2023 among children who underwent open abdominal surgery at Mbarara Regional Referral Hospital. Pain severity was assessed using the Face, Leg, Activity, Cry, and Consolability (FLACC) scale and the Visual Analog Scale (VAS). Breakthrough pain was defined as scores ≥ 4 . Data were analyzed using the STATA 15.0 program. The strength of association between dependent and independent variables was presented by adjusted odds ratio and 95% confidence interval following the chi-square test, and logistic regression analysis was employed. Variables with a p-value of < 0.05 were considered statistically significant.

Results: A total of 73 pediatric patients aged 1 to 12 years were included. The mean age was 6.1 years, with the majority being below 10 years (76%) and males accounting for 65.3%. The incidence of post-operative breakthrough pain was 68.5% (95% CI: 56.7 – 78.3). The odds of the onset of breakthrough pain were 12.1 times higher among children aged 5-9 years compared to those aged 10-14 years (OR=12.1; 95% CI: 2.1-71.2, p=0.006).

Conclusion: The incidence of post-operative breakthrough pain among children who underwent open abdominal surgery was high. Children aged between 5-9 years were significantly associated with postoperative breakthrough pain. The magnitude of postoperative breakthrough pain remains high, and a plan for adequate pain management needs to be developed