BMC Surgery

RESEARCH Open Access

Magnitude of in-hospital mortality and its associated factors among patients undergone laparotomy at tertiary public hospitals, West Oromia, Ethiopia, 2022

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Abstract

Introduction Laparotomy surgery, which involves making an incision in the abdominal cavity to treat serious abdominal disease and save the patient's life, causes significant deaths in both developed and developing countries, including Ethiopia. The number studies examining in-hospital mortality rates among individuals that undergone laparotomy surgery and associated risk factors is limited.

Objective To assess the magnitude of in-hospital mortality and its associated factors among patients undergone laparotomy at tertiary hospitals, West Oromia, Ethiopia, 2022.

Methods An institutional based retrospective cross-sectional study was conducted from January 1, 2017, to December 31, 2021. Data were collected using systematic random sampling and based on structured and pretested abstraction sheets from 548 medical records and patient register log. Data were checked for completeness and consistency, coded, imported using Epi-data version 4.6, cleaned and analyzed using SPSS version 25 software. Variables with $p < 0.2$ in the Bi-variable logistic regression analysis were included in the multivariate logistic regression analysis. The fit of the model was checked by the Hosmer–Lemeshow test. Using the odds ratio adjusted to 95% CI and a p value of 0.05, statistical significance was declared.

Results A total of 512 patient charts were reviewed, and the response rate was 93.43%. The overall magnitude of in-hospital mortality was 7.42% [95% CI: 5.4-9.8]. American society of Anesthesiology physiological status greater than III [AOR = 7.64 (95% CI: 3.12-18.66)], systolic blood pressure less than 90 mmHg [AOR = 6.11 (95% CI: 1.98-18.80)], preoperative sepsis [AOR = 3.54 (95% CI: 1.53-8.19)], ICU admission [AOR = 4.75 (95% CI: 1.50-14.96)], and total hospital stay greater than 14 days [(AOR = 6.76 (95% CI: 2.50-18.26)] were significantly associated with mortality after laparotomy surgery.

Concussion In this study, overall in- hospital mortality was high. Early identification patient's American Society of Anesthesiologists physiological status and provision of early appropriate intervention, and pays special attention to patients admitted with low systolic blood pressure, preoperative sepsis, intensive care unit admission and prolonged hospital stay to improve patient outcomes after laparotomy surgery.

Keywords In-hospital, Laparotomy, Magnitude, Mortality, Ethiopia

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