

Poster 5: Effect of perioperative app on use of emergency medical services for patients recovering from laparotomy

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Topic: Quality & Healthcare systems

Objectives

Web-based apps allow postoperative symptom tracking and can prompt patients to call medical staff or present to the emergency department (ED) with alarm symptoms. This study will investigate whether use of a perioperative app affects frequency of ED visits, phone calls and electronic messages to medical staff, and hospital readmissions in the first 30 days postoperatively.

Methods

This is a retrospective cohort study comparing self-selected app users with a randomized control sample of non-app users who underwent laparotomy from 2018-2021. App users were identified through app records of enrollment. Non-app users were identified through institutional surgical records, and randomly selected. Chi square, logistic regression models, Mann Whitney U test, and Spearman correlations were used to determine significance.

Results

224 patients were included, with 151 self-selected app users and 73 non-users. There was no difference in the primary outcome when studied as mean number of ED visits per patient (0.15 vs. 0.15, for app users and non-users, $p=0.835$) or as frequency (12.58% vs. 13.70%, $p=0.816$). There were no differences in total phone calls (0.92 vs. 0.85 calls per patient, $p=0.387$), electronic messages to medical staff (0.25 vs. 0.19 messages per patient, $p=0.274$) or readmission rate (9.27% vs. 6.85%, $p=0.542$). App users were more likely to make a phone call to staff for pain (19.42 vs. 8.06% of calls, $p=0.042$) with an odds ratio (OR) of 2.782 [1.005-7.516]. App users were less likely to present to the ED with a urinary complaint (0% vs 36.36% of visits, $p=0.007$), or to send staff an electronic message for a wound complaint (21.62 vs 71.43% of messages, $p=0.0022$) with OR 0.1103 [0.027-0.447]. 64.9% of enrolled patients used the app at least once. 145 prompts instructing patients to call medical staff were issued to 46 patients. 21 phone calls and 3 electronic messages were actually documented, (12.8% response rate). 6 patients were prompted to present to the ED, and 1 actually presented (16.67% response rate).

Conclusions

Perioperative app use was not associated with a reduction in use of emergency medical services or readmissions, but may provide benefit triaging urinary and wound complaints. Further studies are needed to characterize the specific features of perioperative apps that have potential for clinical utility.

Abstract Table or Graph

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