



Nursing Intervention Impact on Length of Stay in Patients with Postoperative Delirium

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Background/Purpose

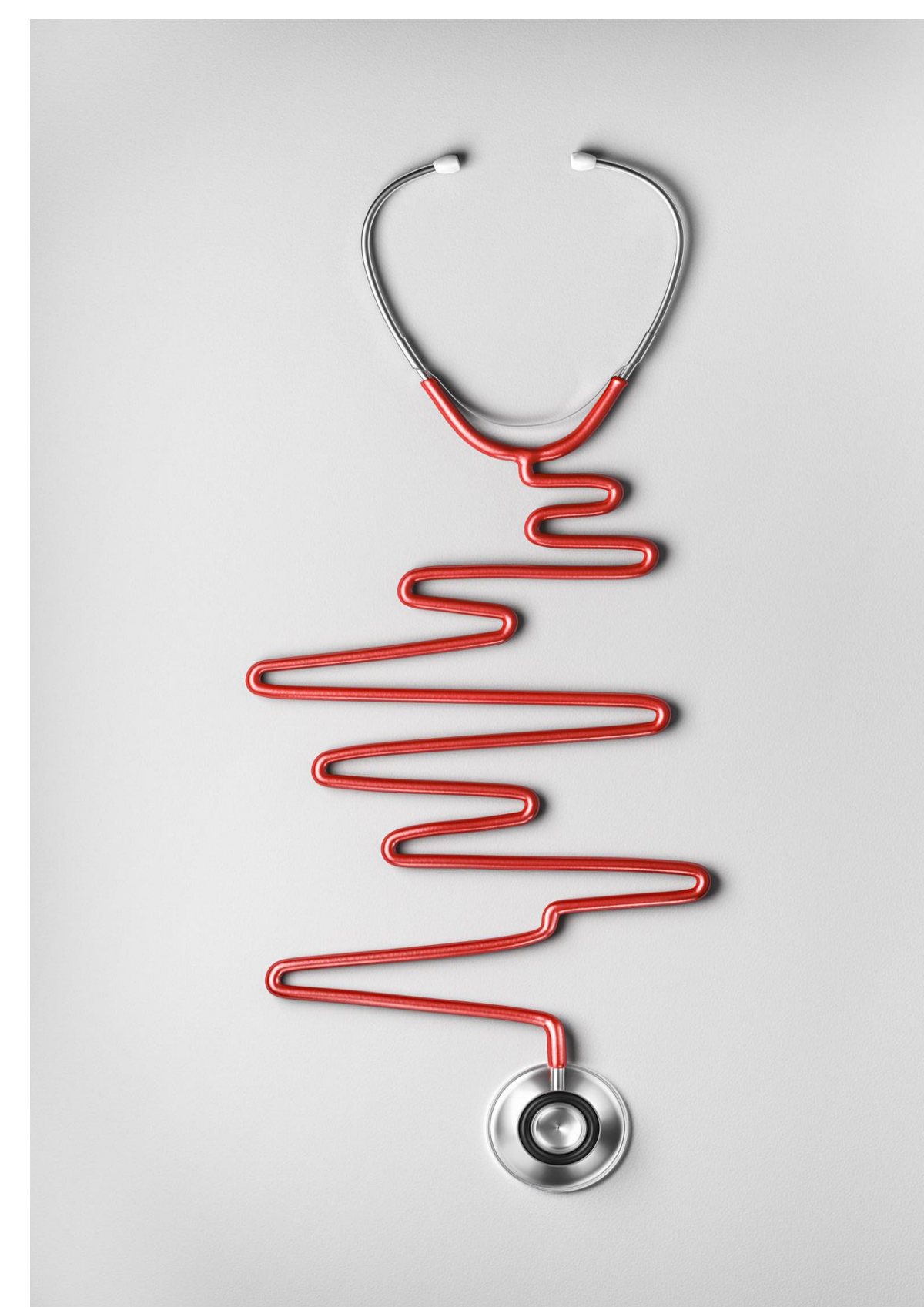
- The prevalence of delirium is about 30% in hospitalized patients and 37% among postoperative patients.
- Delirium has an adverse impact on patients, families and healthcare organizations.
- Research shows nursing interventions reduce postoperative delirium incidence, duration, and severity; however, there is a lack of literature on nursing impact on length of stay (LOS).
- The objectives of this study were to a) explore patient characteristics and perioperative factors associated with prolonged LOS, and b) identify the impact of current nursing delirium interventions on LOS.

Methods

This was a retrospective pilot chart review study using electronic health records.

Setting and Sample: 75 older adults (≥ 65 yo) who screened positive for delirium while hospitalized were randomly selected. Admissions were between January 2019 and December 2020 to medical-surgical units in five networked hospitals in the Mountain West.

Data Analyses: Bivariate chi-square tests were conducted between independent and outcome variables. Multinomial logistic regression was used to identify factors associated with prolonged LOS.



Results

- More than half of patients had a prolonged LOS (>10 days, 32%; 7-10 days, 28%).
- Patients who had general anesthesia were more likely to have prolonged LOS compared to those with other types of anesthesia (RRR = 10.92, $p = 0.037$; RRR = 26.58, $p = 0.015$, respectively for LOS >10 days, and LOS 7-10 days).
- Among nursing interventions (early indwelling urinary catheter removal, early mobilization, pain management, sleep promotion, and family visits), early catheter removal was the only significant factor. Patients with delayed catheter removal were at increased risk for prolonged LOS compared to those with early urinary catheter removal (RRR = 25.01, $p = 0.018$ for LOS >10 days).

Predictors	LOS < 4 Days		LOS 4-6 Days		LOS > 10 Days	
	RRR (95% CI)	<i>p</i>	RRR (95% CI)	<i>p</i>	RRR (95% CI)	<i>p</i>
Anesthesia type	3.30 (0.46, 3.84)	0.236	26.58 (1.90, 71.51)	0.015*	10.92 (1.16, 102.87)	0.037*
Early urinary catheter removal	2.36 (0.17, 33.16)	0.524	3.00 (0.19, 46.40)	0.431	25.01 (1.75, 357.41)	0.018*
Pain management	1.45 (0.10, 20.47)	0.783	4.32 (0.33, 56.86)	0.266	1.31 (0.10, 17.80)	0.837
Sleep promotion	2.31 (0.19, 27.92)	0.511	1.84 (0.12, 27.57)	0.659	0 (0,0)	0.991

Note: CI = Confidence Interval; RRR = relative risk ratio

Implications

- Many hospitals have implemented nurse-driven urinary catheter removal protocols to prevent catheter-associated urinary tract infection (CAUTI).
- To prevent CAUTI and prolonged LOS, nurses should assess the medical necessity of indwelling urinary catheters and promote prompt removal when no longer indicated.
- For patients with general anesthesia, nurses should utilize evidence-based practice in delirium screening and management.
- Future research with large sample sizes are needed to further examine the impact of nursing interventions on LOS in patients who develop postoperative delirium.