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Vivien Grayson

Miami Cancer Institute, vivienG@baptisthealth.net

Victoria McCue

Doctors Hospital, victoriamec@baptisthealth.net

James Adefisoye

Homestead Hospital, adejames2000@gmail.com

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Reduction in Length of Stay by Early Oral Feeding

Vivien Grayson, MBA, BSN, RN, CMSRN; Victoria Y. McCue, MSN, RN, CPN; James Adefisoye, MS
Homestead Hospital

INTRODUCTION / BACKGROUND

Length of stay (LOS) is the duration that a patient spends during an episode of hospitalization and is important to healthcare organizations from both clinical and financial perspectives. LOS has an average of 5.4 days in the inpatient setting and 0.1 days in the ambulatory setting (Wier, Steiner, & Owens, 2015). Many factors can effect a patient's post-op LOS such as age, gender, procedure type and anesthesia type utilized.

However, other factors such as early nutrition warrants further research. According to Fujii et al. (2014), many physicians wait until the patient shows signs of the return of bowel function, to give the patient a clear liquid diet and then advance as tolerated. However, there are likely benefits to starting a post-op patient with an early oral intake since eating increases bowel motility (Fujii et al., 2014).

The research aim was to determine the association between early oral feeding and LOS among postoperative adults hospitalized within medical-surgical units at a Magnet hospital in the Southeastern United States.

RESEARCH QUESTION

- Among postoperative adults hospitalized within medical-surgical units, is there a significant difference in length of stay between patients who received early oral feeding (defined as receiving nutrition by mouth on postoperative day (POD) one [<24 hours post operatively] compared to patients who did not receive early oral feeding?

METHODS

RESEARCH DESIGN

- The study employed a quasi-experimental ex-post facto study design, using retrospective data.
- The data used were de-identified Electronic Health Record (EHR) secondary data set.

POPULATION

- Adults who underwent surgical procedures between January 2017 and July 2017 (n = 407).

INSTRUMENT

- The instrument utilized was the Charlson Co-Morbidity Index (CCI). The CCI measures mortality risk and liability for disease. A CCI index score was calculated for each patient record based on ICD 10 codes for all primary and secondary diagnoses.

VARIABLES

- *Dependent Variables*
 - Length of Stay (LOS)
- *Independent Variables*
 - Age
 - Gender (Male; Female)
 - Feeding Status (Early, Late)
 - Procedure Type (Laparoscopic, Open)
 - Charlson Co-Morbidity Index (CCI).

METHODS (CONTINUED)

ANALYSIS

- Summary statistics (median, inter-quartile range and frequency) were computed each variable as appropriate.
- Similarities and differences in patient characteristics and in the LOS between those who were fed early and those who were not were explored.
- Multiple Linear Regression was used to examine association between LOS and other variables.
- Variable selection for final model was carried out using stepwise method with forward and backward.

RESULTS

Table 1: Summary Statistics

Variable	n (%)	Median (IQR) LOS
Length of Stay (All Patients)	407 (100%)	2.00 (1.00 – 3.00)
Gender		
Male	157 (38.57%)	2.00 (1.00 – 3.00)
Female	250 (61.43%)	2.00 (1.00 – 3.00)
Feeding Status		
Early	392 (96.31%)	2.00 (1.00 – 3.00)
Late	15 (3.69%)	3.00 (2.00 – 3.50)
Procedure Type		
Laparoscopic	212 (52.09%)	2.00 (1.00 – 2.00)
Open	195 (47.91%)	3.00 (2.00 – 4.00)
CCI ^a		
0	262 (64.37%)	2.00 (1.00 – 3.00)
1	80 (19.66%)	2.00 (1.00 – 4.00)
2	35 (8.60%)	3.00 (2.00 – 5.00)
3	7 (1.72%)	3.00 (3.00 – 4.00)
4	14 (3.44%)	4.00 (3.00 – 6.50)
5	5 (1.23%)	6.00 (4.00 – 7.00)
6	4 (0.98)	6.00 (4.75 – 7.75)

Note. ^aCCI = Charlson Comorbidity Index Score



RESULTS (CONTINUED)

Table 2: Final Model from Multiple Linear Regression

Variable	Coefficient (β)	SE	95% CI	p Value
Intercept	2.3801	0.4122	1.5697 to 3.1904	< .001
Age	0.0136	0.0066	0.0005 to 0.0267	.0412
CCI	0.4974	0.0966	0.3074 to 0.6874	< .001
Surgery Procedure Type (Laparoscopy) ^a	-1.3266	0.2449	-1.8081 to -0.8451	< .001
R ²	= 0.2438			
Adjusted R ²	= 0.2382			
MSE	= 4.4526			
F-ratio	= 43.31 p < .001			
n	= 407			

Note: ^aProcedure type was coded 1 = laparoscopy; 0 = open.

- Results from the regression analysis shows that, a unit increase in age was associated with a 0.014 days increase in LOS ($p = .041$).
- Each unit increase in the CCI score was also associated with 0.497 days longer LOS ($p < .001$).
- Open procedures resulted in 1.3 days longer LOS compared with laparoscopic procedures ($p < .001$).
- The results showed no significant association between gender and LOS, thus gender is omitted from table 2.
- Also, the results showed no significant association between early feeding and LOS, thus early feeding is omitted from table 2.
- It was however noted that patients with early feeding had a lower LOS (Median = 2.00, IQR = 1.00 – 3.00) compared with those fed later (Median = 3.00, IQR = 2.00 – 3.50).

IMPLICATIONS FOR PRACTICE

Although early feeding was not statistically significant, a decrease in LOS was noted. The implications surrounding LOS are profound for healthcare organizations and patients. Nurses can enhance the recovery period for post-op patients and decrease LOS by promoting early oral feeding.

REFERENCES

- Fujii, T., Morita, H., Sutoh, T., Yajima, R., Yamaguchi, S., Tsutsumi, S., ... Kuwano, H. (2014). Benefit of oral feeding as early as one day after elective surgery for colorectal cancer: Oral feeding on first versus second postoperative day. *International Surgery, 99*(3), 211–215.
- Wier, L., Steiner, C., & Owens, P. (2015). *Surgeries in hospital-owned outpatient facilities, 2012. Healthcare cost and utilization project*. Retrieved from <https://hcup-us.ahrq.gov/reports/statbriefs/sb188-Surgeries-Hospital-Outpatient-Facilities-2012.jsp>