

Esophagealgastroduodenoscopy in Patients Admitted for GERD

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Background

- Gastroesophageal Reflux Disease (GERD) is a common gastrointestinal disorder in the United States. The decision to perform endoscopic evaluation inpatient requires the presence of certain red flag symptoms. A lesser studied aspect of this decision are other factors that may play a part in this decision including demographics.
- This study aims to investigate how these factors impact patients admitted for GERD with red flag symptoms who undergo esophagogastroduodenoscopy (EGD).

Methods

- A retrospective analysis of the National Inpatient Sample 2001-2013 database where patients with a primary diagnosis of GERD were extracted using International Classification of Diseases, Ninth Revision (ICD-9) codes. Adjusted logistic regression using red flag symptoms was performed on the demographic data with $\alpha < 0.001$.
- Red Flag symptoms
 - Perforation
 - Dysphagia
 - Weight loss
 - Hematemesis
 - Persistent vomiting

Results

**Tables 1 & 2:
 Predictors of EGD for Patients Admitted
 for GERD**

Variable	P-Value	Odds Ratio (95% CI)
Age		
19 to 30	Reference	
30 to 50	.069	1.14 (0.99 - 1.30)
51 to 60	.061	1.03 (0.89 - 1.20)
61 to 79	.028	0.84 (0.72 - 0.98)
≥ 80	.140	1.15 (0.96 - 1.38)
Race		
Caucasian	Reference	
African American	.002	1.18 (1.06 - 1.31)
Hispanic	.000	1.24 (1.11 - 1.40)
Asian, Pacific Islander, Native American	.024	1.19 (1.02 - 1.38)
Gender		
Male	Reference	
Female	.003	0.90 (0.84 - 0.96)

Variable	P-Value	Odds Ratio (95% CI)
Hospital Region		
New England	Reference	
Middle Atlantic	.050	1.22 (1.00 - 1.50)
East North Central	.000	1.55 (1.27 - 1.90)
West North Central	.000	1.48 (1.17 - 1.87)
South Atlantic	.000	1.52 (1.25 - 1.84)
East South Central	.000	1.78 (1.43 - 2.23)
West South Central	.000	1.46 (1.19 - 1.79)
Mountain	.078	1.25 (0.98 - 1.60)
Pacific	.150	1.16 (0.95 - 1.41)
Median Income		
\$1 – 24,999	Reference	
\$25,000 – 34,999	.933	1.00 (0.90 - 1.09)
\$35,000 – 44,999	.340	0.95 (0.86 - 1.05)
\$45,000 or more	.113	0.92 (0.82 - 1.02)
Admission Day		
Weekday	Reference	
Weekend	.000	1.47 (1.35 - 1.59)
Insurance Status		
Private Insurance	Reference	
Medicaid	.000	1.46 (1.30 - 1.63)
Medicare	.000	1.51 (1.36 - 1.68)
No insurance	.000	1.98 (1.74 - 2.25)
Other insurance status	.577	0.95 (0.78 - 1.15)

- Age and median income did not have a statistically significant role
- African Americans and Hispanic were more likely to get an EGD compared to Caucasians
- Females were less likely to have endoscopic evaluations
- Patients admitted on a weekend were more likely to undergo an EGD
- Patients outside the northwest region were all more likely to undergo an EGD.

Conclusion

- Patient admission day had an influence on performing the procedure which may be attributed to availability of schedules or personnel.
- Understanding the confounding variables in endoscopic evaluations will help decrease patient morbidity and mortality while improving hospital costs and length of stays.

