Utilization of STOP-BANG to Identify OSA Prior to Upper Endoscopy

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Background

Obstructive Sleep Apnea—most prevalent sleep related disorder
- Global health risk-linked to obesity, age >50
- 10% adult cis-Females, 25% adult cis-Males
- >60% of surgical population
- Underdiagnosed, untreated -> atrial fibrillation, stroke, uncontrolled HTN & sudden death.
- Exacerbated by anesthetics & sedatives
- Failure to quantify OSA risk factors - incomplete assessment

Resulting in risk of intra & post-procedural adverse events, delayed discharge, & resource utilization.

OSA risk stratification with the reliable/validated screening tool (STOP-BANG) is supported by Anesthesiology & Sleep Medicine

Purpose and Aims

Purpose: This quality improvement initiative addressed a gap in practice and incorporated the standardized pre-anesthetic screening for OSA in adults scheduled for elective EGDs (upper endoscopies).

Aims:
1. Assess RN’s OSA/STOP-BANG knowledge pre & post education
2. Assess CRNA/MD’s OSA/STOP-BANG knowledge pre & post education
3. Identify OSA risk level of EGD patients, notify individuals & PCPs
4. Assess CRNA/MD perception of efficiency of OSA screening process.

Methods

Design: Pre/Post test intervention design over 12 weeks
Setting: Free-standing ambulatory surgery center in the Mid-Atlantic
Sample: Aim 1: Perioperative RNs; Aims 2&4: CRNA/MD
Aim 3: Adult elective upper endoscopy patients
Measures: Aims 1,2: Clinician OSA Knowledge Assessment scores
Aim 3: Pre-anesthetic OSA risk level
Aim 4: CRNA/MD feed-back via anonymous survey.
Analysis: Wilcoxon signed-rank, Descriptive statistics

Results

Aim 3

Baseline characteristics of upper endoscopy patients screened for OSA via STOP-BANG tool

- Demographic characteristics: n=116
- Missing: 5 (4.2%)
- Age, mean (SD): 66.7 (11.7)
- Sex, n (%): Male 28 (23.1%) Female 88 (72.7%)
- ASA status:
  I. healthy 1 (0.8%)
  II. mild-sedimen dis. 69 (57.9%)
  III. multiple systemic dis. 46 (38.9%)
  IV. constant threat to life 0
  V. grave III 0

- Diag. HTN:
  Yes: 57 (47.1%)
  No: 59 (48.8%)

- BMI >35:
  Yes: 9 (7.4%)
  No: 107 (88.6%)

- STOP-BANG score (OSA risk):
  0-2 (mild): 64 (52.9%)
  3-4 (moderate): 40 (33.1%)
  5-8 (high): 12 (9.9%)

- SD=standard deviation

Aim 1

Mean RN Knowledge Assessment Score (%)

Aim 2

Mean Anesthesia Provider Knowledge Assessment Score (%)

Discussion

- 22 RNs received the intervention-> clinically significant increase in mean scores on post-test OSA knowledge assessments.
- 12 CRNAs & MDs received the intervention->clinically significant increase in mean scores on post-test OSA knowledge assessments.
- 52 patients were identified as moderate-severe risk for OSA-notified & referred to PCP.
- Equal prevalence (22.4%) of moderate-severe OSA risk among individuals with mild-moderate chronic disorders.
- 23 Anesthesia provider surveys were completed->90% supported STOP-BANG use.

Strengths: Easily administered, patients & clinicians receptive

Limitations: Site visitation policy impeded reports of apnea from companions & site lacks electronic health records

Conclusion

- Undiagnosed OSA threatens patient safety
- Consistent pre-anesthetic OSA risk stratification allows providers to: identify, inform, & implement appropriate anesthetic plans
- Updated patient pre-procedural electronic forms will now include self-administered STOP-BANG questionnaire

References