Identifying Patients at Risk for Obstructive Sleep Apnea: Utilization of the STOP BANG QUESTIONNAIRE in the Perioperative Assessment

Liane M. Bacon, BSN, RN, SRNA, DNP student
Cedar Crest College School of Nursing, Allentown, PA

Background

Obstructive sleep apnea (OSA) is a serious condition affecting over 22 million Americans. It remains largely undiagnosed in the general population. OSA carries with it many comorbid conditions that may lead to an increase in mortality. A review of current literature reveals that patients who present for surgery with undiagnosed OSA are at a significantly increased risk for airway emergencies, difficult intubations leading to unanticipated intensive care admissions postoperatively, cardiac events, strokes, and even death.

- **The STOP BANG Questionnaire is a validated, easy to use tool that screens for a patient's OSA risk.**
- **This DNP project's aim is to educate Anesthesiologists, CRNAs, and SRNAs in the use of the STOP BANG screening tool to help identify those patients who are at risk for OSA.**
- **Patients are screened using the STOP BANG Questionnaire & subsequently educated about their OSA risk.**
- **The Anesthesia providers identify at risk patients, provide the patient with an education pamphlet about OSA & Sleep Polysomnography studies. A letter from the Anesthesia provider group stating the patient's measured and observed risk for OSA and need for sleep study polysomnography and treatment is given to the identified patients.**

Objectives

- Aim: To improve identification of patients with obstructive sleep apnea and stratify the patient's risk in the perioperative setting. To provide the identified patients with educational tools and make them aware of their need for a formal sleep study/polysomnography.
- Objectives: To provide anesthesia providers with a validated screening tool to screen adult patients for OSA during the preoperative assessment and provide high risk patients with education about needed follow up treatment.

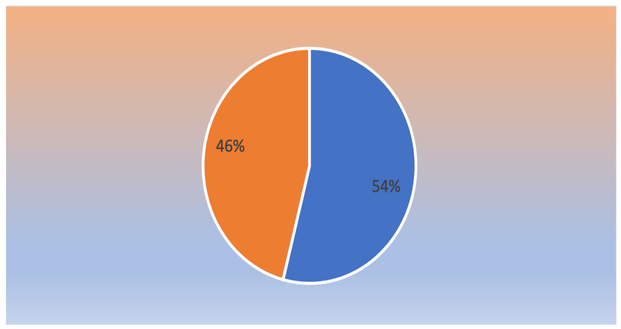
PICO Question

- "In anesthesia providers caring for surgical patients 18 years of age and older in the preoperative setting, does the implementation of the STOP BANG QUESTIONNAIRE stratify patient risk of OSA and lead to formal sleep study recommendation postop?"

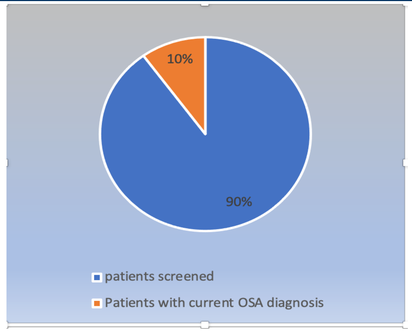
Methodology

- **Needs assessment completed and collaboration with stakeholders in the Anesthesia department at clinical site.**
- **Literature review conducted utilizing CINAHL, PubMed, Wiley online library, Springer Link, and Google Scholar.**
- **Search terms used: Obstructive sleep apnea, Obstructive sleep apnea AND anesthesia, Obstructive sleep apnea AND STOP BANG Questionnaire, STOP BANG Questionnaire AND preoperative assessment.**
- **Search terms used: linked full text, Published 2017-2021, peer reviewed, and English language.**
- **Search revealed 39 articles**
- **13 articles were selected that helped to answer the PICO question**
- **Interviewed anesthesia providers and determined that no objective screening tool was currently being used to screen for OSA preoperatively at this clinical site.**
- **Theoretical model: Lewin's Change Theory was used to implement and disseminate this project.**
- **Project Implemented over 4 weeks from January 30th, 2023 through February 27th, 2023.**
- **A convenience sample of the 50 Anesthesiologists and CRNAs were invited via email to participate in project.**
- **An instructional voice over power point was emailed to the entire anesthesia department a week prior to implementation**

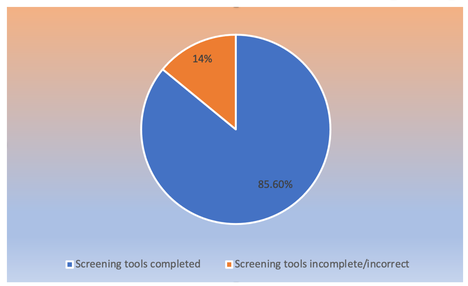
Results



46% of the patient's screened were identified as at risk for OSA



10% of patients screened had an existing diagnosis of OSA



85.6% of completed screening tools were completed correctly

- Out of 606 surgical patients over a 4-week period out of which 202 patients were screened reflecting a 33% compliance rate.
- Of the 202 completed screening tools 85.6% were completed correctly and 173 patients were educated on their OSA risk.
- Of the patients screened 10% had a current diagnosis of OSA and compliance with current use of CPAP/BIPAP was discussed.
- 46% percent of the patients screened were positively identified as "at risk for OSA"; Identified patients were educated about their OSA risk, given an educational pamphlet about OSA, sleep studies, and OSA treatment available.
- A recommendation letter for a formal sleep study was also given to identified patients to facilitate follow up care.

Recommendations for practice

- Anesthesia Providers should routinely screen all surgical patients with the STOP BANG QUESTIONNARIE and provide recommend further evaluation and treatment.
- Continued use of the screening tool along with positive reinforcement would enhance anesthesia provider compliance with the STOP BANG QUESTIONNAIRE.
- Interdisciplinary collaboration with sleep study professionals would promote compliance with follow up.

Conclusion

- **Current research demonstrates that identification of OSA prior to surgery & anesthesia is beneficial for patient safety and successful airway management intraoperatively.**
- **The STOP BANG Questionnaire is a validated screening tool that can stratify a patient's risk for obstructive sleep apnea.**
- **When a patient presents for surgery it's an optimal time to utilize a validated clinical screening tool to identify patients at risk for OSA.**
- **46% of the patients who were screened were identified as at risk for OSA. These patients can now benefit from this gained knowledge and be provided with the tools needed to improve their health. These identified patients were notified about their measured risk, provided with an educational pamphlet about OSA, as well as a letter recommending a formal sleep study.**

References

SCAN ME