Doctor of Nursing Practice Projects   School of Nursing

Spring 5-4-2018

Obstructive Sleep Apnea: A Staff Educational Program and Protocol

Aaron Michael Quach
Southern Illinois University Edwardsville

Evaluation

Procedure for Data Collection

The data collection consisted of a pretest and a posttest. The pretest was given immediately after the introduction of the speaker and topic. The participants were given a description of the pretest that included five demographic questions and nine True/False statement questions. The posttest included the same nine True/False statement questions with one additional Likert scale question. Participants were given approximately seven minutes to complete each of the surveys. The entire presentation was approximately 30 minutes in duration. The pretest time allotted was 7 minutes, the educational presentation was 12 minutes, the posttest was an additional 7 minutes, and the question and answer period was 4 minutes for a total of 30 minutes. Both the pretest and posttest surveys were collected by a third party and then given to the principal investigator for data analysis. The pretest and posttest surveys can be referred to in Appendix E and F.

Knowledge Instrument

Knowledge was assessed and measured from the nine statement True/False questions. The questions covered definitions of OSA, the financial and clinical impact of OSA, risk factors, diagnosis, screening tools, and management strategies for the patient with OSA undergoing surgery. A five point Likert scale was included in the posttest and assessed the likelihood of the practitioner changing their management

strategies as a result of the presentation. An open-ended discussion period for questions and answers took place after the completion of the posttests.

Data analysis

The data analysis consisted of three sections. Section one focused on the demographic information provided by the participants using descriptive statistics and frequency tables. The second session was the knowledge assessment analyzing answers to the nine True/False statement questions. Comparisons of correct and incorrect answers between the pretests and posttests were completed, analyzed, and measured using a mean, median, and a 1-taled T test. Finally the third section consisted of the Likert scale question included in the posttest. The Likert scale question was analyzed using a mean and a mode for the responses.

Results

Demographics. There were 12 anesthesia providers in attendance for the live presentation. Out of the 12 anesthesia providers, 10 successfully completed both of the pretests and posttests (83.3%). The majority of anesthesia staff was male (70%), non-Hispanic white (90%), certified registered nurse anesthetist as the most common job title (70%), and had over 20 plus years of anesthesia experience (40%). There was a mix in the ages of anesthesia providers with 30% of participants reporting their age between 30-39, 40-49 (30%), 50-64 (30%) and older than 65 (10%). Complete demographic data is listed below in Table 1.

Table 1

Demographic Characteristics of Sample (n=10)

Characteristics	Respondents N (%)
Gender	
Male	7 (70)
Female	3 (30)
Age (years)	
18-29	0 (0)
30-39	3 (30)
40-49	3 (30)
50-64	3 (30)
65 & Older	1 (10)
Race/Ethnicity	
American Indian/ Alaska Native	0 (0)
Asian or Asian American	1 (10)
Black or African American	0 (0)
Hawaiian or Other Pacific Islander	0 (0)
Hispanic or Latino	0 (0)
Non-Hispanic White	9 (90)
Years of Anesthesia Experience	
0-2	1 (10)
3-5	1 (10)
6-10	1 (10)
11-15	2 (20)
15-20	1 (10)
20+	4 (40)
Job Title	
Anesthesiologist	2 (20)
CRNA	7 (70)
Other	1 (10)

Pretest and Posttest Knowledge Assessment

The pretest and posttest consisted of the same 9 questions. The principal

investigator hypothesized that after the educational presentation; a significant

increase in posttest scores would arise. The participants' scores on the pretest and

posttest were compiled. The mean, median, and modes were also compiled and the

pretest and posttest scores were compared using a 1-tailed t-test and compared against a standard p-value of 0.05. The calculated p-value of 0.00009063 corresponded with significant statistical importance that the educational presentation increased the knowledge of anesthesia providers taking care of a patient with OSA. Scores are listed below in Table 2.

Table 2

Response No.	Pretest Score	Posttest score	Posttest Likert Scale
1	7	8	4
2	7	9	4
3	8	9	5
4	6	9	4
5	8	9	5
6	7	8	4
7	8	9	5
8	8	9	4
9	8	9	4
10	8	9	4
p value	0.00009063		
Mean	7.5	8.8	4.3
Median	8	9	4
Mode	8	9	4

Likert Scale

A five-point Likert scale was utilized to assess the likelihood of an anesthesia provider changing their management strategies for a patient with OSA undergoing anesthesia as a result of the presentation. The mean response of 4.3 (Agree)

suggests a positive response to the presentation. The posttest Likert scores are displayed in Table 2.

Questions/Comments

A protocol was discussed in identifying high risk OSA patients by screening using the STOP BANG questionnaire and placing a "high risk" sticker in front of the patient's chart. The hospital currently employs the STOP BANG questionnaire and identifies patients using a sticker. There was one response in the comments section: "Great Presentation!"

Limitations

Limitations of the project included a small sample from only one population (anesthesia providers from a local community hospital). From the 12 anesthesia providers in attendance for the live presentation, 10 providers successfully completed the pretest and post-tests to full completion. Another limitation of the project included possible bias in the post-test when compared to the pretest because the questions were the same. The participants were already exposed to the questions via the pretest. A final important limitation was the fact that the hospital implemented a system in place to identify patients with high risk OSA prior to the completion of the project.

Conclusion

This practice project had the goals of educating anesthesia staff at a local community hospital on the perioperative management of the patient with OSA and implementing a protocol for identifying high risk OSA patients. The results of the surveys concluded that the anesthesia providers increased knowledge after the presentation. However, the hospital currently uses the proposed screening tool of STOP BANG and already identifies high-risk OSA patients with a sicker. Therefore, a protocol was already in place. Implementing the educational component of the project may be beneficial for other departments including registered nurses in both the preoperative and postoperative areas. Continued education of taking care of patients with OSA will improve patient care the hospital for all staff involved in the perioperative care of the patient.