OSA and Community-Based Education

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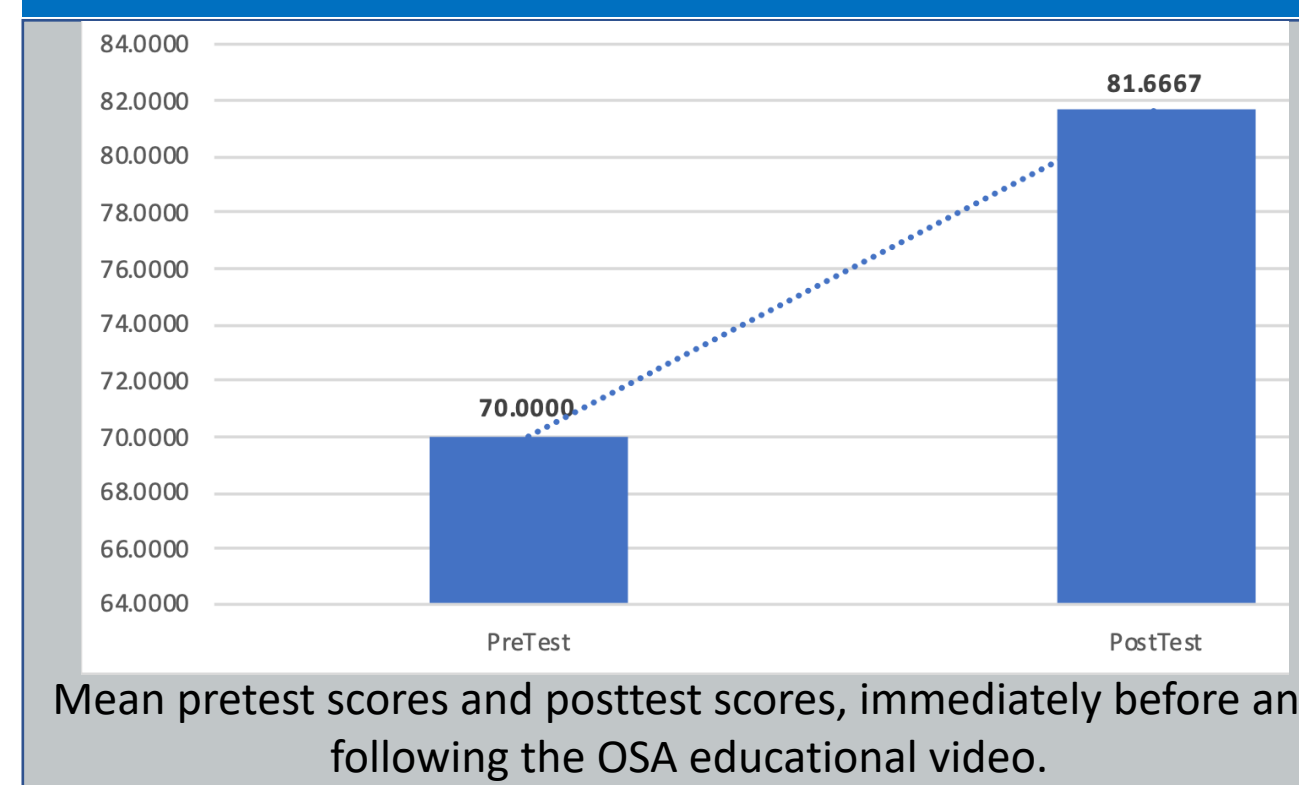AdventHealth Doctor of Nurse Anesthesia Program

Problem

It is estimated that 22 million adults in the US have OSA, 80% of whom are undiagnosed. This is due largely to a lack of education within communities, as only 21.5% of adults are aware of OSA. In addition, there are 46-80% of diagnosed individuals who are nonadherent to prescribed treatments resulting in an unwarranted increase in morbidity and mortality. Nurse anesthetists, specifically, are faced with intraoperative challenges when caring for undiagnosed individuals, as untreated OSA patients are at an increased risk for perioperative and postoperative complications, including death.

Literature Review

Previous studies of community-based educational interventions showed an increased patient knowledge base of OSA. This led to increased OSA screenings and adherence to prescribed sleep study orders and treatments. Sufficient evidence exists to support the need for community-based educational interventions in order to increase OSA diagnosis and adherence to treatment, which may decrease perioperative complications for the patient and nurse anesthetist. Educational interventions that explain OSA risk factors and comorbidities, PAP treatment, and results of sleep studies improve OSA knowledge base, screening rates, and adherence to PAP therapy and follow-up appointments.

Methods

Patients at a pulmonary and sleep medicine clinic in Orlando, Florida were recruited based on an ESS score of 6 or greater, with other comorbidities. Pretest and posttest scores were obtained before and immediately following an OSA educational video to determine the effectiveness of the OSA video. Participants were called 2 months following the completion of the video to determine if sleep studies were obtained. This secondary outcome will determine if there is a relationship between a change in test scores and sleep studies obtained, signifying whether increased OSA knowledge can predict sleep studies obtained after completion of the OSA video.

Results

Participants included adult patients attending a pulmonary and sleep medicine clinic in Orlando, Florida, who are at risk of OSA, quantified by an ESS score of 6 or greater. A total of 6 participants completed the first pretest and posttest, 1 participant completed all 3 tests and followed up with the completion of their sleep study, and 2 participants completed the second posttest. Possible barriers that resulted in low participation included a predominantly Spanish-speaking population, a lack of an incentive for subjects to participate in the scholarly project, and the clinic was unfortunately closed for a significant number of weeks due to the COVID-19 pandemic which also affected the number of participants that could participate in the scholarly project.

Illustration

Mean pretest scores and posttest scores, immediately before and following the OSA educational video.

More Results

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PreTest	70.0000	6	22.80351	9.30949
	PostTest	81.6667	6	23.16607	9.45751

The mean of the first pre-test, that assessed the initial knowledge base of patients at risk of OSA was 70%. After watching the OSA video, the mean scores increased to 81.67%, indicated by the posttest scores. This signifies that the OSA educational video increased the knowledge base of OSA in patients at risk of OSA attending a pulmonary and sleep medicine clinic.

Illustration

Paired Samples Test									
		Paired Differences							
					of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	PreTest - PostTest	-11.66667	11.89045	4.77261	-23.93504	.60171	-2.445	5	.058

A dependent t-test was performed using SPSS software version 21.0 to calculate the change in posttest scores from pretest scores. The secondary aim of this project was to determine a correlation between change in posttest scores from pretest scores and sleep studies obtained within 2 months. The obtained t value (-2/445) is associated with $p > .05$, therefore statistical significance was not achieved, and no conclusion can be made

Discussion & Implications

An OSA educational video, administered to patients at risk of OSA, increased their knowledge of OSA, indicated by the 11.7% increase in posttest scores. Statistical significance was not achieved to determine a relationship between increased test scores and sleep studies obtained, due to lack of participation. Possible limitations included a predominantly Spanish-speaking population, lack of incentives, and the COVID-19 pandemic.

Conclusions

The purpose of this scholarly project was to assess the effectiveness of an OSA educational video on OSA knowledge base in patients at risk of OSA, and compliance with physician-ordered sleep studies obtained. Our scholarly project indicated that an OSA educational video can increase OSA knowledge, which may possibly lead to increased OSA screening, treatment, and adherence to prescribed treatment, thus possibly decreasing perioperative complications.

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