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Knowledge about Airway Approach in Medicine Academics

Paula FP¹, Silva AP² and Silveira LAM^{2*}

¹Medical Student at Federal University of Triângulo Mineiro (UFTM), Trainee in Anesthesiology at Helio Angotti Hospital, Brazil

²Professor of Anesthesiology, Department of Surgery, Federal University of Triângulo Mineiro, Brazil

Research Article

Volume 6 Issue 2

Received Date: July 21, 2021

Published Date: August 02, 2021

DOI: 10.23880/accmj-16000193

***Corresponding author:** Luciano Alves Matias da Silveira, Professor of Anesthesiology, Department of Surgery, Federal University of Triângulo Mineiro (UFTM), Uberaba, MG-Brazil, Email: drluciano@hotmail.com

Abstract

Introduction: The approach to the airways is a common practice in medical life, being a delicate situation susceptible to complications, which requires skill. The objective of this work is to analyze the profile of airway instruction of students in the sixth year of medicine at a Federal University.

Methods: Students answered an airway questionnaire. Theoretical knowledge about airway predictors, such as Mallampati and Cormack-Lehane classification, practices and mastery in orotracheal intubation, and use and knowledge of auxiliary devices for airway management were addressed. Answers were coded into spreadsheets for analysis.

Results: Fifty students participated in the research (adherence of 62.5%), with a mean age of 25.5 years (22-37 years old) and equal gender divisions. The analysis showed that 100% of academics know the Mallampati Classification, but only 38% know the Cormack-Lehane. As for the practice of orotracheal intubation, 68% performed at least one orotracheal intubation in patients during graduation. About the knowledge of auxiliary and supraglottic devices, 86% say they know the Bougie and 82% at least one supraglottic device. As for the need to establish a surgical airway, 32% reported being able to establish it.

Conclusion: Despite the teaching of anesthesiology in the mandatory curriculum at our institution, there is a need for new approaches at different times in the academic course. The practice of activities in the fields of teaching, research and extension aimed at consolidating knowledge of predictors and training in situations of airway management and the use of auxiliary devices should be encouraged.

Keywords: Airway Management; Anesthesiology

Introduction/Proposed Objectives

In medical practice, situations in which airway handling is necessary are very frequent, such as, for example, in cases of cardiorespiratory arrest, trauma, loss of consciousness and respiratory failure. Having specific training for this management, knowing how to use the necessary devices, as

well as recognizing predictive factors for difficult airways, and having the ability to act on its possible complications are fundamental requirements for the physician's good performance [1-3]. This need is even more important in relation to newly graduated physicians, who, for the most part, will start their professional lives in urgency/emergency units, services in which situations that require airway

handling are even more frequent [1,2].

The training offered by the undergraduate course is shown to be elementary [4]. This study seeks to outline the instruction profile of students in the last year of the Medicine course at the Federal University of Triângulo Mineiro (UFTM) on airway management. It is a way of making a diagnosis of the training of students in airway offered by this institution, enabling interventions to solve possible deficiencies, such as theoretical/practical complements, contributing to the improvement of the training of future doctors and, consequently, bringing an impact positive for health services, benefiting patients. For this, we proposed a cross-sectional study, with a questionnaire applied to students.

Methods

A cross-sectional observational population study was carried out with students in the last year of the Medicine Course at the Federal University of Triângulo Mineiro (UFTM). As an assessment instrument used for the study, a questionnaire was used, which students were invited to answer after signing the Informed Consent Form. The questionnaire addressed, through eighteen questions, theoretical knowledge about airway predictors and knowledge and experience about the use of auxiliary devices for airway management. The multiple-choice questions were previously elaborated by the research group based on fundamental topics for the proper handling of the airways. After collecting the information, the data were tabulated in spreadsheets to survey the results and descriptive analysis.

This study was approved by the Research Ethics Committee (CAAE: 57299916.5.0000.5154).

Results

Fifty students participated in the research (62.5% adherence), with a mean age of 25.5 years (22-37 years), with equal gender divisions. Statistical analysis showed 68% of them know what is the sniffing position for orotracheal intubation (OTI). Regarding difficult airway predictors, 100% of students know the Mallampati classification, but only 38% report knowing the Cormack-Lehane classification. As for the experience with performing an OTI, 68% of the students performed at least one OTI, and of these: 79% believe this is a procedure with a moderate degree of difficulty to perform; 9% easy and 12% difficult. Among students who had already experience with OTI, 55.8% have already presented at least one case in which they were unable to perform the procedure.

About knowledge of auxiliary devices, 86% know the Bougie and 20% reported not knowing if this device is available at the UFTM. As for supraglottic devices, 82% know

at least one of these devices and 26% said they do not know if there is a supraglottic devices available at the University. As for the need to establish a surgical airway, 32% of students report being able to establish it when necessary.

Discussion

Verifying the teaching-learning process through an evaluative test was a way found to determine the effectiveness of the undergraduate course in teaching skills and abilities in airway management, as well as a way to make the Institution and people involved in medical education recognize and take action with their own learning needs in mind [1,5]. In our Institution, the mandatory curriculum provides for teaching about airway approach in the Anesthesiology Discipline, distributed between practical and theoretical activities, and in the sixth year through outpatient practical activity with pre-anesthetic assessment of patients who undergo procedures surgical procedures at the University [6].

As a way of predicting the patient's degree of intubation difficulty, the results show that, although 100% of students know the Mallampati Classification, only 38% know the Cormack-Lehane classification, the first being more intended for elective procedures, which remain under the responsibility of the specialist physician, and the second is of fundamental importance for emergency procedures, with which the newly graduated physician will routinely come into contact [3].

Thus, more than half of the students do not know how to predict the difficulty of the procedure OTI through the degree of glottic visualization by direct laryngoscopy [3]. Therefore, they are also not able to identify situations in which the use of auxiliary devices, such as the bougie, are necessary, nor the need to use a supraglottic device when an OTI is not possible.

The students' lack of knowledge regarding the availability of Bougie and supraglottic in the institution where they study and carry out their professional internships is worrying. Along with the other results, this shows a discrepancy between theoretical teaching and practical experience in the urgent and emergency stages during graduation [5].

More than half of students (68%) have already taken an OTI. It is a positive result, as having had this experience while still in graduation gives security to work after graduation [6].

We believe that this is a type of study to be applied inter-institutionally as a way of diagnosing deficiencies in the teaching of airway management, sharing experiences and joint improvement in different teaching centers. In order to be more accurate in raising the profile of instruction on airway management, pharmacological knowledge of

hypnotic, sedative and muscle relaxants, as well as the main structures that make up the airways and their relationships with each other, should be added in further studies [1,4,5].

Conclusion

Despite the mandatory teaching in the curriculum at UFTM, the results show gaps in knowledge and experience about airway management, as well as lack of academic knowledge about the availability of material at the institution. This shows the need for continuing education, with new approaches and interventions to complement and consolidate knowledge of predictors, training in difficult airway situations and the use of auxiliary devices for this purpose, aiming at a safe approach to the airway, with a reduction in adverse events that its inadequate handling can bring about.

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