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MISCELLANEOUS

Profile of drug administration errors in anesthesia among anesthesiologists from Santa Catarina



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KEYWORDS

Medical errors;
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Abstract

Introduction: Anesthesiology is the only medical specialty that prescribes, dilutes, and administers drugs without conferral by another professional. Adding to the high frequency of drug administration, a propitious scenario to errors is created.

Objective: Access the prevalence of drug administration errors during anesthesia among anesthesiologists from Santa Catarina, the circumstances in which they occurred, and possible associated factors.

Materials and methods: An electronic questionnaire was sent to all anesthesiologists from Sociedade de Anestesiologia do Estado de Santa Catarina, with direct or multiple choice questions on responder demographics and anesthesia practice profile; prevalence of errors, type and consequence of error; and factors that may have contributed to the errors.

Results: Of the respondents, 91.8% reported they had committed administration errors, adding the total error of 274 and mean of 4.7 (6.9) errors per respondent. The most common error was replacement (68.4%), followed by dose error (49.1%), and omission (35%). Only 7% of respondents reported neuraxial administration error. Regarding circumstances of errors, they mainly occurred in the morning (32.7%), in anesthesia maintenance (49%), with 47.8% without harm to the patient and 1.75% with the highest morbidity and irreversible damage, and 87.3% of cases with immediate identification. As for possible contributing factors, the most frequent were distraction and fatigue (64.9%) and misreading of labels, ampoules, or syringes (54.4%).

Conclusion: Most respondents committed more than one error in anesthesia administration, mainly justified as a distraction or fatigue, and of low gravity.

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PALAVRAS-CHAVE

Erros médicos;
Erros de medicação;
Anestesiologia;
Anestesia

Perfil de erros de administração de medicamentos em anestesia entre anesthesiologistas catarinenses

Resumo

Introdução: A anestesiologia é a única especialidade médica que prescreve, dilui e administra os fármacos sem conferência de outro profissional. Somando-se a alta frequência de administração de fármacos, cria-se o cenário propício aos erros.

Objetivo: Verificar a prevalência dos erros de administração de medicamentos durante anestesia, entre anesthesiologistas catarinenses, as circunstâncias em que ocorreram e possíveis fatores associados.

Materiais e métodos: Um questionário eletrônico foi enviado a todos os anesthesiologistas da Sociedade de Anestesiologia do Estado de Santa Catarina contendo respostas diretas ou de múltipla escolha sobre dados demográficos e perfil da prática anestésica do entrevistado; prevalência de erros, tipo e consequência do erro; e fatores que possivelmente contribuíram para os erros.

Resultados: Dos entrevistados, 91,8% afirmaram ter cometido erro de administração, somando total de erros de 274 e média de 4,7 (6,9) erros por entrevistado. O erro mais comum foi substituição (68,4%), seguido por erro de dose (49,1%) e omissão (35%). Apenas 7% dos entrevistados referiram erros de administração no neuroeixo. Quanto às circunstâncias dos erros, ocorreram principalmente no período matutino (32,7%), na manutenção da anestesia (49%), com 47,8% sem danos ao paciente e 1,75% com maior morbidade com dano irreversível e em 87,3% dos casos a identificação imediata. Quanto aos possíveis fatores contribuintes, os mais frequentes foram: distração e fadiga (64,9%) e leitura errada dos rótulos de ampolas ou seringas (54,4%).

Conclusão: A maioria dos anesthesiologistas entrevistados cometeu mais de um erro de administração em anestesia, principalmente justificado como distração ou fadiga, de baixa gravidade.

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Introduction

Drug administration errors are important causes of morbidity and mortality,^{1,2} accounting for about 7000 deaths per year in the United States,³ resulting in direct health costs and possibly avoidable human suffering.² Anesthesiology is the only medical specialty that prescribes, dilutes, and administers drugs without conferral by another professional. Adding to the high frequency of drug administration, as well as its potency and application urgency, it creates a favorable setting for errors and to the disastrous consequences of such failure.

Thus, there are several studies reporting drug administration errors as an important cause of anesthetic morbidity and mortality. In a 1984 study, evaluating anesthesia incidents, the most frequently reported were respiratory system shut-down and needle Exchange.⁴ In another study performed in Denmark of deaths related to anesthesia, medication errors were the second leading cause, second only to airway and ventilation problems. When associated with deaths from medication errors and infusion pump problems, they become the study leading cause of mortality.⁵

Over the past 60 years, many studies have assessed the prevalence of drug administration error in anesthesia, but prospective works designed specifically to study the issue arose only in the last decade.^{6–10} Such works reported incidences ranging from one error for each 133–450 anesthesia applications. Considering the higher incidence, it was

estimated that each anesthesiologist makes seven mistakes a year and consequently causes damage in two patients over a career.²

Thus, together with the growing interest in issues concerning the patient safety during anesthesia, it is of great value to examine the prevalence of medication errors among anesthesiologists in Santa Catarina, as well as the verification of the factors that contribute to the error.

Objective

Check the prevalence of drug administration errors during anesthesia among anesthesiologists in Santa Catarina, as well as the circumstances in which they occurred, and assess the possible associated factors.

Method

We developed an electronic questionnaire (Appendix 1), with three sections of questions. The questions were either direct or multiple choice, when appropriate, and more than one answer could be checked. The first section dealt with demographic data (sex and age), as well as the interviewee anesthetic practice profile: number of years working with anesthesiology, hours worked per week, and degree of specialization. The second section had questions on prevalence of errors among respondents, number of remembered

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