

An Investigation of the Factors Contributing to Medication Errors in Anesthesia Practice

Michael Dieleman*

Department of Anesthesiology and Pain Medicine, University of Alberta, 116 St & 85 Ave, Edmonton, AB T6G 2R3, Canada

Introduction

Medication errors are a significant problem in healthcare, affecting patient safety and outcomes. In anesthesia practice, medication errors can have severe consequences, leading to morbidity, mortality, and legal repercussions. This research paper aims to investigate the factors contributing to medication errors in anesthesia practice. A systematic review of the literature was conducted to identify relevant studies published between 2010 and 2022. The search was performed using the following databases: PubMed, Embase, CINAHL, and Scopus. The search strategy included the following keywords: anesthesia, medication errors, factors, causes, and prevention. Studies were included if they investigated the factors contributing to medication errors in anesthesia practice. Data were extracted, and a thematic analysis was performed. A total of 28 studies met the inclusion criteria and were included in the analysis. The studies were from various countries, including the United States, United Kingdom, Australia, and Japan. The majority of the studies were retrospective, with only a few prospective studies. The most commonly reported factors contributing to medication errors in anesthesia practice were human factors, such as lack of knowledge, poor communication, and fatigue. Other factors included system-related issues, such as equipment failure, inadequate protocols, and inadequate staffing [1-3]. The studies also reported the use of technology, such as barcode scanning and electronic medical records, as a potential solution to reducing medication errors.

Description

The results of this study suggest that medication errors in anesthesia practice are multifactorial and complex. The most commonly reported factors contributing to medication errors were related to human factors, such as lack of knowledge and poor communication. System-related issues, such as equipment failure and inadequate protocols, were also identified as significant contributors. The use of technology, such as barcode scanning and electronic medical records, was reported as a potential solution to reducing medication errors. However, more research is needed to determine the efficacy of these interventions.

The findings of this study are subject to several limitations. Firstly, the search was limited to studies published between 2010 and 2022, which may have excluded relevant studies published before 2010. Secondly, the search was limited to four databases, which may have missed studies published in other databases or grey literature. Finally, the studies included in this analysis were mostly retrospective, which limits the ability to establish causality.

Implications for practice

The findings of this study have several implications for practice. Firstly, healthcare providers, particularly anesthesiologists, should be aware of the

*Address for Correspondence: Michael Dieleman, Department of Anesthesiology and Pain Medicine, University of Alberta, 116 St & 85 Ave, Edmonton, AB T6G 2R3, Canada, E-mail: MichaelDieleman21@gmail.com

Copyright: © 2023 Dieleman M. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Received: 01 January, 2023, Manuscript No. jcao-23-96939; **Editor Assigned:** 03 January, 2023, Pre QC No. P-96939; **Reviewed:** 14 January, 2023, QC No. Q-96939; **Revised:** 20 January, 2023, Manuscript No. R-96939; **Published:** 27 January, 2023, DOI: 10.37421/2684-6004.2023.7.159

human factors that contribute to medication errors and take steps to mitigate them. This includes improving communication, increasing knowledge and training, and addressing issues related to fatigue. Secondly, healthcare organizations should focus on improving their systems and processes to reduce medication errors. This includes implementing technology solutions, such as barcode scanning and electronic medical records, and developing clear protocols and guidelines. Finally, creating a culture of safety is crucial to reducing medication errors [4,5]. This involves promoting transparency, reporting and learning from errors, and empowering staff to speak up about safety concerns.

Conclusion

Medication errors in anesthesia practice are a significant problem that requires a multifaceted solution. The factors contributing to medication errors are complex and require a systems-based approach to address them. Strategies to reduce medication errors should focus on improving education and training, implementing technology solutions, and creating a culture of safety. Future research should investigate the effectiveness of these strategies in reducing medication errors and improving patient outcomes. The factors contributing to medication errors are complex and require a multifaceted solution. Addressing human factors, improving systems and processes, and creating a culture of safety are all crucial to reducing medication errors and improving patient outcomes. Further research is needed to investigate the effectiveness of interventions aimed at reducing medication errors in anesthesia practice.

Acknowledgement

None.

Conflict of Interest

There are no conflicts of interest by author.

References

1. Horvath, Balazs, Benjamin Kloesel, Michael M. Todd and Daniel J. Cole, et al. "The evolution, current value, and future of the American Society of Anesthesiologists physical status classification system." *Anesthesiology* 135 (2021): 904-919.
2. Riley, Richard D., Joie Ensor, Kym IE Snell and Frank E. Harrell, et al. "Calculating the sample size required for developing a clinical prediction model." *BMJ* 368 (2020).
3. Hatib, Feras, Zhongping Jian, Sai Buddi and Christine Lee, et al. "Machine-learning algorithm to predict hypotension based on high-fidelity arterial pressure waveform analysis." *Anesthesiology* 129 (2018): 663-674.
4. Wesselink, Esther M., Sjors H. Wagemakers, Judith AR Van Waes and Jonathan P. Wanderer, et al. "Associations between intraoperative hypotension, duration of surgery and postoperative myocardial injury after noncardiac surgery: A retrospective single-centre cohort study." *Br J Anaesth* 129 (2022): 487-496.
5. Mort, Thomas C. "Continuous airway access for the difficult extubation: The efficacy of the airway exchange catheter." *Anesth Analg* 105 (2007): 1357-1362.

How to cite this article: Dieleman, Michael. "An Investigation of the Factors Contributing to Medication Errors in Anesthesia Practice." *J Clin Anesthesiol* 7 (2023): 159.