Blood Contamination: Quality Improvement

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Quality improvement is important to the world, as the point is that it always finds ways to improve services in any industry that serves people. The terms of healthcare quality improvement can change the ways that we help people, and it is constantly changing the ways we perform tasks. By constantly changing, quality improvement can improve client satisfaction, client outcomes, and even make healthcare professionals provide better care. By accepting information from different forms of learning, healthcare professionals can provide better care for clients, which often in return relates to better outcomes for a client (QESN, 2020). Using tools to improve skills, such as cause-and-effect diagrams, can allow for a better understanding of specific care provided to a client (QESN, 2020). Additionally, being able to appreciate constant changes for quality improvement is a key factor in healthcare; being open to change can allow for the best outcomes for a client (QESN, 2020). Every time a new strategy is adopted in the healthcare industry, it is founded in evidence-based practice and has undergone thorough research, therefore facilitating the delivery of the most effective and efficient care possible. Blood contamination is a large issue within the healthcare industry, as contamination can cause false diagnoses (McLeod, 2020). With false diagnoses, the client may receive medication that is not necessary or could harm the client. Additionally, with a false diagnosis, the provider may not know what is wrong with the client. The article seeks to evaluate the primary issues related to the topic, including minimizing contamination and enhancing healthcare education on blood draws (McLeod, 2020).

Article Summary

The research article examined the appropriate technique for conducting a blood draw, as well as preventive strategies to reduce blood contamination, including the implementation of sterile techniques to minimize external contamination from the skin and surrounding environment (McLeod, 2020). Additionally, the research evaluated the different types of blood draws, the use of more than one site for blood draws, and the Clinical and Laboratory Standards Institute guidelines. The project manager proposed strategies for reducing blood contamination, including supplementary training for healthcare providers, implementation of checklists for blood draws, weekly assessments of current contamination rates, and effective collection of blood samples from two distinct sites to eliminate contamination (McLeod, 2020). Enhancing quality in blood draw procedures to minimize contamination might decrease hospitalization duration, reduce unnecessary drug usage, and reduce the heightened mortality risk associated with incorrect diagnoses.

Introduction

This article originated from a qualitative study aimed at reducing the occurrence of blood contamination and enhancing the quality of blood draws to mitigate contamination (McLeod, 2020). The article clarified the nature of bloodstream infections, the prevalence of blood draws as initial procedures in emergency departments, the proper technique for performing a blood draw without contamination, and the significance of various vials utilized throughout the procedure (McLeod, 2020). Additionally, the article provided information about how to avoid contaminating a blood sample and includes ideas about how to get compliance from healthcare providers. Quality improvement pertains to this issue as it offers insights into misdiagnosed

bloodstream illnesses caused by contamination in the healthcare industry, hence suggesting methods to enhance the quality of uncontaminated blood draws.

Overview

The article examines healthcare personnel in an emergency department, specifically registered nurses, licensed practical nurses, patient care technicians, and briefly addressed laboratory phlebotomists (McLeod, 2020). The article briefly discussed laboratory phlebotomists, noting that the study revealed a lack of phlebotomists available 24 hours a day, in contrast to the constant presence of nursing staff. Additionally, scheduling issues were highlighted, as larger patient-to-nurse ratios occasionally compelled nurses to work more rapidly, thereby failing to adhere to all guidelines (McLeod, 2020). This study includes these healthcare providers because they frequently collaborate in an emergency department. Frequently, one of the initial actions a nurse undertakes is the insertion of an intravenous catheter, ensuring that, in the event of a rapid deterioration, there remains a means to administer medication to the patient. Typically, when an intravenous line is inserted, the nursing staff will perform a blood draw if it has been required at that time. This approach minimizes the need for several venipunctures and accelerates the transfer of blood samples to the laboratory. During such insertions, a sterile environment is essential to minimize potential contamination (Lynn, 2023 pg. 1013). The healthcare provider may cleanse the skin, but then touch the site intended for catheter insertion, compromising sterility (Lynn, 2023 pg. 1013). Furthermore, this approach utilizes a single sample site rather than two. This pertains to the enhancement of blood sample collection quality, as the nurse, despite being proactive, must adhere to the latest practices to ensure optimal client safety (QSEN, 2020).

Quality Improvement

Blood draw contamination is a significant concern in the healthcare industry, with the Clinical and Laboratory Standards Institute establishing a threshold of less than 3% contamination (McLeod, 2020). The organization examined in the research reported a hospital-wide contamination occurrence of 1.81%, with a specific rate of 3.39% in the emergency department (McLeod, 2020). All facilities that perform blood draws could benefit from quality improvement aimed at reducing contamination. The emergency department could improve blood draw procedures; even in a rapid environment, criteria must be established and adhered to. During the preimplantation stages, interactions with healthcare providers are necessary to clarify their expectations, as well as to provide instruction on the proper execution of an uncontained blood sample. The study recommended posters and reminder sheets in staff personal areas, including break rooms and nursing stations (McLeod, 2020). During the implementation phase, it is recommended to have an observer monitor the blood draw technique to ensure that the procedures are executed correctly, particularly regarding the proper cleaning of the area to prevent recontamination, as well as verifying that the provider collects samples from two distinct sites. In the post-implementation phase, healthcare providers should be capable of conducting blood draws with minimal or no contamination. Reminder brochures and posters should be available as clear reminders of the expectations for the providers. Furthermore, after the implementation of the procedures, it would be wise to conduct weekly or monthly meetings with personnel to facilitate open communication regarding the newly introduced blood draw techniques. The proposed modifications will likely result in cost savings for the hospital, as reduced contamination leads to fewer further blood draws and minimizes the administration of unnecessary medication (McLeod, 2020). While the modifications may enhance client outcomes,

they may not improve client satisfaction, as patients frequently dislike being subjected to many needle insertions. Changes in the medical field significantly impact nursing satisfaction, as nurses are often overworked and fatigued. However, after time, these adjustments may become second nature. The modifications can enhance client safety by minimizing misdiagnoses and preventing the administration of needless medication also reducing possible adverse reactions to unneeded medication (McLeod, 2020). The installation of nursing safety measures may provide the nursing staff with reassurance regarding the accuracy of blood draws, while it would not significantly alter overall nursing safety.

Application to Nursing

Excessive workloads, insufficient staffing, and elevated nurse-to-client ratios, along with high emergency department activity, may lead nurses to neglect necessary precautions during blood draws, hence potentially heightening the risk of contamination. Frequently, numerous individuals in the emergency department's examination room collaborate rapidly during the initial 10 minutes of arrival to evaluate and establish necessary rapid interventions. The presence of all individuals in the room should enable the primary nurse to appropriately slow down and perform a contamination-free blood collection. Allowing the nurse to take just 5 minutes to conduct a contamination-free blood draw can save the client from needing unneeded drugs. A clean blood draw can reduce the number of needle punctures a client endures during repeated blood draws later in the visit. Moreover, the nurse's ability to slowdown can be beneficial, as can ongoing instruction and reminders regarding the right technique for performing a blood draw. Consistently using a phlebotomist helps reduce blood contamination levels, as they can

concentrate solely on blood collection while nursing personnel attend to the overall needs of the patient.

Practice

The most current procedure for a blood drawing encompasses several steps, including palpation, disinfection, and needle insertion (Lynn, 2023 pg. 1013). Nurses must assess the insertion location prior to cleansing the area by visually inspecting it and palpating for a suitable vein, as this practice can mitigate contamination. Following to the evaluation, the nurse sanitizes the site using a sterile applicator filled with antiseptic solution to cleanse the skin and eliminate all forms of bacteria, both beneficial and detrimental, as the skin harbors natural bacteria that may influence the outcomes of the blood draw (Lynn, 2023 pg. 1013). Following cleansing, nurses must ensure they do not touch the area, as contamination may reside on their gloves. If the nurse must re-examine the area, they should don sterile gloves if available; if not, the nurse should permit sufficient time to wipe the area again, ensuring it dries fully (Lynn, 2023 pg. 1013). Upon confirming the skin is thoroughly cleansed, the nurse should insert the needle and catheter into the vein, thereafter connecting the appropriate equipment to draw blood before attaching the intravenous line tubing (Lynn, 2023 pg. 1013). The nurse must ensure the sterilization of the tops of the tubes intended for blood collection and minimize contact with equipment connections wherever possible. Although time-consuming, these precautions are essential to prevent blood contamination. The processes facilitate the formulation of the most precise and effective treatment plan by enabling the laboratory to accurately detect infections or diseases on the initial assessment, rather than potentially failing to analyze the laboratory results due to contamination. The current protocol indicates that a single site suffices for blood collection; however, the article advocates for utilizing two collection sites to facilitate

comparison between the blood samples, as an infection should manifest in both collections, whereas contamination may be confined to a single site (McLeod, 2020).

Education

Blood draw contaminations in an emergency room can arise from multiple factors, including diverse skin preparations, varying skin cleansing and drying durations, and the collection of blood cultures from pre-existing peripheral intravenous catheters (McLeod, 2020). Nurses should have been instructed on the proper execution of adequate blood collection during their nursing education. Passing the required skills during the necessary classes is a graduation requirement for nurses. Upon graduation, nurses should continue to participate in mandatory training to consistently update their skills and knowledge. Moreover, participating in educational sessions is essential as techniques are constantly developing, permitting nursing to be instructed on the latest and most effective methods for performing tasks such as blood drawings.

Research

Research on blood draw contamination should focus on the patient-to-staff ratio, prolonged emergency room wait times, the amount of healthcare personnel present in the examination room, fatigue, and nursing burnout due to understaffing. By examining patient-to-staff ratios, an evaluation can be conducted to comprehend how an increased number of patients per nurse impacts the efficacy of essential tasks, such as blood draws. Furthermore, the rise in emergency room visits calls for investigation, as a higher patient influx compels nursing staff to expedite their work. This research could reveal the potential correlation between hurried tasks and blood contamination. Analyzing the number of healthcare experts present in an examination room may enhance blood draw statistics, as the nurse can concentrate on the procedure while

another professional evaluates the patient. Furthermore, investigating the exhaustion levels of nurses, including their workload and working hours, may correlate with contaminated blood draws, as the nursing staff may be fatigued and overworked. Finally, the phenomenon of nursing burnout due to inadequate staffing warrants investigation, as fatigued and exhausted nurses may exhibit diminished care due to feelings of being overwhelmed and overworked.

Conclusion

The primary objective of the healthcare industry is quality improvement, as it positively impacts patients' lives. Nurses and healthcare personnel assist individuals throughout their most challenging times, with the objective of enhancing their lives to the best of our ability. Quality improvement pertains to enhancing healthcare practices to elevate client satisfaction and outcomes. Quality improvement is included under QSEN concepts, emphasizing the connection of practices with hospital values and the implementation of the most current updates in practice (QSEN, 2020). Quality improvement is an ongoing effort, particularly in the medical domain. Healthcare workers continually acquire new methods and strategies to enhance client results, improve client satisfaction, and to deliver exceptional treatment for clients. Continuous learning is associated with evidence-based practice, which fundamentally entails discovering improved methodologies through practice and experience. Healthcare personnel are accountable for saving lives under all circumstances; thus, quality improvement should be of the highest priority in the medical industry. We must persist in our growth and adaptation to improve client outcomes.

References

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