

Paper Details

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How I Applied Research Skills

The academic peer reviewed articles for my annotated bibliography were accessed from credible sites including Google Scholar, Proquest, EBscohost, and the University library. I used keywords such as BCMA, health information technology, and medication administration errors to identify sources that were relevant to my research topic. Only sources that were five years old (2015-2020) were included in the study to provide current information regarding the subject matter. I assessed the credibility and relevance of the information sources by checking the qualification of the authors and their institutional affiliation. The approach ensured that I used articles that were relevant and written by authors who were competent in the issue being discussed.

Annotated Bibliography

Article 1: Ruby, C.(2016). Simple steps to reduce medication errors. *Nursing Center*, 46(8), 63-65

The primary purpose of the article was to identify steps that medics should comply with to

minimize medication errors. Ruby notes that medication errors can resurface at any stage of prescribing medication, including reporting, monitoring, administering, dispensing, transcribing, or prescribing process. Any error has costly and severe outcomes like prolonged hospital stays, severe harm, additional treatment interventions, or patient mortality and morbidity. The article states that medical errors in the United States are among the leading causes of death with 250,000 individuals succumbing to death annually. Nurses who commit medication errors feel traumatized, a factor that threatens their confidence and self-esteem. For these reason, the article states that nurses must enhance their pharmacologic knowledge in addition to updating themselves about new drugs. Additionally, they should improve their drug calculations to reduce errors. Healthcare facilities must put in place an education plan to improve their nurses' proficiency in administering medications and reducing errors. Nurses must adhere to the five rights of administering medication and should double-check to ensure that the correct route is followed when administering medication. These strategies are effective in reducing medication administration errors.

Article 2: Truitt, E., Thompson, R., Blazey-Martin, D., Nisai, D.,& Salem, D.(2016). Effect of the implementation of barcode technology and an electronic medication administration record on adverse drug events. *Hospital Pharmacy*, 51(6), 474-483. <https://doi.org/10.1310/hpj5106-474>

The primary purpose of the article was to examine the impact of adopting electronic medication administration record (eMAR) technology and barcode medication administration (BCMA) on reducing adverse drug events. According to the article point of view, medication errors are

among the most prevalent mistakes in the United States affecting clients in hospitals. Almost more than half of the hospitalized patients are affected by adverse drug events that are caused by medication administration errors. The article states that the United States incurs about \$ 3.5billion annually to address medication errors. However, with the implementation of BCMA and eMAR technology, patient safety is improving while reducing transcription errors, administration errors, and adverse drug events. Thus, technologies such as BCMA and eMAR are crucial in addressing medication administration errors.

Article 3: Marianne, D.L.(2019). Detecting medication administration errors. *Journal of Patient Safety*, 15(3), 181-183. [https://doi.org/ 10.1097/PTS.0000000000000384](https://doi.org/10.1097/PTS.0000000000000384)

The primary purpose of the article was to find out why medication administration errors remain a significant challenge in the healthcare sector. Marianne in her article acknowledges that medication errors are a significant challenge in healthcare facilities, with administration errors leading. She argues that more than 251,000 deaths in the healthcare facilities are as a result of medication errors. Medication errors rank third after cancer and heart diseases as the leading cause of death. The article further notes that although administration errors are preventable, some are difficult to detect despite the experience, training, and education of nurses on how to administer medication effectively. Therefore, addressing individual factors is a crucial step in reducing medication administration errors at the healthcare facilities.

Article 4: Shah, K., Lo, C., Babich, M., Tsao, N.W., & Bansback, N.J.(2016). Bar code medication administration technology: A systematic review of impact on patient safety when used with computerized prescribed order entry and automated

dispensing devices. *Canadian Journal of Hospital Pharmacy*, 69(5), 394-402.

<https://doi.org/10.4212/cjhp.v69i5.1594>

The primary purpose of the article was to assess the use of technology in addressing medication administration errors. Shah et al. (2016) state that medication errors are a threat to the safety of the patients because they result in adverse drug events. Incidents of medication administration errors increase hospital stay by about 4.6 days and exert financial burden on healthcare facilities. Barriers like cost and the absence of definitive evidence that BCMA technology prevents medication errors limit its widespread adoption, especially in hospitals with safety systems like automated dispensing devices (ADDs) and computerized prescriber order entry (CPOE). Nonetheless, the article suggests that BCMA reduces transcription errors, non-timing administration errors, and total medication errors. The authors concluded that further studies should consider the effectiveness of BCMA in reducing life-threatening errors rather than limiting themselves to transcription errors, non-timing administration errors, and total medication errors

What I have learned From Developing the Annotated Bibliography

From the analysis of the four sources, it is apparent that medication administration errors are a significant issue in the healthcare facilities. It not only results in adverse drug events but also increases mortality, morbidity, and healthcare expenses due to prolonged hospital stays. However, BCMA and eMAR technologies are considered effective solutions for reducing and preventing medication administration errors. Barriers like costs and the absence of definite

evidence regarding BCMA effectiveness in avoiding medication administration errors have thwarted its wider adoption.

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References

1. Truitt, E., Thompson, R., Blazey-Martin, D., Nisai, D., and Salem, D.(2016). Effect of the implementation of barcode technology and an electronic medication administration record on adverse drug events. *Hospital Pharmacy*, 51(6), 474-483. <https://doi.org/10.1310/hpj5106-474>
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4. Marianne, D.L.(2019). Detecting medication administration errors. *Journal of Patient Safety*, 15(3), 181-183. <https://doi.org/10.1097/PTS.0000000000000384>