**Applying Research Skills: Medication Errors**

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Medication errors are common medical errors that often present serious consequences, they are a leading cause of death. "Medication errors can occur at any step in the medication process in hospitals (prescribing, dispensing, and administration)" [ CITATION Ber21 \l 1033 ]. Most commonly they tend to occur during administration. They can be caused by human error, by the complicated process and/or lack of procedures to identify these mistakes.

This can happen to anyone, new, or seasoned nurses. It usually happens when we do not pay attention, are rushed, interrupted, understaffed, and tired. As a new nurse I made a medication error that was not harmful to the client, because I was not paying attention to what I was supposed to do. I gave the wrong dose of an antipsychotic medication to a patient, he was to get his maintenance dose, but I administered a lower one that was intended to be a loading dose. Once I identified the mistake I notified the director of nursing, the prescriber, and of course the patient. Thankfully, the prescriber assured me that it was not a problem and advised me to let the patient know that if he became symptomatic before his next dose, he could come early to get his prescribed maintenance dose. I am glad that no harm was done to the patient, but this mistake marked me for life, since that day, I cross reference every step, double and triple check everything.

**Identifying Academic Peer-Reviewed Journal Articles**

I utilized Capella University online library. I was able to locate articles in the Nursing and Allied Health databases and the Summon search engine. Keywords like "medication errors", "patient safety", "near miss", and "medication administration safety" were used to search for peer review journal articles in the last five years. I decided to use these only because they are

sources of credible evidence, I did not use Google or any other resource to avoid low and medium validity information.

## Assessing Credibility and Relevance of Information Sources

I chose articles from the last three to five years. Written and reviewed by credible medical professionals. These articles contain properly cited information, opinions, facts, and statistics related to identifying, reporting, classifying, and preventing medication errors.

## Annotated Bibliography

Berdot, S., Vilfaillot, A., Bezie, Y., Perrin, G., Berge, M., Corny, J., . . . Sabatier, B. (2021). Effectiveness of a 'do not interrupt' vest intervention to reduce medication errors during medication administration: a multicenter cluster randomized controlled trial. BMC Nursing, 20, 1-11. doi:https://doi.org/10.1186/s12912-021-00671-7. This was a multicenter, cluster, controlled, randomized study conducted in 2017, in 29 adult units of 4 hospitals. Nurses were notified that they were going to wear a vest with the words "Do not interrupt, I am preparing Medication", this study was done evaluate the type and clinical consequences of errors, and how these could be associated with multiple risk factors, like the nurses' level of knowledge, interruptions by family members, other nurses, and physicians, etc. The authors conclusion showed that not only the vest had no impact and that further studies were needed.

Gates, P. J., Baysari, M. T., Mumford, V., Raban, M. Z., & Westbrook, J. I. (2019, August). Standardising the Classification of Harm Associated with Medication Errors: The Harm Associated with Medication Error Classification (HAMEC). Drug Safety: An International Journal of Medical Toxicology and Drug Experience, 42(8), 931-939. doi:https://doi-org.library.capella.edu/10.1007/s40264-019-00823-4. This article was

done with the purpose of assessing the classification of harm associated with medication

errors using a systematic approach. The authors conclude that due to the fact that to date

the process of classifying harm has not been consistent, the Harm Associated with

Medication Error Classification (HAMEC) tool is used, because it offers a better structure

to classify harm.

Yoon, S., & Sohng, K. (2021, November). Factors causing medication errors in an electronic

reporting system. Nursing Open, 8(6), 3251-3260. doi:https://doi-

org.library.capella.edu/10.1002/nop2.1038. This retrospective study was done to analyze

the data related to medication errors from a hospital's electronic reporting system. These

errors were analyzed using descriptive statistics, chi-square tests, and Logistic regression

analyses. It resulted on a report of 632 near misses and 173 adverse events. in conclusion

the authors stated that clinical experience, work hours, detection methods, and location.

Nurses with less than 10 years of experience were less likely to report errors, and nurses

with more than 10 years of experience were less likely to make the mistakes. These

results also concluded that adding the detection methods encourage nurses to report

medication errors.

Yusuff, K. B., Mustafa, M., & Al-Qahtani, N. H. (2021, December). Prevalence, types and

severity of medication errors associated with the use of automated medication use

systems in ambulatory and institutionalized care settings: A systematic review protocol.

PLoS One, 16(12), e0260992. doi:https://doi-

org.library.capella.edu/10.1371/journal.pone.0260992. This systematic review was done

with the purpose of bring awareness that the use of automated systems is not completely

foolproof. Health systems implemented automated systems with the intention of reducing

medication errors and the cost associated with them, but this does not eliminate the issue, it just creates a false sense of security, because these systems can be overridden, worked around, etc. "We did not apply to an Institutional Review Board for ethical approval because published data that cannot be traced to specific individuals will be used for the systematic review." (Yusuff, Mustafa, & Al-Qahtani, 2021), but the authors discussed the issue, with the goal of bringing awareness to these problems and improve the use of automated systems and provide a perspective for future research.

## Learnings from the Research

All the articles obtained from the Nursing and Allied Health database were very informative. They all shed light on the medication error problem, whether it is a near miss or an adverse effect, these errors seem to usually be human errors. Automated systems can help reduce the incidence of medication errors caused by things like verbal and telephone orders where a medication name, dose, route, patient, etc. can be misheard and misinterpreted. As nurses we have a unique role and responsibility to remember the rights for safe medication administration, and in the case of verbal/telephone orders, read back, and verify with the physician or prescribers. All this need to be done with the ultimate goal to keep our patients safe from harm.

**References**

Berdot, S., Vilfaillot, A., Bezie, Y., Perrin, G., Berge, M., Corny, J., . . . Sabatier, B. (2021).

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Procyshyn, R. M., Barr, A. M., Brickell, T., & Honer, W. G. (2010, July). Medication Errors in

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