

**Medication Administration: Literature Review**

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## **Medication Administration**

Medication administration is a critical nursing responsibility that nurses must perform competently. The literature review will analyze the view of medication administration competency by novice and existing nurses. Nursing students will work their way through coursework and clinical rotations learning the rights of medication administration. Still, little is discussed of the competencies and learning pains associated with learning the new skill and putting it into practice. The literature review will examine three quantitative articles which are peer-reviewed (Houser, 2018).

### **Senior Nursing Students' Perceptions of Their Readiness for Oral Medication**

#### **Administration Before Final Year Internship: A Quantitative Descriptive Pilot Study**

The article discusses the perceived readiness of student nurses going into medication administration practice before their final internship or clinical rotation (Cleary-Holdforth & Leufer, 2020). The report evaluates nursing students from Ireland that must participate in a 36-week training before licensure (Cleary-Holdforth & Leufer, 2020). The purpose was to determine the readiness and the perceived competency of administering oral medication, as it is a crucial nursing competency required for practice (Cleary-Holdforth & Leufer, 2020). Information is shared with nursing faculty to improve program outcomes (Cleary-Holdforth & Leufer, 2020).

### **Key Points**

A convenience sample comprised of 24 out of 87 nursing students was utilized. The students completed a prepared tool called "Preparedness for Oral Medication Administration

Questionnaire” (Cleary-Holdforth & Leufer, 2020, p.23). The questionnaire comprised 17 sections and produced a scale score ranging from 17-102, and the results averaged 63.3% (Cleary-Holdforth & Leufer, 2020). The higher the number reflected, the higher the confidence/preparedness level (Cleary-Holdforth & Leufer, 2020). The results indicated that students were unprepared or lacked confidence in oral medication administration due to their knowledge and understanding of pharmacology (Cleary-Holdforth & Leufer, 2020). The article did not have a p-value, but the information was significant. The results of 63.3% are considered essential because many students surveyed did not feel prepared to administer oral medication (Cleary-Holdforth & Leufer, 2020). The data was imputed into an IBM statistical application to prepare the results (Cleary-Holdforth & Leufer, 2020).

### **Assumptions**

The overall assumption of the article is that nursing students may be prepared to administer medication but lack pharmacological knowledge about the medicines administered (Cleary-Holdforth & Leufer, 2020). The author indicated the level of the survey at 63.3% was driven by the amount of “somewhat agree” on the survey (Cleary-Holdforth & Leufer, 2020). The authors also pointed out the lack of confidence in drug calculations, with only 45% feeling confident (Cleary-Holdforth & Leufer, 2020). Nursing faculty can use the information to improve program scope to better prepare nurses by focusing on pharmacology and drug calculations (Cleary-Holdforth & Leufer, 2020).

### **Deficit/Conclusion**

In conclusion, the article provides an overview of a convenience sample of nursing students that highlights areas of improvement required for nursing practice in pharmacology knowledge and drug calculations (Cleary-Holdforth & Leufer, 2020). Some limits to the study are the small convenience sample used from only one program and not representative of multiple nursing schools. This article is relevant to nursing practice and has direct implications for nursing preparedness and patient care. If students feel underprepared in pharmacology and dosing calculations, they may hinder patient outcomes.

### **Medication management in municipality-based healthcare: a time and motion study of nurses**

The purpose of the study was to monitor how nurses' in-home healthcare and nursing homes spend their time (Holmqvist et al., 2018). A motion and time management study was observed for medication administration, interruption, communication, and errors (Holmqvist et al., 2018). The authors emphasized the survey's core around medication administration, errors, and unsafe patterns (Holmqvist et al., 2018).

#### **Key Points**

The study was a time and motion management study (Holmqvist et al., 2018). The data was collected by an observer who would document when tasks would change (Holmqvist et al., 2018). The program used was called WOMBAT, defined as Work Observation Method by Activity Timing (Holmqvist et al., 2018). The observer would enter the task into a tablet, which computed the data (Holmqvist et al., 2018). There were 27 nurses from 14 different municipalities in Sweden observed for 196 hours (Holmqvist et al., 2018).

The results used a 95% confidence indicator and determined that nursing homes spent 23% of their day with medication administration versus 17.4% of that in-home healthcare (Holmqvist et al., 2018). Nursing home nurses spend most of the time on documentation after medication administration (Holmqvist et al., 2018). Home health nurses spent 10.9% social, 14.6% in transit, 31.7% care other than medication administration (Holmqvist et al., 2018). The results had a p value of  $p=.001$  (Holmqvist et al., 2018). The results are significant to support the possibility of finding an unsafe pattern that could lead to a medication error in a home healthcare setting (Holmqvist et al., 2018).

### **Assumptions**

The authors were trying to identify an unsafe work pattern that could lead to a medication error in-home healthcare setting (Holmqvist et al., 2018). The complaints that sparked the quality improvement study were polypharmacy, delays in medication administration, and poor communication in the home healthcare setting (Holmqvist et al., 2018). The authors identified the study's limitations to the first 5 hours of a morning shift routine and were limited to 4 municipalities that could vary in behavior in different regions (Holmqvist et al., 2018).

### **Deficit/Conclusion**

I would accept the author's rationale for the need for the study. The article outlines an unsafe pattern in-home healthcare versus nursing home settings. The lack of focus on the documentation before and after medication administration could lead to a lapse in communication or severe medication error. If the quality improvement study is rejected and improvements are not made to improve documentation in-home healthcare, patients could suffer

injury or death (Holmqvist et al., 2018). Reviewing documentation before dispensing medication could catch polypharmacy errors (Holmqvist et al., 2018).

### **A Mindful Path to Nursing Accuracy: A Quasi-Experimental Study on Minimizing Medication Administration Errors**

This study is trying to correlate a decrease in medication administration errors and Mindfulness training (Ekkens & Gordon, 2021). Nurses are exposed to high-stress environments, work overload, staffing shortages, and personal stressors that can hinder the safe delivery of medications to patients (Ekkens & Gordon, 2021). Annually there are approximately 100,000 preventable medication errors, and the study intends to add to the research for Mindful thinking to decrease these errors (Ekkens & Gordon, 2021). Mindful thinking training focuses on breathing and concentration while providing a holistic nursing approach for self-care, self-development, and reflection to better care for the patient (Ekkens & Gordon, 2021).

#### **Key Points**

The study comprised 111 nurses split into two groups (Ekkens & Gordon, 2021). Fifty-one participants received a mindful thinking cd program, while sixty nurses were in the control group and did not receive this training (Ekkens & Gordon, 2021). The participants were considered comparable in education, background, work experience (Ekkens & Gordon, 2021). The study was quantitative, and participants were monitored for three months (Ekkens & Gordon, 2021). Information was collected using the National Coordinating Council for Medication Error Reporting or NCC MERP (Ekkens & Gordon, 2021). The statistical *t*-test and logistical interpretation descriptive statistics tool computed data (Ekkens & Gordon, 2021). The

confidence indicator was ( $p = <.05$ ) (Ekkens & Gordon, 2021). The p-value of  $p = .002$  is considered significant (Ekkens & Gordon, 2021). The results directly correlate the mindful thinking program and a 73.3% pre- to a post-training reduction in medication errors (Ekkens & Gordon, 2021). The significance of the results supported the author's conclusions.

### **Assumptions**

The authors believe that when applied as part of the nursing practice, mindful thinking can help reduce the annual amount of medication errors (Ekkens & Gordon, 2021). Nurses taking a holistic approach to their profession can improve patient outcomes, reduce stress, and prevent burnout (Ekkens & Gordon, 2021). The authors indicate that a limitation to the research could be the participants were all nurses and believed pharmacy techs could also benefit from Mindful thinking training (Ekkens & Gordon, 2021). Fifty percent of the medication errors were from pharmacy errors (Ekkens & Gordon, 2021).

### **Deficit/Conclusion**

I accept the author's reasoning. Stress management tools are essential in any profession. Mindful thinking, in this case, has proven to assist in focusing the nurses on performing the function of their roles better. Medication errors are a huge safety issue in healthcare (Ekkens & Gordon, 2021). Suppose nursing and pharmacy accept the results of this study and implement the training within their facilities or nursing programs. In that case, they could better equip their employees and students for success. Failing to acknowledge the correlation between stress, work overload, fatigue, and the autopilot button is a letter for disaster. It is far better for any

occupation to be proactive rather than retroactive. The results of this study take a proactive approach to holistic care for both the nurse and patient.

### **Conclusion**

Article one discusses the perceived readiness for nursing students to begin administering medication. The study pinpoints the deficit incompetency, confidence, and pharmacology background (Cleary-Holdforth & Leufer, 2020). This lack of experience and confidence in medication administration can lead to patient injury. Article two discusses the time management of nurses between home healthcare and nursing home setting. The study identified that home healthcare nurses were more likely to create a medication error than those in a nursing facility due to the lack of time spent on documentation/communication before and after the medicine is administered (Holmqvist et al., 2018). Article three discusses the correlation between Mindful thinking and reducing medication errors (Ekkens & Gordon, 2021). The articles focus on medication errors and ways to prevent them from occurring. As nurses or nursing students, we must go through the medication rights to avoid medication errors. However, article three identified more than 100,000 medication errors occur annually (Ekkens & Gordon, 2021). Stress, fatigue, workload, lack of pharma knowledge, and poor communication/documentation practices contribute to the errors (Holmqvist et al., 2018).

Evidence-based research shows that students may be apprehensive about giving meds. Home health nurses do not follow the same documentation and communication standards as healthcare facility nurses. A Mindful thinking program could improve outcomes to overcome stress and close the gap to reduce errors. If healthcare and nursing training programs tried to

introduce students or new employees to Mindful thinking programs, nurses might lower stress levels to improve holistic healthcare practice.

## References

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