Medications Errors and Their Impact on Nurses

Kristi R. Rittenhouse

Kent State University College of Nursing
Abstract

One in five medication dosages result in reported medication administration errors (MAE). However, due to the lack of reporting of these MAE’s by nurses, the number of errors may be much higher. This is an ongoing threat to the quality of health care. Therefore, it is essential to determine the types of MAEs that are occurring in order to minimize these errors. This paper examines current literature related to medication administration errors (MAEs): types, contributing factors, ways to minimize errors, unwillingness of nurses to report these errors, and the impact MAEs have on nurses. It is learned that nurses or any other health care worker who is administering medications must implement strategies to reduce medication errors; as well as assist the nursing administration with guidelines for reporting medication errors. It is found that the reporting of MAE’s shall be done so anonymously and without consequences in order to improve the incidence of these errors, which directly improve quality of patient care.

*Keywords:* Medication (administration) errors, quality of health care, minimizing MAEs, reporting MAEs, impact of MAEs on nurses
Medication Errors and Their Impact on Nurses

The most common intervention performed by nurses is that of drug therapy. The prescribing, distribution, and administration of medications are specific major duties of the doctors, pharmacists, and nurses within a patient-care facility. Due to the different aspects of drug therapy and the different roles within an organization, there is an increased potential for errors to transpire. Therefore, it is essential to analyze all aspects to medication errors.

Numerous studies have been conducted on different facets of medication errors, focusing on the types of medication errors, the contributing factors, why nurses are hesitant to report them, and what the impacts of medication errors are on nurses. However, the studies found did not include all these aspects into one study, for example, the study performed by Agyemang and Whi (2010). This study focuses on medication error types, causes, and impact on nursing practice. Yet, the study does not mention why nurses may be hesitant to report the medication errors. Therefore, this paper combines and examines the aforementioned aspects of medication errors into one, as well as, examines the effect of medication errors on quality health care.

What Are Medication Errors

Gaining quality health care has a major risk pertaining to the many medical errors, which occur within the United States. Among these medical errors, the majority of errors relate to medication errors. Before writing about this ongoing threat to quality health care related to medication errors, it is helpful to first define what medication errors are. The National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) defines medication errors as:

Any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of health care professional, patient, or
consumer. Such events may be related to professional practice, health care products, 
procedures, and systems, including prescribing; order communication; product labeling, 
packaging, and nomenclature; compounding; dispensing; distribution; administration; 
education; monitoring; and use (NCC MERP, 1998-2011, para 1).

The Institute of Medicine (IOM) compiled *To Err Is Human* (Kohn, Corrigan, & Donaldson, 1999), using more than 30 studies to report on the quality of health care in relation to medication errors (Huston, 2010). This focused national attention on patient safety and awareness of potential harm. *To Err is Human* found that medication errors were among the highest potentially preventable medical errors both in and out of hospitals. It was estimated that 7,000 deaths in 1993 were related to medication errors alone (Kohn, Corrigan, & Donaldson, 1999). In addition to these facts, the study performed by McBribe-Henry and Foureur (2005) states that one in five medication dosages result in reported medication administration errors (MAE). However, due to the lack of reporting of these MAE’s by nurses, the number of errors may be much higher. The unwillingness of nurses to report MAE’s and its effect on quality health care will be addressed later in this paper.

**Types of Medication Errors**

Based on these facts, it is essential to study the types of medication errors that occur in order to address the problem. This was done by several studies. Common preparation and administration errors includes drug omission, wrong dosage, drug or fluid, patient, time, form of medication, solvent, and wrong administration rate, as well as, unlabelled drug containers (Agyemang & While, 2010). Other frequently observed administration errors included drug compatibility, allergy related errors, and calculation errors (McBride-Henry & Foureur, 2010),

In addition to the abovementioned type of medication errors, Lassetter and Warnick (as cited in Hewitt, 2010) acknowledged nine other types of common medication errors. These included:

Prescribing two or more medications with interactions known to cause side effects, prescribing a drug to which the patient has a known allergy, misreading a physician’s handwriting, misinterpreting an abbreviation, experiencing confusion between two medications with similar names, using a concentrated dose instead of a dilute form of a drug, confusing medications in similar looking packages, receiving unclear prescribing directions, and committing an error of omission (p.160).

Factors That Contribute to Medication Errors

The types of MAEs have been examined; therefore, why these types of MAE occur will also be analyzed. According to Agyemang and While (2010), medication errors are classified into three categories: prescribing, dispensing, and administration errors. By studying these classifications, one will have the opportunity to address these problems in order to cut back on the number of medication errors performed.

Not having enough knowledge about a patient, their condition, and their medications leads to prescribing errors, 0.4% of the total prescriptions. Other common causes of prescribing errors include poor history taking, confusion about the drug name or dosage regimen, calculation errors, and prescriptions that are hard to decipher (Agyemang & While, 2010). This can occur when the wrong drug, dose, quantity, indication, and contraindicated drug is prescribed.

The second classification category includes dispensing errors. These occur most commonly when a variation of the prescribed medication takes place. This may arise when there
is drug name confusion, failure to clarify an ambiguous or illegible prescription, similar packaging, and single checking (Agyemang & While, 2010).

The final classification category reported by Agyemang and While (2010), includes administration errors. “It is estimated that administration errors on hospital wards involve around 5% of doses and occur when the drug administered to the patient is not what was intended by the prescriber” (Agyemang & While, 2010, p. 381). Common administration error factors studied by both Agyemang and While (2010), and McBride-Henry and Foureur (2010), includes, “illegible prescriptions, verbal orders, transcribing errors, inadequate labeling, personal factors, and organizational factors” (Agyemang & While, 2010, p. 381). A few obvious personal factors that have a high possibility of impacting more nursing students or new graduates than veteran nurses include: lack of knowledge, failure to adhere to policy and procedure documents, fatigue, illness, dosage calculating, stress, and distractions (Agyemang and While, 2010).

Organizational factors may include a lack of adequate staffing, storage of similar drugs in the same place, excessive workload, overcrowded medication carts, preparing medications in a crowded room, patient acuity levels, equipment failure or malfunction, and something as simple as the physical environment (Agyemang and While, 2010).

**How to Minimize MAE’s**

By glancing at both the types of medication errors, and the factors that contribute to medication errors, one can examine ways to minimize those errors. Just as nurses perform interventions related to a patients care plan, interventions are also being implemented continuously throughout the health care settings in order to decrease medication errors. This can be done by following medication policies and procedures provided by ones organization, by obeying the “ten rights” prior to administering any medications to patients.
These “ten rights” include; right patient, medication, dosage, route, time, documentation, and client education, right to refuse, right assessment, and evaluation. As nursing students, we are taught to follow these “ten rights” any time we are administering medications. However, failure to follow these rights is a main concern to the quality of health care and the safety of our patients. There are many factors that contribute to why these “ten rights” are not being followed as explained above. Therefore, it is critical for all nurses to follow this protocol.

Another strategy to implement in order to minimize MAE’s is to train nurses on intravenous preparation and administration, including the administering devices, such as infusion pumps (Agyemang & While, 2010). According to the study performed by McBride-Henry and Foureur (2006), medications administered intravenously is known for having an increased chance of error when compared to any other medication route, such as by the mouth medications. The extra training on intravenous preparation and administration would be essential to new graduates. This will allow new graduates to feel more comfortable and confident when mixing fluids by dilution, drawing up accurate amount of the prescribed medication, and administering it. When administering medications intravenously, many factors need to be taken into consideration. These factors include use of infusion pumps, pain control assistive pumps, In addition to the training that should be implemented for nurses, their competence should be assessed.

One more strategy that has been implemented as an additional safety barrier in many hospitals today, including Mercy Medical and Aultman Hospital, is the Bar-Code-Assisted Medication Administration (BCMA) tool. The BCMA is a technological tool, based on the electronic MAR (eMAR), which was automatically updated when the BCMA was used (Helmons, Wargel, & Daniels, 2009). The goal of the BCMA is to be a barrier for the nurse to
catch a medication error or the potential for one that reaches the patient’s bedside. The BCMA works when the nurse scans the patients arm band, then scans the medication needed to be administered. This verifies the right patient, right dose, right medication, right dose form, right route, and right time. The Helmons, Wargel, and Daniels (2009) study concluded that implementing BCMA technology aided in decreasing medication administration errors. However, nurses must not become lackadaisical with medication verification when using these machines. It is essential to still follow the “ten rights” of medication administration because computers and programs do fail at times.

**Unwillingness of Nurses to Report MAEs**

Although there are various different strategies nurses are able to implement in order to prevent or minimize medication administration errors, they still occur. When these errors go underreported, they are a major threat to the quality of nursing care. In addition to, the healthcare costs and patient mortality increases. The only way for preventable medication errors to be reduced in the future is to analyze how the errors are detected, and then reported. The detection of medication errors was examined previously in this article; therefore, reporting of these errors will be analyzed now. The factor that plays a major role into the medication errors to be reported is the nurse’s willingness to report them.

A major reason why medication errors seem to go underreported is because using written incident reports is a deterrent for nurses. According to the study performed by Wakefield, Uden-Holman, and Wakefield (2009), the reasons why nurses were unwilling to report a medication error were related to taking medical responsibility, receiving punishment, medical disputes, distrust or negative attitude by patients and families, lack of MAE’s ailing effects on patients,
judgment from coworkers, reporting is too much trouble, and the process of reporting is unknown.

In order to monitor and guide improvements in hospital medication systems, reporting of MAE’s should be anonymous and without negative consequences. To establish the nurses willingness to report MAE’s, it is suggested that nursing administration and hospitals must work together to create a positive environment that encourages nurses to report medication administration errors (Wakefield, Uden-Holman, & Wakefield, 2009; McBribe-Henry & Foureur, 2010; Agyemang & While, 2010).

**MAE’s Impact on Nurses**

Medication administration errors have obvious affects or impacts on patients, but what many people overlook is these MAE’s impact on nurses. One of the major impacts studied throughout literature, is the lack of confidence in their ability to provide the necessary medical attention to their patients. Nurses who make errors that are harmful to patients leave them with feelings of guilt towards doing the patient wrong, as well as disappointing the professional institution. These errors can lead nurses to feeling incompetent in their field and could result in more mistakes (Agyemang & While, 2010). Mistakes can create an untrusting and an inefficient work environment for all colleagues.

Another impact that errors make on nurses deal with managers and the consequences that follow. Managers may approach nurses who have made these medication errors and it could result in permanent termination of nursing and liability of a patient’s life. As in any other profession, errors can lead to personal and professional embarrassment, harassment, future mistakes, and feelings of self incompetency. However, errors do occur and individuals need to acknowledge that fact and accept it. They must detect when an error has occurred, and take the
responsible route to report that error. This is how systems will change and adapt to the ever evolving world. There must be continuous improvement when administering medication in order to work up to quality improvement

**Conclusion**

This paper highlighted that although nurses have a desire to provide safe patient care, medication errors do occur either on a personal or organizational level. Also, the types of medication errors, the contributing factors, why nurses are hesitant to report them, and what the impacts of medication errors are on nurses were discussed. It is learned that nurses or any other health care worker who is administering medications must implement strategies to reduce medication errors; as well as assist the nursing administration with guidelines for reporting medication errors. It is found that the reporting of MAE’s shall be done so anonymously and without consequences in order to improve the incidence of these errors, which directly improve quality of patient care.
References


