

Evaluating nurses' performance in Medication Administration &

Medication errors

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Introduction:

In primary care settings, problems with patient safety often arise during the drug and diagnosis processes. It is widely recognized that adverse events associated with medicine delivery pose a substantial risk to patient safety in general. The time structure of a nurse's workday is shaped by the complex blend of activities and responsibilities associated with medication delivery.

Several variables impact the secure administration of medication. There is a debate on whether registered nurses (RN) possess adequate knowledge and skills to effectively and safely manage drugs. Some argue that risk-inducing behavior and disruptions, as well as the use of technology, design problems, time restrictions, poor communication, lack of leadership, and obsolete regulations and guidelines contribute to the normalization of these issues. Sectors with a high patient volume, such as emergency rooms and intensive care units (ICUs), have a higher medication error incidence. As an example, determining the infusion drop rate is often necessary for patients hospitalized to intensive care units who are given medication intravenously. Contrarily, these patients are often asleep or in poor health, making it impossible for them to track and report any negative drug effects. Consequently, there can be a rise in pharmaceutical mistakes in these industries, which could bear devastating fruit (Fathy, A. S. M., et al., 2020).

Chemical compounds used for the treatment, diagnosis, and prevention of illness are known as medications. Medication must always be administered with utmost care in order to attain the intended effect while minimizing the risk of harmful drug responses, as all medications possess hazardous properties. A wide variety of drugs are administered by nurses in healthcare facilities.

In a healthcare facility, the procedure of administering medication is seen as intricate and involving multiple stages. drug errors are prevalent and expensive, and the process of administering medications puts patients at risk. Proper drug administration calls for knowledge of both the theory and practice of medicines. Expertise in medicine encompasses a wide range of topics, such as medicinal applications, pharmacodynamics suitability, side effects, administration, and the medication in light of the patient's present reaction to treatment (Pirinen, H., et al., 2015).

Enhancing the health of individuals is the primary focus of nurses' work. There is a significant potential for medication delivery errors in clinical nursing practice. Unfortunately, staff members who make mistakes but don't report them aren't always the first to notice or admit when something goes wrong (Cheragi, M. A., et al., 2013).

Medication administration:

The Medication Administration Process (MAP) is primarily a nursing duty that has been estimated to account for around 40% of nursing practice time (Huynh, N., et al., 2016). The Medication Administration Process (MAP) has gotten more intricate as a result of rising patient acuity, a multitude of generic and brand medication names, extended routes of medication distribution, increased utilization of new and diversified medication safety devices, and a higher volume of prescription orders. The absence of standardization of the Medication Administration Process (MAP) is a significant element that contributes to the complexity of administering medication.

Nurses' medication administration:

Certain nurses fail to adhere to the fundamental principles of medication administration, which include providing the correct medication to the patient at the appropriate time, through the correct route and dose, evaluating and supporting the desired effects of the medication, correcting any adverse effects, maintaining accurate documentation, and educating the patient (Massah, L., et al., 2021). The majority of nurses do not adhere to the five rights, according to the findings of an observational study conducted in Australia regarding the administration of medications by nurses. The study also acknowledged that the medication principles, which aim to enhance patient safety, necessitate the inclusion of additional five rights (Martyn, J. A., et al., 2019).

Adherence to medication principles prior to medication administration, establishment of scientifically sound care objectives, prescription of safe and efficacious medications, and post-medication evaluation of medication effectiveness by the nurse are all essential components of a patient-centered care environment (Bayatmanesh, H., et al., 2019).

Nurses have a vital role in strengthening patient safety. drug delivery errors and drug malpractices in nursing are quite prevalent yet often go unreported worldwide. Nurses' errors in administering medication can greatly affect a patient's healthcare expenses, quality of life, and the provision of nursing care. Therefore, it is crucial to enhance nurses' understanding of pharmaceutical errors and their repercussions in order to effectively tackle these problems. Multiple studies have shown connections between the frequency of medication errors among nurses and their level of knowledge in drug administration. Several studies indicate that approximately 50% of therapeutic

errors can be attributed to a deficiency in both knowledge and performance. Nevertheless, the precise correlation remains uncertain due to the conflicting results documented in these investigations (Ogunleye, O. O., et al., 2016).

There are three stages to the process of administering medication: ordering, dispensing, and administration. It is the duty of the nurses to attend to the last stage. An essential skill for nurses to have is the knowledge and skill to safely give patients their medication. Dosage calculations, medication route approaches, distribution systems, and protocols are just a few of the many intricate parts of medicine administration. Medication mishaps are often linked to nurses lacking proper training and experience (McLeod, M., et al., 2015).

The five distinct stages of MA that are known to be error-prone are as follows: prescription, transcribing, dispensing, administration, and monitoring/documenting the patient's status (Choo, J., et al., 2010, Jennings, B. M., et al., 2011). The administration phase is known to be prone to mistakes. Errors are more likely to occur when these complicated processes are subject to simultaneous demands or interruptions (Choo, J., et al., 2010).

Medication Error:

The National Coordinating Council for Medication Error Reporting and Prevention (2005) endorses the subsequent description of a medication error. A medication error refers to any avoidable incident that has the potential to result in improper use of medication and injury to the patient, occurring when the medication is under the supervision of a healthcare practitioner, patient, or consumer (Choo, J., et al., 2010).



Medicine administration errors (MAEs) are defined as any departure from the medicine order documented by the physician on the patient's records, the preparation and administration

instructions provided by the manufacturers, or the relevant policies of the institution (Keers, R. N., et al., 2015). Medication administration errors (MAEs) are a significant issue in the nursing field, arising from discrepancies between the medication given to patients and the prescribed medical treatment recommended by healthcare professionals (Feleke, S. A., et al., 2015).

An estimated 7,000 to 9,000 individuals lose their lives annually due to drug-related occurrences in the US alone. Serious outcomes, including higher healthcare expenditures, longer hospital stays, and patient deaths, can result from medication errors (Tariq, R. A., et al., 2018).

Negligence in nursing care has been linked to medication errors. Nursing care is a profession that involves the application of technical and cognitive abilities, as well as a natural inclination towards compassion and empathy. Ensuring patient safety and safe practices is contingent upon the provision of nursing care by nurses who possess a good attitude (Vaismoradi, M., et al., 2020). Nurses that possess a positive attitude always strive for exceptional nursing practice. Conversely, nurses who view their role as merely a job are more likely to make mistakes when it comes to administering medication (Hammoudi, B. M., et al., 2018).

Specific actions, such as not adhering to rules, protocols, or procedures, or having inadequate controls or discipline in place for dual controls, were directly linked to a drug error. The literature provides substantial evidence that the most common medication errors encountered by nurses are omissions or bypassing of delivery, incorrect medicine, improper dosages, and errors related to patients, routes, rates, and timing of medication (Márquez-Hernández, V. V., et al., 2019).



It has come to light that medication errors are prevalent in hospitals. According to a comprehensive analysis, the rate of medication errors in hospitals was 44.4%. The most common types of pharmaceutical errors identified were those involving prescription and administration (Almalki, Z. S., 2021).

(Alshammari, F. M., 2021) conducted a cross-sectional study on healthcare professionals and found that there was limited reporting of medication errors. Additionally, most participants had insufficient understanding of the stages of medication errors and had not received any training on the subject. The sole study that provided information on medication errors among nurses was conducted by Al-Harkan, A., et al., 2020).

The biggest category of health care providers consists of nurses. So, nurses are crucial to the success of health care systems. Medication administration is mostly the responsibility of three nurses. Over 40% of the time that nurses spend on the job is spent administering medicine. Prescription, transportation, and administration are the three most common areas where pharmaceutical errors can occur.

Nurses ‘Attitudes toward Medication Error:

Mostly, mistakes are at the root of negligent nursing care. Nursing and medical research are not merely intellectual pursuits that necessitate advanced computer knowledge. A combination of this tangible skill with what one might call a "innate attitude of caring" is what this requires. Safely providing care is more often associated with the work of cheerful nurses. The best nurses, according to Gastmans, have this mindset and are always trying to improve their craft. Nursing professionals who see their work as "just a job" are more likely to make mistakes, according to



another study by Lawton et al. An inverse relationship between a nurse's level of job satisfaction and dedication and the frequency of medication errors is seen.

The continuous evaluation, monitoring, and detection of changes in health status that nurses offer is crucial in preventing medical errors, which can result in severe and even fatal adverse events (Dykes, Rothschild and Hurley, 2010). Due to the fact that they have the most direct contact with patients, nurses are also among the healthcare workers most likely to face accusations of medical errors.

Nurses play a key role in healthcare delivery, but they are also among the most likely to experience medical error due to factors like the high volume and complexity of their patients' needs, the lack of variation in their work, and the consistency of their interactions with patients. The findings were reported by (Cebeci et al., 2012).

A further study that found a significant correlation between patient deaths and nurse applications was that of Aiken and friends (Aiken, L. H., et al., 2001). When it comes to patient safety, the most common nursing service faults include incorrect diagnoses or treatments, medication mistakes, hospital infections, falls, inadequate monitoring, communication breakdowns, and improper use of materials.

According to (Giannetta, N., et al., 2020), nurses in this study had a favorable outlook on nursing education, employee motivation, clinical competence in the safe administration of pharmaceutical therapy, and the reporting of medication mistakes. While administering vasoactive pharmaceuticals, vital parameter monitoring was not routinely used, although there was a statistically significant correlation between nurses' levels of education and training and its presence.

A study conducted on 375 randomly selected nurses in three pediatric hospitals indicated that higher levels of nurse education and experience were correlated with an increased likelihood of self-reported medication administration errors (MAEs) (Sears, K., et al., 2016). Nurses with a greater tenure on a ward reported a higher number of administration errors compared to those with less time on the ward. Conversely, nurses with more clinical experience reported a lower number of potentially serious errors compared to nurses with less clinical experience. Nevertheless, no correlation was observed between nursing education and the occurrence rate or seriousness of medication administration errors (MAEs).

An examination of nurses' knowledge, attitudes, and abilities regarding current safety principles might offer valuable information for developing and implementing successful interventions at both the system and nurse levels to reduce medication administration errors (MAEs). Nurses must acknowledge the difficulties they encounter when dispensing drugs to their patients. Due to their regular administration of medications, nurses are in a favorable position to reduce medication errors. Nurses must possess the readiness to identify and rectify their own mistakes, as well as the mistakes made by healthcare professionals, pharmacists, and other individuals involved in the process of medicine delivery (Choo, J., et al., 2010).

Conclusion:

There was a significant increase in attitude and behavior scores regarding medication errors among the following groups: female nurses, non-Saudi nurses, nurses with IV drug administration education, and nurses aged 40 years and above. Moreover, knowledge impacts attitude; nurses who possess an extensive comprehension of the subject are inclined to exhibit favorable dispositions towards their patients, colleagues, and profession. Conversely, behavior is influenced by attitude. Positive attitude is positively correlated with the propensity for nurses to conduct themselves in a professional and ethical fashion. Lastly, patient outcomes are influenced by behavior. Professional and ethical conduct among nurses increases the likelihood that they will deliver high-quality care, potentially resulting in enhanced patient outcomes.

In general, nurses had a favorable outlook on medical errors, indicating that they were cognizant of the problem and saw it as significant. Additionally, compared to nurses working in the inpatient ward, those in the intensive care unit had a more favorable outlook on medical mistakes. A growing number of patients per shift, a scarcity of nurses, an increasing amount of labor to do, and individual variables including staff members' lack of training and expertise were cited by nurses



as causes of medical errors. Not only did most nurses fail to disclose medical errors for which they were personally responsible, but they also held the belief that doing so reduced the overall frequency of such errors and that patients and their families should be informed of any such incidents. To learn why nurses do not disclose medical mistakes, additional studies are required.

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