

The role of nurses in promoting medication safety for patients

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Abstract:

Nursing is crucial to patient medication safety and involves a variety of duties and procedures to ensure safe and effective drug administration. Nurses reduce medication errors and adverse drug events by following protocols, giving prescriptions precisely, and educating patients.

Nurses promote patient safety by assessing patients, confirming medication orders, and implementing safety checks to prevent medication errors. The person's meticulousness and adherence to quality assurance processes improve patient safety and welfare.

Nurses also ensure medication roster accuracy throughout care transitions and ensure treatment plan continuity during medication reconciliation. Nurses help patients manage their prescriptions and follow their treatment plans by partnering with them, caregivers, and other healthcare providers. Overall, nurses ensure patient medication safety by exhibiting professionalism, compassion, and expertise.

Nurses maximize drug safety by focusing on quality and patient needs. They improve patient outcomes and create a safety-focused culture in healthcare organizations. Nursing education, training, and quality development must be supported to improve medication safety and ensure future patients receive the best care.

Keywords: Medication Safety, Workload of Nurses, Medication Reconciliation, Patient Education.

المخلص:

يعد التمريض أمرًا بالغ الأهمية لسلامة الدواء للمرضى وينطوي على مجموعة متنوعة من الواجبات والإجراءات لضمان إدارة الدواء بشكل آمن وفعال. تعمل الممرضات على تقليل الأخطاء الدوائية والأحداث الدوائية الضارة من خلال اتباع البروتوكولات، وإعطاء الوصفات الطبية بدقة، وتثقيف المرضى. تعمل الممرضات على تعزيز سلامة المرضى من خلال تقييم المرضى وتأكيد طلبات الأدوية وتنفيذ فحوصات السلامة لمنع الأخطاء الدوائية. إن دقة الشخص والتزامه بعمليات ضمان الجودة تعمل على تحسين سلامة المرضى ورفاهيتهم. يضمن الممرضون أيضًا دقة قائمة الأدوية طوال انتقالات الرعاية ويضمنون استمرارية خطة العلاج أثناء مطابقة الدواء. تساعد الممرضات المرضى على إدارة الوصفات الطبية الخاصة بهم ومتابعة خطط العلاج الخاصة بهم من خلال الشراكة معهم ومقدمي الرعاية ومقدمي الرعاية الصحية الآخرين. بشكل عام، تضمن الممرضات سلامة الدواء للمريض من خلال إظهار الاحتراف والرحمة والخبرة. تعمل الممرضات على تحقيق أقصى قدر من سلامة الأدوية من خلال التركيز على الجودة واحتياجات المرضى. إنهم يحسنون نتائج المرضى ويخلقون ثقافة تركز على السلامة في مؤسسات الرعاية الصحية. ويجب دعم تعليم التمريض والتدريب وتطوير الجودة لتحسين سلامة الدواء وضمان حصول المرضى في المستقبل على أفضل رعاية.

الكلمات المفتاحية: السلامة الدوائية، عبء عمل الممرضات، التوفيق الدوائي، تثقيف المرضى.

Introduction

Medication safety is essential to providing high-quality healthcare since it has a significant impact on patient outcomes and general wellbeing. Nurses are essential in preventing medication errors, adverse drug reactions, and other avoidable medication-related occurrences within the complex web of healthcare delivery. Nurses take on a variety of duties in medication management as front-line healthcare practitioners, including patient advocacy and education as well as prescription administration. This critical review explores the difficulties, solutions, and consequences for nursing practice as it digs into the vital role that nurses play in promoting medication safety for patients.

Medication errors continue to be a major source of morbidity and mortality worldwide, making medication safety in the complicated healthcare system of today even more important. As the primary caregivers, nurses are the final line of defense against pharmaceutical errors. They have a significant impact on preventing adverse drug events and improving patient safety. Because of their intimate relationship with patients, nurses have a distinct advantage in identifying, averting, and reducing medication-related hazards at every stage of the patient's treatment (Aiken, 2014).

Because nursing is a multidimensional profession, there are several duties related to medication safety. These include correct drug dispensing, careful medication reconciliation, proactive medication tracking, and thorough patient education about dosage instructions and possible adverse effects. In addition, nurses play a crucial role in promoting a culture of safety in healthcare environments, standardizing medication administration procedures, collaborating across disciplines, and implementing ongoing quality improvement programs.

Although nurses play a crucial role in medication safety, there are a number of obstacles that prevent them from doing their jobs well. The absence of proper communication, large workloads, insufficient resources, and time limits are major obstacles to the best possible drug management procedures. Moreover, nurses may be discouraged from reporting prescription errors or near misses due to the widespread blame culture and fear of retaliation in healthcare settings, which would impede organizational learning and improvement initiatives (Poon, 2010).

A variety of tactics have been developed in response to these difficulties to enable nurses to promote medication safety. These include putting in place drug safety procedures, making use of technologically advanced medicine delivery systems, encouraging a culture of safety, and offering continuing education and training on the best practices for medication management. A culture of openness and learning also requires supporting open lines of communication, allowing reporting of medication errors without fear of repercussions, and adopting a systems-oriented approach to error analysis.

In order to emphasize the significance of proactive drug safety initiatives within nursing practice, this critical review aims to shed light on the complex role that nurses play in protecting patients against medication-related harm. Nurses may play a crucial role as change agents in improving medication safety and improving patient outcomes by identifying and addressing the obstacles, utilizing successful solutions, and cultivating a culture of safety.

This review attempts to offer insights into the changing field of medication safety in nursing practice, pinpoint areas that require more investigation, and provide guidance for evidence-based interventions meant to advance safe medication practices and enhance the standard of patient care through a thorough analysis of the body of existing literature (IHI, 2018).

Patient-centered care models have revolutionized the healthcare industry in recent years, placing a strong emphasis on shared decision-making and active patient participation. In this situation, nurses take on a larger role as partners in ensuring medication safety through collaborative care practices and as defenders of patients' rights. In order to improve medication adherence and lower the risk of adverse

medication-related events, nurses engage patients in medication reconciliation, facilitate informed consent discussions, and offer customized medication counseling.

Furthermore, the introduction of digital health technologies has completely changed how medication is managed and presented new possibilities for improving medication safety and streamlining treatment procedures. In order to help nurses, ensure accurate medication administration, enable real-time medication monitoring, and facilitate timely communication with other members of the healthcare team, electronic health records (EHRs), computerized physician order entry (CPOE) systems, barcode medication administration (BCMA) technologies, and telehealth platforms have emerged as valuable tools.

However, incorporating technology into nursing practice comes with its own set of difficulties, such as problems with data security, interoperability, usability, and user training. In the digital age, nurses have to negotiate these complexities while keeping a patient-centered focus and adhering to ethical norms of confidentiality and privacy. Furthermore, differences in patient access to technology and digital health literacy may worsen already-existing health disparities, calling for a nuanced approach to technology adoption that puts inclusivity and equitable access first (Keers, 2013).

Research problem:

Medication errors and nurse workload in the quantitative analysis of nursing workload data and medication error reports is used to examine the relationship between nurse staffing levels, workload intensity, and medication error incidence. Perceptions and experiences of nurses: qualitative interviews or surveys are used to examine nurses' subjective experiences and perceptions of staffing adequacy, workload pressures, and their impact on medication safety practices.

Research objectives

- **Assess Nurses' Knowledge and Practices:** Conduct an evaluation of the extent to which nurses in various healthcare settings possess knowledge and adhere to medication safety protocols.
- **Analyze Medication Safety Practices:** Conduct an inquiry into the existing medication safety practices that nurses have adopted. This will encompass an examination of medication reconciliation, administration techniques, and error reporting mechanisms.
- **Evaluate the Efficacy of Nursing Interventions:** Ascertain the efficacy of nursing interventions that are designed to improve medication safety, including but not limited to technology-enabled solutions, medication education programs, and interdisciplinary collaborations.
- **Examine Patient Education and Involvement:** Determine the extent to which nurses are responsible for educating patients and facilitating medication reconciliation, as well as other patient education and safety processes.
- **Analyze the Impact of Organizational Culture:** This study aims to investigate the ways in which leadership support, safety culture, and organizational culture influence the ability of nurses to advocate for medication safety in healthcare institutions.
- **Identify Opportunities for Improvement:** Determine domains where nursing practice, education, and policy can be enhanced to optimize patient medication safety outcomes.
- **Propose Recommendations and Interventions:** Formulate evidence-based suggestions and interventions to tackle identified deficiencies and obstacles in nurses' adherence to medication safety protocols.

Research aim

An examination of the diverse duties and procedures that nurses undertake in regard to medication safety is warranted. These encompass medication administration, reconciliation, monitoring, and patient education. Evaluate the effect that nursing protocols, interventions, and technologies have on patient medication safety. Identify obstacles and difficulties that hinder the promotion of medication safety by nurses, including but not limited to burden, staffing levels, communication challenges, and organizational culture.

Research terminologies

Medication Safety: refers to the process of preventing medication errors and adverse drug events in order to ensure the use of medications in a safe and effective manner (ISMP, 2018).

Workload of Nurses: The quantity of duties and obligations that are imposed on nurses during a specific time period, potentially affecting their capacity to deliver patient care in a safe manner (Aiken, 2014).

Medication Reconciliation: The process of compiling an exhaustive and precise inventory of all medications a patient is currently taking, which is crucial for ensuring medication safety throughout care transitions (IHI, 2021).

Patient Education: entails the process of informing patients about their medications, including dosage, administration guidelines, potential adverse effects, and the significance of compliance (IHI, 2018).

Literature review

Medication Administration Practices

Medication administration is an essential component of nursing practice, as it has a direct influence on the safety and outcomes of patients. In order to reduce the likelihood of medication errors and adverse drug events, nurses play a crucial role in assuring the safe and effective administration of medications. An examination of the medication administration practices utilized by nurses and their potential impact on patient medication safety is the subject of this literature review. Nurses serve as the final line of defense against medication errors due to their primary responsibility of administering medications to patients. Research has underscored the significance of adhering to medication administration protocols, including the "five rights" (correct patient, medication, dose, route, and time), as a means to reduce the likelihood of adverse drug events (ADEs). In order to ensure the safety of medications for patients, nurse administration practices are crucial. Nurses can mitigate the likelihood of medication errors and adverse drug events, thereby enhancing the quality of care and patient outcomes, through the implementation of evidence-based protocols, utilization of technology-enabled solutions, guidance to patients, and cultivation of a safety-oriented culture within healthcare organizations (Keers et al., 2013).

Medication Reconciliation Processes

Medication reconciliation is an essential healthcare procedure that endeavors to compile an imprecise inventory of a patient's medications throughout all care transitions. This concise analysis explores the significance of medication reconciliation procedures within the field of nursing and their function in safeguarding patients. Ensuring the efficacy of medication reconciliation is critical in order to avert inconsistencies in treatment regimens throughout care transitions. In undertaking thorough medication reconciliations, resolving discrepancies, and informing patients and other healthcare providers of medication changes, nurses play an essential role. For patient safety and to avoid medication-related errors, medication reconciliation procedures are crucial. Nurses have a critical responsibility to guarantee the precision and comprehensiveness of medication information during changes in patient care, which reduces the likelihood of adverse drug reactions and maximizes healthcare results (IHI, 2021).

Technology-enabled Solutions

Healthcare delivery has been significantly transformed by technology-enabled solutions, which provide novel tools and systems to improve medication safety protocols. This concise analysis examines the function of technology-enabled solutions within the field of nursing and their influence on enhancing patient medication safety. Medication safety practices have been significantly transformed by the incorporation of technological advancements, including electronic health records (EHRs) and barcode medication administration systems (BCMA). These technologies are used by nurses to validate medication orders, detect patient wristbands, and access real-time medication data, thereby lowering the possibility of medication errors. By offering tools and systems that facilitate precise medication administration, documentation, and decision-making, technology-enabled solutions have the capacity to significantly improve medication safety practices in nursing. Through the effective utilization of these technologies and the resolution of accompanying obstacles, nurses have the potential to significantly influence medication safety and optimize patient outcomes within healthcare environments (Poon et al., 2010).

Methodology

Medication Administration Practices

Medication administration is an essential component of nursing practice, comprising a range of duties and obligations that are designed to guarantee the secure and efficient transportation of drugs to individuals. This segment delves into the complex aspects of medication administration performed by nurses and emphasizes their significance in fostering patient safety and achieving favorable therapeutic outcomes.

Medication administration is a methodical process that starts with the verification of medications and evaluation of the patient's appropriateness for the prescribed medication. To ensure the safe administration of medications, nurses thoroughly check medication orders against patient records, confirm patient identities, and evaluate factors like allergies, contraindications, and vital signs. After confirming the suitability of the patient, nurses initiate the medication preparation process in accordance with established protocols to ensure precise dosage calculation and medication dispensation. Medications may be administered through a range of routes, such as orally, subcutaneously, injectively, or intravenously, while strictly adhering to established protocols and safety standards (Noonan, 2018). Nurses prioritize patient-centered care during medication administration by delivering unambiguous instructions and attending to patients' inquiries or apprehensions pertaining to their prescribed medications. Furthermore, they perform continuous evaluations in order to track patients' responses to medication treatment and promptly identify any adverse reactions or side effects.

Record-Keeping and Reporting in

Ensuring precise recording of medication administration is critical for the upkeep of comprehensive patient records and to facilitate effective communication among healthcare personnel. In order to ensure accountability and transparency in nursing practice, nurses scrupulously record medication administrations, including information such as the medication name, dosage, route, time of administration, and patient response (Taylor, 2019).

Safety and Quality Assurance Inspections with To reduce medication errors and improve patient safety, nurses use a variety of safety check and verification procedures. One potential aspect to consider is the "five rights" of medication administration, which entails guaranteeing that the appropriate medication is administered to the intended patient at the designated time, dose, and route. Nurses actively engage in quality assurance endeavors, including error reporting systems and medication reconciliation, in order to detect system deficiencies and proactively execute remedial actions.

Medication administration practices are critical components of nursing care, exemplifying the values of professionalism, accuracy, and patient safety. Through the maintenance of proficiency in administration techniques, adherence to established protocols, and prioritization of quality assurance measures, nurses ensure the utmost in medication safety and make valuable contributions to favorable patient outcomes (Potter, 2020).

Medication Reconciliation Processes

Medication reconciliation, which entails the systematic review and documentation of a patient's current medications throughout transitions of treatment, is an essential element of patient safety. This segment delves into the significance of medication reconciliation procedures within healthcare environments and the responsibility of nurses in guaranteeing precise medication rosters for their patients.

Medication reconciliation is a standardized procedure that endeavors to generate an exhaustive and precise record of all substances consumed by a patient, encompassing prescription drugs, over-the-counter medications, vitamins, and supplements. The process entails conducting a comparison between the patient's existing medication regimen and any recent prescriptions, modifications, or omissions, in

order to detect and rectify inconsistencies in order to avert adverse drug reactions.

The Function of the Nurse in Medication Reconciliation Nurses are crucial to the medication reconciliation process because they frequently collect medication histories, perform medication reviews, and effectively communicate medication modifications throughout care settings. Nurses conduct interviews with patients or their attendants to obtain information regarding the patients' current medications, such as the names, dosages, administration schedules, and routes of administration. In addition, they ensure that medication orders are in accordance with the patient's medical records and reconcile any inconsistencies through collaboration with other healthcare professionals (Gleason, 2010). The Significance of Reconciliation of Medication for Medication reconciliation plays a critical role in minimizing the risk of medication errors and promoting patient safety throughout care transitions, including hospital admission, transfer, and discharge. Medication reconciliation aids in the prevention of adverse drug events, medication-related complications, and avoidable hospital readmissions by ensuring that all members of the healthcare team have access to current and accurate medication information. Additionally, it promotes patient education and continuity of care, enabling patients to assume an active role in medication management and treatment regimen adherence (Mueller, 2012).

Notwithstanding its critical nature, medication reconciliation may present difficulties on account of communication deficiencies, incomplete medication records, and time limitations. In order to surmount these obstacles, nurses must collaborate with patients, caregivers, and other healthcare professionals to ensure thorough medication reconciliation processes. They must also use technology-enabled solutions and effective communication strategies.

Medication reconciliation procedures are crucial for enhancing patient safety and improving healthcare outcomes during care transitions. In order to ensure that patients have accurate medication lists, conduct comprehensive medication evaluations, and effectively communicate medication changes across care settings, nurses play a crucial role. Through the establishment of medication reconciliation as a customary procedure within healthcare institutions and the resolution of accompanying obstacles, nurses possess the capacity to aid in the prevention of medication errors and adverse drug events, thereby augmenting patient safety and the overall quality of care provided (Vira, 2006).

Patient Education on Medications

In order to equip patients with the knowledge and abilities to comprehend and effectively manage their medications, patient education on medications is a crucial component of nursing practice. This segment delves into the significance of patient education regarding medications, approaches to delivering effective education, and the function of nurses in promoting patient medication literacy (Davis, 2006).

Patient Education Regarding Medications:

The provision of patient education regarding medications is crucial in fostering adherence to prescribed regimens, avoiding medication errors, and maximizing therapeutic results. Through the dissemination of comprehensive medication information encompassing dosage, administration guidelines, potential adverse effects, and the criticality of adherence, nurses bestow upon patients the agency to actively engage in their healthcare and devise well-informed choices regarding their treatment plans (Lee, 2010).

Approaches to Efficient Patient Education:

An individualized approach is employed in patient education to cater to the distinct requirements, inclinations, and levels of health literacy of every individual. This method improves comprehension and retention of medication information.

- The utilization of plain language is crucial when conveying medication-related information to patients, as it enhances understanding and guarantees that they can adhere to medication instructions precisely.

- The utilization of visual aides, including medication charts, diagrams, and pill organizers, serves to strengthen fundamental principles and encourage adherence to medication regimens.
- Implementing the teach-back method involves involving patients in the process of elucidating medication instructions using their own language. This practice serves to validate patients' comprehension while also highlighting potential areas that require additional clarification.
- Sustained Support, Reinforcement, and Follow-Up: Ensuring consistent medication education, support, and reinforcement for the duration of the patient's healthcare experience fosters sustained adherence and improves medication safety (Wallace, 2006).

Nurses play an important role in Patient Education on Medication because they act as the patients' primary educators and advocates, facilitating the process of medication education in a variety of healthcare settings. Patient learning requirements are evaluated, thorough medication information is provided, concerns or misconceptions are addressed, and open communication regarding medication-related matters is encouraged. To ensure coordinated and consistent medication education, nurses work with other members of the healthcare team, including pharmacists and healthcare providers.

Conclusion:

The pivotal and multifaceted role of nurses in promoting medication safety for patients comprises a range of responsibilities and practices that are designed to guarantee the safe and efficient administration of medications. By strictly adhering to established protocols, administering medications with precision, and providing thorough patient education, nurses have a significant impact on mitigating the likelihood of medication errors and adverse drug events.

Nurses fulfill the role of patient safety advocates by performing comprehensive assessments, validating medication orders, and instituting safety checks to avert blunders during the administration of medications. The individual's meticulousness and dedication to implementing quality assurance protocols enhance the general security and welfare of the patients entrusted to their supervision. Furthermore, nurses assume a pivotal function in medication reconciliation procedures, guaranteeing the precision of medication rosters throughout changes in care and promoting the uninterrupted provision of treatment plans. Through the establishment of partnerships with patients, caregivers, and other healthcare professionals, nurses enable patients to take an active role in the management of their medications and comply with their prescribed treatment regimens.

In summary, nurses play a critical role in ensuring patient medication safety by consistently demonstrating professionalism, compassion, and expertise in their professional endeavors. By maintaining a commitment to excellence and prioritizing the needs of patients, nurses ensure that medication safety is at its peak. As a result, they contribute to improved patient outcomes and the development of a safety-oriented culture within healthcare institutions. Sustained backing for nursing education, training, and quality development endeavors is critical for the continued progression of medication safety practices and the assurance of future patients' access to optimal care.

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