

The Rational Drug Use Within the Scope of Patient Safety

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Abstract

Patient safety is an approach that aims to minimize the risks that patients may encounter during their treatment processes at every stage of healthcare. It is extremely important for health professionals to work in accordance with ethical, professional standards and to use correct diagnosis and treatment methods. The process of rational drug use involves first carefully defining the patient's problem, applying reliable drug treatment with proven effectiveness, and monitoring and evaluating the results. In rational drug use, the responsible parties are the physician who decides on drug use, the pharmacist who provides the drug under appropriate conditions, the nurse who administers the drug, and the patient who is treated. Especially in hospitals, it is the nurse's responsibility to give, administer, monitor and prevent possible side effects of medications. Nurses' duties in the medication management process are not limited to administering medications correctly to patients; they also play a critical role in the effectiveness and safety of medications. In the current review, the importance of rational drug use within the scope of patient safety is emphasized and the duties of health professionals are expressed.

Keywords: Patient safety, Rational medicine, nurse

Hasta Güvenliği Kapsamında Akılcı İlaç Kullanımı

Özet

Hasta güvenliği, sağlık hizmetinin her aşamasında hastaların tedavi süreçlerinde karşılaşılabilecekleri riskleri en aza indirmeyi amaçlayan bir yaklaşımdır. Sağlık çalışanlarının etik, mesleki standartlara uygun çalışması, doğru tanı ve tedavi yöntemlerini kullanması son derece önemlidir. Akılcı ilaç kullanımı süreci öncelikle hastanın sorununun dikkatli bir şekilde tanımlanmasını, etkinliği kanıtlanmış, güvenilir ilaç tedavisinin uygulanmasını ve sonuçların izlenmesini ve değerlendirilmesini içermektedir. Akılcı ilaç kullanımında sorumlu taraflar; ilacın kullanımına karar veren hekim, ilacı uygun şartlarda sağlayan eczacı, ilacı uygulayan hemşire ve tedavi gören hastadır. Özellikle hastanelerde ilaçların verilmesi, uygulanması, izlenmesi ve olası yan etkilerinin önlenmesi hemşirenin sorumluluğundadır. Hemşirelerin ilaç yönetimi sürecindeki görevleri, ilaçları hastalara doğru şekilde vermekle sınırlı değildir; ayrıca ilaçların etkinliği ve güvenliğinde de kritik bir rol oynarlar. Bu derlemede hasta güvenliği kapsamında akılcı ilaç kullanımının önemi vurgulanarak sağlık profesyonellerinin görevleri dile getirilmiştir.

Keywords: Hasta güvenliği, Akılcı ilaç, Hemşire

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INTRODUCTION: THE PATIENT SAFETY

The health is a fundamental field that directly affects individuals' quality of life. In the field of health, trust is of great importance as an indicator of the quality of the services provided. Patient safety can be defined as an approach that aims to minimize the risks patients may encounter during their treatment processes at every stage of healthcare services. Patient safety is the responsibility of both healthcare workers and healthcare institutions. It is extremely important for healthcare professionals to work in accordance with ethical and professional standards, use correct diagnosis and treatment methods, and follow protocols and safety measures developed to ensure patient safety. Healthcare institutions should also shape their infrastructure, training programs, and inspection mechanisms in a way that prioritizes patient safety. Threats encountered in healthcare can have serious consequences for both patient health and the safety of healthcare professionals. The early detection and effective management of these threats is extremely important in establishing a patient safety culture.

Medical errors or accidents usually occur as a result of incorrect practices during the treatment process or intervention, wrong medication use, incomplete information, communication errors, incorrect procedures or systemic malfunctions. Such situations can have serious effects on patients' health and sometimes lead to permanent damage (Alquwez et al., 2018; Aslan, 2020). These errors may occur in the stages of diagnosing, prescribing medication, performing surgical interventions or procedures. For example, situations such as giving the wrong medication, using the wrong dosage of medication, misdiagnosis or surgical error are considered medical errors. Preventing such errors is directly related to both the training of healthcare professionals and the proper functioning of healthcare systems. Studies worldwide show that 3% to 17% of hospital admissions result in a medical error or an accident where patient safety is neglected (Chen & Adefila, 2020; Giap & Park, 2021).

The medical errors and accidents can cause very serious consequences.

Physical Damages: Patients may suffer physical harm as a result of misdiagnosis, incorrect surgical intervention, or medication side effects. This situation can be life-threatening and sometimes lead to permanent disabilities.

Psychological Effects: A medical error or accident can cause trauma to the patient. Due to insecurity in the treatment process, patients may experience psychological disorders such as anxiety, depression, and stress disorder.

Financial Damages: Medical errors or accidents may cause prolongation of the treatment process, additional treatment requirements, and loss of workforce for patients in this process. At the same time, legal cases may be filed between patients and healthcare institutions, which may lead to financial losses. (In IOM, 2000; Doğanyigit, 2021; Uğrak & Işık, 2022;).

To prevent medical errors, it is necessary to determine medical protocols and standards and strengthen continuous education and audit systems. (Aslan, 2020).

PATIENT SAFETY THREATS: RISKS ENCOUNTERED IN HEALTHCARE SERVICES

There are many risks in the provision of healthcare services that may cause medical errors or accidents that may threaten patient safety. Some important risks encountered:

Communication Errors

Communication errors are one of the most common and dangerous risks in healthcare. Incomplete, inaccurate or delayed information transfer between healthcare professionals can lead to serious errors in the treatment process. In treatment processes involving more than one healthcare professional, lack of communication within the team and disruptions in information transfer may lead to incorrect treatment decisions. Lack of patient information; It may affect patients' access to accurate and sufficient information, their compliance with treatment, and their results (Arslanoğlu, 2019; Burgener, 2020).

Infections and Hygiene Risks

In healthcare institutions, there is a high risk of infection that can cause the spread of diseases among patients, healthcare workers and visitors. Hospital infections are one of the most important factors that threaten patient safety, and these infections:

- Antibiotic resistant infections: Resistant bacteria that develop as a result of incorrect drug use and excessive antibiotic use can complicate treatment processes.
- Surgical site infections: Infections that may occur after surgical intervention prolong the healing process of patients and can sometimes cause death.
- Healthcare worker hygiene: Failure to pay attention to hand hygiene may cause the spread of infections (Doğanyigit, 2021).

Equipment Errors and Technological Failures

Medical devices used in healthcare are an important part of patient treatment. However, malfunctions or misuse of these devices may cause patient safety threats. Technical malfunctions in medical devices may cause disruption of the treatment process. Incorrect calibration or usage errors of the device can cause serious health problems. Incompatibilities between electronic health records (EHR) and other healthcare systems can prevent access to accurate information about a patient's health status. To prevent possible errors, regular maintenance and testing of the devices used should be carried out, and healthcare professionals should be trained on the use of equipment (Cohen et al., 1997; Schabrun & Chipchase, 2006).

Surgical Errors and Wrong Procedures

Surgical interventions are generally high-risk procedures and possible surgical errors can have fatal consequences. Subjecting the wrong organ to surgical intervention and complications occurring after surgery are considered surgical errors (Ergen & Tank, 2023).

Patient Identification Errors

Patient identification errors can lead to serious health problems. Failure to correctly identify the patient, especially in intensive care, emergency and surgical areas, may lead to incorrect treatment. Therefore, patient authentication systems must be accurate and reliable.

Drug Safety Threats

Misuse of medications, dosage errors, and drug interactions can seriously compromise patient safety. Wrong choice of medication can lead to serious complications in the treatment process. Dosage errors can have potentially fatal effects, especially in intensive care and children (Aslan, 2020). The use of multiple medications may cause unexpected interactions, which may worsen the health status of patients. To ensure medication safety, medications must be labeled correctly, healthcare professionals must be trained in medication management, and patients' compliance with treatment must be constantly monitored.

PRECAUTIONS TO BE TAKEN TO ENSURE PATIENT SAFETY

Various strategies and measures have been developed to prevent medical errors and ensure patient safety. Establishing specific protocols, guidelines and standards in healthcare can help reduce medical errors. Every healthcare facility must implement certain safety measures and procedures to ensure patient safety. Technologies such as electronic health records (EHR) and automated medication dispensing systems can play an important role in reducing error rates (Koralay, 2021; Gökkaya, 2023). Additionally, artificial intelligence-supported decision support systems can help healthcare professionals make the right decisions. Healthcare professionals should receive continuous training and their awareness should be increased, especially about patient safety and new developing medical information and procedures. Clear and accurate communication between healthcare professionals is critical to ensuring patient safety (Arslanoğlu, 2019). The communication errors within the team can lead to major health problems. Therefore, an effective communication culture should be created in cases where more than one healthcare professional is involved in patient care. The number of mistakes made increases by hiding mistakes or applying punishment. Therefore, in order to prevent bigger problems from occurring, an environment should be created where errors are reported and provide learning and development opportunities.

RATIONAL DRUG USE WITHIN THE SCOPE OF PATIENT SAFETY

Rational drug use (RUD) covers all practices aimed at treating patients with the right drug at the right time, in the right dose, and ensuring that treatments are safe and effective. It was defined by the World Health Organization (WHO) in 1985 as "being able to provide people with the appropriate drug, in the appropriate duration and dose, at the most affordable cost and easily, according to their clinical findings and individual characteristics." (World Health Organization, 2020; Religioni & Pakulska, 2020). The process of rational drug use involves first carefully defining the patient's problem, applying reliable drug treatment with proven effectiveness, and monitoring and evaluating the results (Barutçu et al., 2017; Akıcı, 2017; Religioni and Pakulska, 2020).

The medicines should be used only when necessary and with the correct indication. Unnecessary use of medication may endanger the patient's health. The dosage of the drug should be adjusted according to the individual characteristics of the patient, such as age, weight, kidney and liver functions. Otherwise, drugs will either be ineffective or have toxic effects. Medicines must be given by the correct route of administration (oral, intravenous, subcutaneous, etc.) and at the correct frequency. Improper administration may reduce the effectiveness of medications or increase their side effects. Medicines may need to be taken at certain times in accordance with the treatment plan. Interactions between medications may increase the importance of timing.

In the irrational use of drugs; Situations that may threaten patient safety may arise, such as lack of benefit from treatment, increase in undesirable drug effects, antibiotic resistance due to inappropriate use of antibiotics, complications due to excessive and non-sterile use of drugs in the form of injections, and increase in the risk of blood-borne diseases. At the same time, undesirable situations such as inappropriate patient demands caused by excessive use of drugs, difficulty in accessing drugs due to decrease in drug stocks, decrease in the trust of healthy and sick individuals/relatives in the health system, drug addiction and increase in drug costs may also occur (Tuncer et al., 2016; Akıcı, 2017; WHO, 2020) Drug safety practices, which include rational drug use in the provision of health services; It is emphasized that it is important in terms of facilitating the work to be carried out in the context of patient safety, employee safety and control of resources (Department of Health Quality and Accreditation Drug Safety Guide, 2015; Cherian et al., 2024).

In Türkiye, various regulations have been created by the Ministry of Health with the Health Performance and Quality Directive to ensure rational drug use in public hospitals. Some of these regulations are related to rational drug use; These include determining hospital policy, planning and implementing activities, making relevant regulations, informing patients about the use of drugs, and preparing brochures, posters and video images for rational drug use (Taş, 2021). For the implementation of the rational drug concept, they can be listed as smart selection of drugs, rationality of pharmaceutical logistics, rationality of the prescribing process, rationality of the prescription response process, rational consumption of drugs, rationality of drug information support and rationality of drug management (Ministry of Health, 1993). In rational drug use, the responsible parties are the physician who decides on the use of the drug, the pharmacist who provides the drug under appropriate conditions, the nurse who administers the drug, and the patient who is treated (Aydın & Gelal,

2012). Especially in hospitals, it is the responsibility of the nurse to give, administer, monitor and prevent possible side effects of medications (Ulupınar & Akıcı, 2015; Şantaş & Uğurluoğlu, 2018). Nurses' duties in the medication management process are not limited to administering medications correctly to patients; they also play a critical role in the effectiveness and safety of medications. These responsibilities are of great importance in ensuring patient safety (Suluhan et al., 2014).

We can express the responsibilities of nurses in the rational drug use process as follows:

Ensuring the Correct Use of Medications: Nurses must ensure that medications are administered in accordance with the patient's diagnosis and treatment plan. Particularly, patients should try to prevent giving the wrong medication, taking into account their allergy history and current health conditions. Care should be taken to use different drug forms such as oral, injection and topical correctly.

Correctly Setting the Administration Method and Timing of Medications: Nurses should determine the correct administration routes of medications (e.g., oral, parenteral, intravenous) and administer them accordingly. Medicines should be given at the right time in accordance with the treatment plan. One should also monitor the timing between medications, taking into account drug interactions (Religioni & Pakulska, 2020).

Patient Monitoring and Evaluation: Side effects that may occur in patients during the treatment process should be monitored and reported early. By evaluating the patients' response to treatment, they may recommend changes in drug dosage or treatment method if necessary.

Education and Information: Patients should be informed correctly about drug use and their compliance with treatment should be increased. They should provide detailed information to patients about how to use medications, what their side effects may be, drug interactions, and special warnings. Nurses must communicate effectively with other healthcare professionals (doctors, pharmacists, physiotherapists, etc.) during the treatment process. Correct management of medications can be achieved not only through individual responsibility but also through different disciplines (Agrawal, 2009; Oguz et al., 2015).

CONCLUSION AND RECOMMENDATIONS

Preventing medication errors and ensuring safe medication use in healthcare institutions is the most important issue considered within the scope of patient safety. Prevention of medication errors is handled as a whole in line with the duties and responsibilities of healthcare professionals. Increasing the trainings to be given, informing the employees and all practices that can be done to raise awareness will ensure that errors are minimized.

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