Medication Errors

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## Introduction

Medication errors are associated with physiological, pathological, and anatomical issues. Ineffective and inappropriate dosage can cause severe structural damage to the body. The research question why medication errors frequently occur in healthcare facilities would be assessed and factors associated with the issues would be discussed in the paper. The human body is sensitive to whatever is administered to them. Administering wrong medication can cause serious health issues including physiological problems such as changes in the structure of the brain, tissues, and fluids. Psychological problems that can occur due to wrong medication are stress, anxiety, paranoia, and neurosis. Certain pathological conditions can be the result of wrong medication for example, heart patients need accurate dosage and if they are administered a wrong dose, it can be fatal. Various studies have shown that epidemiologically, the administration of wrong medication is increasing in recent years. Failure in treatment and care plans can cause serious health problems (Asensi-Vicente et al., 2018). Wrong strength, wrong dose, and wrong label can cause complications in the treatment for the patients. Action, rule and memory-based errors can result because of psychological classification. For example, the nurse forgot to administer a patient with the correct dose would lead to complications such as stress and as a consequence, the nurse would not be able to concentrate on her duty properly. However, medication errors can be occasionally fatal but the nurses need to take additional care while prescribing and administering medicines. This paper will present a research question that why medication errors frequently occur in healthcare facilities and what issues are associated with the research question.

# Medication Errors in Nursing

Medication errors can cause serious psychological, mental and emotional stress to patients and their families. The human body works optimally when systems and tissues are functionally active. Functions of the human body depend greatly on metabolites, dosing, fluids, and the level of hormones in the body (Asensi-Vicente et al., 2018). The organs that may disturb due to wrong medication are the human brain and hormones of the body. For example, a wrong medicine or a wrong dose can cause stress to the patient which ultimately leads to changes in the hormones of the body. Wrong medication can cause a strong impact on human tissues and the balance of metabolites in the body (Nanji et al., 2016). Systematic damage, pain, and injury can also occur due to the wrong medication. However, studies have shown that failures of inaccurate treatment and medication errors are major issues that cause mental and psychological stress for the patients. Wrong dose and wrong strength can cause changes in the metabolites of the body which can lead to severe complications such as itching, aches and internal injuries or it may become fatal.

Intended error or wrong strength of dose can result in serious health outcomes. A wrong dose and wrong strength of medication can be problematic for the patients suffering from the disease. Pharmacologically, medicines are prepared with a ratio and proportion best suitable for the treatment of a disease (Asensi-Vicente et al., 2018). Changes in the strength of ingredients and inadequate dosage can be fatal for the patients of emergency departments. Drugs work appropriately when administered on time with current dose and accurate strength is given (Nanji et al., 2016). Changes in the preparation, dispensing or packaging of medicines can lead to serious problems both for the healthcare staff and patient. Cellular changes such as changes in the pH; acidity or basicity can change the entire system of the body. Genetically, a body is sensitive to even minute changes in the metabolites and composites of the cell. Changes in the DNA can occur with any small change in the metabolites or components of the cells.

Chemical issues that can be caused due to wrong medication are changes in the acidity and basicity of the body. Medication errors can cause serious health problems including psychological, emotional, and physiological changes. Wrong medication can cause adverse drug reactions. Any change in the medication dosage, strength or quantity can lead to adverse drug reactions. An unplanned error can cause serious complications in biological systems such as loss of pregnancy and accidental injury to internal organs or tissue with the prescription of wrong medicines (Asensi-Vicente et al., 2018). Prescribing wrong medicines to patients, failure to monitor patient’s health outcomes, and failure to check adverse drug reactions may become fatal in the end. Significant changes in the body that need to be monitored properly include psychological and emotional problems associated with wrong medication.

Lack of education or awareness regarding medication is the major issue identified in various studies. Certain economic conditions such as the non-availability of adequate funds for nurses to get a higher education are part of the economic issue (Gholipour et al., 2016). Nurses and healthcare professionals need evidence-based practices and research to update their knowledge regarding medication and treatment. Governmental entities and organizations need to focus on capacity building programs to facilitate nurses in their higher education. Also, healthcare providers from low socio-economic backgrounds need to be sponsored for their education to get effective and evidence-based knowledge regarding drugs (Gracia et al., 2019). Lack of knowledge and education regarding drugs is essential, for example, prescribing penicillin for those allergic to it would cause complications for the nurses and patients. Therefore, appropriate education and utilization of training programs are essential for the nurses (Asensi-Vicente et al., 2018). Advanced technology such as computerized systems and barcoding can reduce medication errors, however, availability and access to advanced technology for healthcare professionals and organizations is again dependent on economic growth (Marvanova & Henkel, 2018). The availability of adequate funds to utilize advanced training programs and technology can significantly reduce medication errors.

Organizing suitable training programs for the capacity building of nurses and healthcare professionals is an important strategy that can help them reduce medication errors. The availability of skilled staff and professionals can also be a good strategy for healthcare organizations to reduce medication errors. Nurses and pharmacists should be trained to understand the dispensing techniques, packing, and preparation of drugs. Certain approaches such as monitoring systems and implementation of effective management and software can reduce the errors occurred due to wrong medication (Asensi-Vicente et al., 2018). The cost involved in the prevention and anticipation of errors is high and it needs comprehensive approaches to decrease the cost. Cost-effective management approaches such as appointment of skilled professionals, proper monitoring systems, and capacity building programs are needed to address the issue.

Statistically, various studies have been conducted in the identification of medication errors and the ratio of mistakes associated with the staff (Asensi-Vicente et al., 2018). Drug regulatory bodies and American nursing associations have conducted many types of research to evaluate the facts behind medication errors and have suggested that the education of nurses should be enhanced to improve the system and reduce medication errors in the health care facilities. Also, medication errors can be significantly reduced by improving the educational system, enabling the environment of healthcare facilities for nurses. Medication errors can be effectively reduced through education, and implementation of strategies and approaches such as technology-based systems to address the issue.

# References

Asensi-Vicente, J., Jiménez-Ruiz, I., & Vizcaya-Moreno, M. F. (2018). Medication errors involving nursing students: A systematic review. *Nurse Educator*, *43*(5), E1–E5.

Gholipour, K. H., Mashallahi, A., Amiri, S., Moradi, Y., Moghaddam, A. S., & Hoorijani, F. (2016). Prevalence and causes of common medication administration errors in nursing. *Journal of Chemical and Pharmaceutical Sciences*, *2016*, 18–21.

Gracia, J. E., Serrano, R. B., & Garrido, J. F. (2019). Medication errors and drug knowledge gaps among critical-care nurses: A mixed multi-method study. *BMC Health Services Research*, *19*(1), 1–9.

Marvanova, M., & Henkel, P. J. (2018). Collaborating on medication errors in nursing. *The Clinical Teacher*, *15*(2), 163–168.

Nanji, K. C., Patel, A., Shaikh, S., Seger, D. L., & Bates, D. W. (2016). Evaluation of perioperative medication errors and adverse drug events. *Anesthesiology: The Journal of the American Society of Anesthesiologists*, *124*(1), 25–34.