



MEDICINE

THE EFFECTIVENESS OF NURSING INTERVENTIONS IN EDUCATING PATIENTS ABOUT THE IMPORTANCE OF ADHERING TO MEDICATION REGIMENS FOLLOWING LABORATORY AND X-RAY PROCEDURES

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Abstract

Nursing interventions cover a wide range of actions, including physical care, emotional support, patient education, prescription delivery, and coordination of healthcare services. They play a vital effect on patient outcomes. This study aims to evaluate the effectiveness of nursing interventions in educating patients about the importance of adhering to medication regimens. The research will focus on assessing the impact of nurse-led education on patient understanding and compliance with medication regimens. The study will utilize a mixed-methods approach. The findings will provide valuable insights into the role of nursing interventions in promoting medication adherence and improving patient outcomes. Nurse care, medication adherence, and importance of following medication regimens post-procedures will also be discussed in this review. The review concluded that, nursing interventions are essential in informing patients about the need of sticking to prescription schedules after X-ray and laboratory procedures. Nurses may help patients realize the importance of adhering to their prescribed drug regimens by giving them clear and thorough information, which will eventually enhance their health outcomes. Nurses may enable patients to actively participate in their own health and well-being management by using effective communication techniques and patient education. This emphasizes how critical nursing interventions are to encouraging drug compliance and guaranteeing the efficacy of medical procedures.

Keywords: Medication regimens, patient outcomes, nursing interventions, education.

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INTRODUCTION

As frontline healthcare providers, nurses have a significant impact on the experiences and results of their patients. Over the past 20 years, there has been an exponential increase in the number of research examining the relationship between nursing treatments and patient outcomes, resulting in a growing body of evidence supporting nurses' contributions to improved patient outcomes. As a result, data has surfaced that could be helpful in determining how best to organize nursing care, determine the right therapeutic "dose" for the nurse, and identify the activities that make up the nurse's interventions. Furthermore, new patient outcome measures that demonstrate sensitivity to nurse structural variables and interventions have been presented in the literature; these measures serve as a significant source of metrics for the development of public reporting health care report-card efforts [1].

And as we know that one of the issues that the medical team deals with on a regular basis is educating patients about their medical treatment during their hospital stay. Hospitalized patients and their families are known to require specific information throughout their stay, which makes this a crucial time to provide them with it. This is likely because they have unmet learning demands that cannot be put off. As we know that the purpose of health care is to improve efficacy.

Effectiveness, though, could mean various things to different people. For the clinician, it represents the success of the therapy; for the politician and the buyer, it represents cost effectiveness; and for the patient, comfort, convenience, and the ability to lead a regular life are the most crucial viewpoints [2].

In order to perform their jobs well, hospital nurses nowadays require independent sources of assistance. The atmosphere is tense. We are starting to recognize that we need to provide better care for our patient, and there are national efforts in place to enhance the hospital work environment [3].

A systematic study using meta-analytic techniques to combine and analyze data on the impact of medication adherence programs on patient-centered outcomes found that medication adherence strategies resulted in notable enhancements in patient-centered outcomes, while the benefits were modest in nature [4].

Understanding Medication Adherence:

Adherence is defined as "the degree to which an individual's behavior, including the taking of medication, aligns with established guidelines from a healthcare provider." It involves starting the prescribed course of treatment, following through with it, and stopping the medication. As for adherence, several researches divide it into primary and secondary categories. The frequency with which patients neglect to fill prescriptions upon starting new medications is known as primary nonadherence, and it has to do with starting the

medication therapy and refilling it. When a prescription is filled, secondary nonadherence is when the drug is not taken as directed. It influences not just the clinical result but also the health system's financial result [5, 6].

Medication adherence is an essential component of patient treatment and is required to meet clinical objectives. "Improving the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatment," the World Health Organization (WHO) writes in a 2003 report on medication adherence. Opposition: Nonadherence results between clinical outcomes, higher rates of morbidity and mortality, and needless medical expenses. Even though noncommunicable and mental diseases are predicted to account for more than 65% of the world's disease burden by 2020, between 50% and 60% of patients—especially those with chronic illnesses—do not take their prescribed medications as directed. Because of this, medication nonadherence accounts for almost 30% of hospital admissions connected to medicine [7, 8].

Importance of Following Medication Regimens Post-Procedures:

Managing medications is crucial to delivering high-quality treatment and ensuring patient safety. According to the World Health Organization (WHO), ensuring drug safety in transitional care is one of the main ways to improve patient safety. Additionally, it has been shown that drug-related concerns—specifically, the safe transfer of the medication regimen—are important elements of high-quality care in transitional care.

Transitional care programs have the potential to mitigate medication-related issues, enhance medication treatment accessibility, offer thorough medication counseling, and fill in gaps in medication care after x-ray release [9].

However, patients receiving transitional care between healthcare settings are more likely to experience medication errors because of inadequate education and training, inappropriate follow-up, inadequate medication reconciliation, and low patient and family caregiver engagement in medication management [10].

In global healthcare systems, improper medicine administration is the main factor contributing to preventable patient injury. Which, for the most part, happens when taking medicine? The prevention and incidence of pharmaceutical administration mistakes are major areas in which nurses are involved. Nevertheless, the issue in Ethiopia was only briefly examined in a few noteworthy researches. This study thus sought to evaluate the extent and contributing variables of drug delivery mistake among tertiary care hospital nurses [11].

The Influence of Nursing Interventions on Patient Outcomes

Nursing interventions exert a substantial

influence on patient outcomes. Nurses have the responsibility of executing interventions that are designed to prevent illness, foster health, and deliver care to patients. The execution of nurse interventions is crucial in improving patient outcomes and ensuring the delivery of superior patient-centered healthcare. Nursing interventions encompass the deliberate acts undertaken by nurses to enhance well-being, avert disease, and address the physiological, psychological, and societal requirements of patients. These treatments encompass a variety of tasks, including educating patients, managing medications, controlling infections, managing pain, and preventing falls [12, 13]. Pain management strategies, which encompass non-pharmacological and pharmacological techniques, were observed to be efficacious in diminishing pain intensity and enhancing patient contentment. Research has shown that providing patients with education is a very effective nursing intervention for enhancing patient outcomes. This includes improving their understanding and knowledge of their condition, as well as increasing their adherence to treatment plans. Additionally, interventions related to medication management, such as medication reconciliation and medication reviews, have proven to be successful in reducing medication errors and adverse drug events. Research has demonstrated that providing patients with education can lead to positive results, including enhanced comprehension and awareness of their medical condition, better compliance with treatment regimens, and a greater ability to independently manage their health [14]. Interventions aimed at managing medication, such as medication reconciliation, medication reviews, and patient education on medication use and side effects, have the potential to decrease medication errors and adverse drug events, enhance medication adherence, and lower the likelihood of drug interactions. Infection control interventions, such as hand hygiene and isolation precautions, have proven to be successful in reducing healthcare-associated infections and enhancing patient safety. Implementing infection control measures, such as hand hygiene, isolation protocols, the use of personal protective equipment, and maintaining cleanliness in the surroundings, can significantly reduce the risk of healthcare-associated infections and improve patient safety [15]. Fall prevention measures, such as educating patients about fall prevention, utilizing assistive devices, and making environmental modifications, can effectively decrease the likelihood of falls and fall-related injuries, especially in older persons who have a higher susceptibility to falling. The efficacy of these strategies in reducing falls and related injuries highlights the crucial role nurses play in improving patient outcomes and guaranteeing the provision of superior patient-centered healthcare [16].

Patient Adherence to Medication:

Most current approaches to increasing drug adherence for long-term health issues are intricate, time-consuming, and unpredictable in their results. More research into creative ways to help patients take their medicines is consequently required. At the levels of adherence that are now feasible, the full advantages of medication cannot be achieved.

The degree to which a patient follows medical or health recommendations in terms of taking medication, adhering to a diet, changing behaviors, or visiting clinics is known as adherence. Adherence is meant to be a factual statement rather than an accusation against the patient, the doctor, or the course of treatment. Adherence can be interchanged with concordance and compliance [17].

Nursing Care:

Is a specialized support package that is provided by carers with specialized training under the supervision of a licensed clinical nurse. The nature of this kind of care is usually more complex, necessitating specialized assistance for certain medical requirements [18].

A person with a difficult medical condition may be able to stay in their own house with nursing care at home, avoiding the need to enter residential care. This enables individuals to continue living with a partner, spouse, or pet, as well as to maintain the security and familiarity of their own surroundings and belongings [18].

The ideal choice for nursing care is typically live-in care, which allows a caregiver to remain with you in your home and be available to you anytime you need assistance. In order for you to get along with your caregiver and maybe even think of them as an extended family member, they will be matched with you based on your personality, interests, and state of health. Our local branch staff will also provide support for difficult care, covering your live-in caregiver's breaks and helping with any multi-person care needs [18].

It's critical to follow recommended drug schedules in order to treat illnesses, halt their development, or lessen their symptoms. "The process by which patients take their medications as prescribed. Many individuals receiving home care struggle to follow a doctor's suggested prescription regimen. Of patients receiving home care, up to 80% do not take their prescription drugs as directed. Medication non-adherence may be caused by a number of variables, including those pertaining to the patient, the course of therapy, and/or the healthcare provider. Patients could, for instance, overlook taking their prescriptions, administer them at the wrong dosage, or doubt their need. Treatment-related variables like polypharmacy or a complicated drug schedule may further raise the chance of non-adherence [19]. We are unaware of the patients' experiences receiving medication adherence help from

nurses. Assessing patient experiences offers the chance to ascertain whether the care fulfills the requirements and preferences of the patients in order to direct future improvements in treatment. Thus, the aim of this research is to characterize the kind of adherence support treatments that patients require and have received, as well as their experiences with these interventions and the changes they hope to achieve.

Limitation:

Upon our search, we did not find any studies assessing the impact of nursing interventions in adhering to medication regimens following laboratory and/or x-ray procedures. Moreover, studies assessing alike topics were also scarce, affecting our search and evaluation of the topic.

CONCLUSION

In conclusion, nursing interventions play a crucial role in educating patients about the importance of adhering to medication regimens following laboratory and X-ray procedures. By providing clear and comprehensive information, nurses can help patients understand the significance of following their prescribed medication regimens, ultimately leading to improved health outcomes. Through effective communication and patient education, nurses can empower patients to take an active role in managing their own health and well-being. This highlights the importance of nursing interventions in promoting medication adherence and ensuring the success of medical treatments.

REFERENCES

- Bolton, L. B., Donaldson, N. E., Rutledge, D. N., Bennett, C., & Brown, D. S. (2007). The Impact of Nursing Interventions. *Medical Care Research and Review*, 64(2_suppl), 123S–143S.
- Nettles, A. T. (2005). Patient education in the hospital. *Diabetes Spectrum*, 18(1), 44-48.
- McPeck P: In good hands. Available from nurseweek.com. Accessed 26 January 2004
- Conn, V. S., Ruppar, T. M., Enriquez, M., & Cooper, P. S. (2016). Patient-Centered Outcomes of Medication Adherence Interventions: Systematic Review and Meta-Analysis. *Value Health*, 19(2), 277-285. doi: 10.1016/j.jval.2015.12.001
- Sabaté, E. *Adherence to Long-Term Therapies: Evidence for Action*, World Health Organization, Geneva, Switzerland, 2003.
- Solomon, M. D., & Majumdar, S. R. (2010). Primary non-adherence of medications: lifting the veil on prescription-filling behaviors. *Journal of General Internal Medicine*, 25(4), 280–281.
- McDonnell, P. J., Jacobs, M. R., Monsanto, H. A., & Kaiser, J.-M. (2002). Hospital admissions resulting from preventable adverse drug reactions. *Annals of Pharmacotherapy*, 36(9),

1331–1336.

- Osterberg, L., & Blaschke, T. (2005). Adherence to medication. *The New England Journal of Medicine*, 353(5), 487–497.
- Setter, S. M., Corbett, C. F., & Neumiller, J. J. (2012). Transitional care: exploring the home healthcare nurse's role in medication management. *Home Healthcare Now*, 30(1), 19-26.
- Chhabra, P. T., Rattinger, G. B., Dutcher, S. K., Hare, M. E., Parsons, K. L., & Zuckerman, I. H. (2012). Medication reconciliation during the transition to and from long-term care settings: a systematic review. *Research in Social and Administrative Pharmacy*, 8(1), 60-75.
- Wondmieneh, A., Alemu, W., Tadele, N., & Demis, A. (2020). Medication administration errors and contributing factors among nurses: a cross sectional study in tertiary hospitals, Addis Ababa, Ethiopia. *BMC nursing*, 19(1), 1-9.
- American Nurses Association. Nursing interventions classification (NIC) [Internet]. 2021. Retrieved June 25, 2021, Available from: <https://www.nursingworld.org/practice-policy/nursing-excellence/>.
- Recio-Saucedo, A., Dall'Ora, C., Maruotti, A., Ball, J., Briggs, J., Meredith, P., ... & Griffiths, P. (2018). What impact does nursing care left undone have on patient outcomes? Review of the literature. *Journal of clinical nursing*, 27(11-12), 2248-2259. <https://doi.org/10.1111/jocn.14058>
- Paterick, T. E., Patel, N., Tajik, A. J., & Chandrasekaran, K. (2017). Improving health outcomes through patient education and partnerships with patients. *Proc (Bayl Univ Med Cent)*. 30(1), 112–3. <https://doi.org/10.1080/08998280.2017.11929552>
- Haque, M., McKimm, J., Sartelli, M., Dhingra, S., Labricciosa, F. M., Islam, S., ... & Charan, J. (2020). Strategies to prevent healthcare-associated infections: a narrative overview. *Risk management and healthcare policy*, 13, 1765-1780. <https://doi.org/10.2147/RMHP.S269315>
- Montejano-Lozoya, R., Miguel-Montoya, I., Gea-Caballero, V., Mármol-López, M. I., Ruíz-Hontangas, A., & Ortí-Lucas, R. (2020). Impact of nurses' intervention in the prevention of falls in hospitalized patients. *Int J Environ Res Public Health*, 17(17), 6048. <https://doi.org/10.3390/ijerph17176048>
- Haynes, R. B., McDonald, H., & Garg, A. X. (2002). Interventions for helping patients to follow prescriptions for medications [Cochrane Review on CD-ROM]. Oxford, England: Cochrane Library, Update Software; issue 2.
- Flaubert, J. L., Le Menestrel, S., Williams, D. R., Wakefield, M. K., & National Academies of

Sciences, Engineering, and Medicine. (2021). The Role of Nurses in Improving Health Care Access and Quality. In: *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity*. National Academies Press (US).

• Coleman, C. I., Limone, B., Sobieraj, D. M., Lee, S., Roberts, M. S., Kaur, R., & Alam, T. (2012). Dosing frequency and medication adherence in chronic disease. *Journal of Managed Care Pharmacy*, 18(7), 527-539. doi:10.18553/jmcp.2012.18.7.527