International Journal of Religion
2024
Volume: 5| Number 12 | pp. 1527 – 1534
ISSN: 2633-352X (Print) | ISSN: 2633-3538 (Online)
ijor.co.uk
DOI: https://doi.org/10.61707/5c2d7g07

"Medical Staff Perceptions for Implementing Strategies for Reduction Transmission of Infection and Enhance Patient Safety in Health care Centers in Riyadh Region"

Abeer Saleem ALSaleem[1], Fahad Rashed AL-Mawash[2], Modhi Hulayyl ALMouteri[3], Malek Mabrouk ALMaleki[4], Dalal Helail ALMutairi[5], Abeer Ali ALAmmar[6], Tagreed Fallj ALShanar[7], Sanaa Mohammed Ali ALFadeel[8], Fatimah A. Ghulman[9] and Suzan Abdulrahman ALKabawi [10]

Abstract

Background: Patient care is a public health issue all over the world, with nursing errors in hospitals being a significant source of harm to patients and a hindrance to the healthcare system's efficiency. Purpose: The purpose of this study was to investigate Medical Staff Perceptions for Implementing Strategies for Reduction Transmission of Infection and Enhance Patient Safety in Health care Centers in Riyadh Region. Patients and Methods: To achieve the aim of the study, the descriptive approach was followed on a sample of workers in health care centers and hospitals in the Riyadh region Results: The results of the study led to the development of five strategies and 28 interventions aimed at reducing nursing errors. The study revealed that two-thirds of the participants had a high perception of strategies for reducing nursing errors, while one-third had a low perception. Conclusion: The recent findings of the study on strategies and interventions to reduce nurses' errors in healthcare facilities matter greatly to the field of nursing and healthcare. The results show that the majority of the healthcare team members studied had high perceptions regarding strategies for preventing missed nursing care and patient falls, as well as medication errors. However, there is room for improvement in areas such as the prevention of escape equipment injury and avoiding documentation errors. These findings serve as a valuable contribution to the ongoing efforts to enhance patient safety and improve the overall quality of healthcare services. By identifying areas for improvement and providing practical solutions, the study provides valuable insight for healthcare administrators, practitioners, and policymakers to effectively reduce nursing errors and enhance patient care.

Keywords: *Medical Staff, Implementing Strategies, Transmission of Infection, Patient Safety, Health Care Centers*

INTRODUCTION

Patients' safety is constantly compromised by the risk of cross-infection due to faulty healthcare procedures (Pettit and Donaldson, 2005), although many factors of cross-contamination can be minimized. Some of these factors are: poor application of transmission control practices, improper use of medical devices, inadequate application of patient isolation precautions, or lack of staff (Loveday et al. 2017).

The main risks of potential transmission of organisms in healthcare may come from direct contact between patients and healthcare personnel (HCP) who spread pathogens from contaminated hands or clothing (Loveday et al., 2017), and indirect transmission by infection. Means of medical equipment or surfaces (Livshiz-Riven, 2015).

[1] Saudi Arabia Kingdom

[2] Saudi Arabia Kingdom

[3] Saudi Arabia Kingdom

[4] Saudi Arabia Kingdom

[5] Saudi Arabia Kingdom

[6] Saudi Arabia Kingdom

[7] Saudi Arabia Kingdom

[8] Saudi Arabia Kingdom

[9] Saudi Arabia Kingdom
[10] Saudi Arabia Kingdom

Therefore, it is crucial to increase transmission prevention behavior in clinical practice and among staff to provide safe patient care (Afaya A, Konlan, 2021). Being careful not to transmit infection contributes greatly to maintaining the safety of medical staff and patients. In this context, Florence Nightingale stated at the beginning of the nineteenth century that "the important condition is that the disease is not transmitted between staff and patients in hospitals." The World Health Organization (WHO) defines patient safety as preventing harm to patients and staff through avoidable transmission of disease, and avoiding unnecessary harm that may be caused by health care workers (Ahmed T, etal, 2018).

The infections that patients are exposed to from transmission while receiving medical care are among the causes that may lead to deaths, so failure to follow health culture strategies in health institutions constitutes the biggest obstacle to improving the safety of patient care. It is known that medical errors regarding the transmission of diseases are inevitable in the health care system. Since they are widely distributed in all types of healthcare facilities, including hospitals, healthcare centers, laboratories, etc., they pose a significant risk to the health of staff and patients (Ahmed, etal, 2019).

In fact those medical errors in this field can occur as a result of human error and the reality of professional practice means that they will always happen. In inpatient settings, medical staff typically bears responsibility for patient care and are disproportionately responsible for transmission-related errors that may occur due to misuse of medical equipment and failure to take safety measures to prevent transmission. Most patient infection safety initiatives have focused on preventing medication errors, however, medical equipment and devices are also a significant source of infection and transmission, and Nosocomial infections are the most popular health problem (Bjerkan, etal, 2018). to 10% of hospitalized patients in developed nations are infected (Han, etal, 2020). Medical infections can cause financial loss, injury, disability, or death; an extended duration of stay; extra hospital fees; and a tarnished hospital image (Hendy, etal, 2021). Documentation is an important part of nurses' professional competency and safe treatment. Research reveals that missing, poor, or erroneous nursing documentation threatens patient safety. Thus, training is needed to increase documentation quality and eliminate errors.

The practice of health culture by health staff and public safety procedures in various health institutions contributes to reducing the transmission of disease infections between employees and patients. Therefore, health care institutions need a culture of health safety that views medical errors as problems that must be overcome (Kahriman, etal, 2021). This is incumbent on all Health care team members contribute to the safety of patients and workers. There is no doubt that nursing staff have a major role in reducing medical errors that may contribute to preventing the spread of infection. As a result, the purpose of this study was to investigate health staff perceptions towards implementing strategies to reduce transmission and enhance patient safety in health care centers in the Riyadh region.

Research Question

What is the Perceptions of Medical Staff for Implementing Strategies for reduction Transmission of Infection and Enhance Patient Safety in Health care Centers in Riyadh Region?

RESEARCH METHODOLOGY

To achieve the aim of the study, the descriptive approach was followed on a sample of workers in health care centers and hospitals in the Riyadh region.

Study Sample

The sample consisted of (76) individuals working in health care centers and hospitals in the Riyadh region, distributed among (40) male and female nurses, (12) general practitioners and dentists, (12) radiology workers, and (12) health inspector. A convenience sample is a type of nonrandom sampling that involves selecting participants who are readily available and accessible. Convenience sampling has many drawbacks, as it can be biased and lead to unrepresentative results. The data collected using this method may not be generalizable or accurate. As a result, it is considered the weakest form of sampling, and it should be used with caution.

Convenience samples are not considered to be the most reliable or accurate sources of information. They are not representative of the general population and are often limited in scope and size. This can lead to inaccurate or incomplete results. In terms of intelligence strategies for reducing nursing errors that affect patient safety, convenience samples should not be relied upon as a primary source of data. More reliable sources of data should be used such as surveys, interviews, observational studies, and medical records.

Study Tool

Arabic Questionnaire was designed by the researchers, consisted of (17) items divided into two dimensions: Nurse's errors as documenting errors, equipment injury, patient falls, nosocomial infections, errors in preparing medication, errors in giving medication, ignore patient complaint, and missed nursing care. Each item scored as always, sometimes, and never. The first component aims to eliminate medication errors and includes (5) items. The second is to avoid documentation errors, which includes (7) items. The third aims to prevent equipment-related injuries and consists of (5) items. The final component focuses on preventing missed nursing care and contains (4) components.

Validity

Jury opinions were elicited regarding the tools format, layout and clarity of its parts. Validity by Jury (Content Validity): researchers presented questionnaire in its initial form to (5) experts in nursing Content validity were conducted to establish the suitability of each item to be involved in the questionnaire sheet. Minor modifications were done based on jury opinions. Here, jury refers to the Intelligence Strategies for Reduction Nursing Error That Affects Patient Safety is a tool used to assess nursing practice and identify areas of improvement. It includes a series of questions about specific practices and behaviors with a focus on reducing errors, and does not use a numerical scale to measure responses.

Reliability and Process of Measurement

Cronbach's alpha is often used to measure the internal consistency (reliability). A value of 0.879 means that the reliability is good. First, the process of measurement begins with identifying the risks associated with medical errors. This should include a comprehensive review of the literature and an analysis of the causes of the errors. Through this review, nurses can develop an understanding of the scope and severity of the risks associated with medical errors and their effect on patient safety. Next, nurses should develop a set of strategies for reducing medical errors. These strategies should be tailored to the specific risks identified in the first step.

The strategies should focus on improving communication and coordination among all medical staff, including nurses, healthcare providers, and patients. Additionally, nurses should seek to create a culture of safety in the healthcare setting by promoting a culture of accountability and transparency. Once the strategies have been developed, nurses should assess the effectiveness of the strategies. This can be done through a variety of methods, such as surveys, interviews, and observation. Additionally, nurses should monitor the implementation of the strategies to ensure that they are being followed and that they are achieving the desired results. Finally, nurses should measure the impact of the strategies on patient safety. This can be done by tracking changes in the rate of medical errors and patient outcomes. It is important to evaluate the success of the strategies used to reduce nursing errors. This evaluation should include an analysis of the data collected to determine the effectiveness of the strategies. It should also take into account any changes that were made in order to improve the strategies for reduction of nursing errors that affect patient safety.

Statistical Analysis

SPSS software, which is a statistical package for the social sciences, was used to organize, tabulate, and statistically analyzes data entry and quantitative data (version 32, SPSS Inc., Chicago, IL, USA). The mean and standard deviation (SD) were used to show numerical data, while frequencies (No) and percentages (%) were used to show qualitative data. Cronbach's alpha coefficient was used to determine the reliability of the tool. Cho-Square test (Cho, etal, 2021) was used to determine whether statistically significant differences existed between two or more independent groups. For interpretation of the results of tests of significance, the

significance level was set at P 0.05, so the P-value was considered significant as follows: P-value 0.05 was considered significant, and P-value > 0.05 was considered insignificant.

RESULTS

Table 1 revealed that the mean age of subjects was 36.87 (7.98) years, 58.7% of them were female, and 37.5% of them were nurses. In terms of years of experience, the study found that 71.2% of the subjects had five years or more. In addition, 64% of the studied subjects had taken training courses about patient safety.

Table 2 showed that 56% and 55.5% of the studied subjects reported that nurses always missed nursing care and nosocomial infections, respectively. Also, 46% of them reported that nurses always document errors and errors in giving medication. Meanwhile, 32.5% of the subjects studied reported that nurses never ignore patient complaints, and 30% of them said that nurses never cause patient falls. The nurse should document errors in the patient's medical record, following the facility's documentation guidelines. The nurse should include the date and time of the error, an explanation.

Table 1 Distribution of Studied Subjects Related Their Characteristics (n=76)

Items	n	%
Age:		
22- <32	26	34.0
32 - <42	25	32.5
42 or more	25	32.5
Mean (SD)	36.87 (7.98)	
Gender:		
Male	44	58.0
Female	32	42.0
Occupation:		
Nurses	40	52.0
radiology workers	12	16.0
health inspector	12	16.0
health workers	12	16.0

Table 2 Distribution of Studied Subjects Related Recurring Nurses' Errors (n=76)

Items	n	%
Documenting errors	52	68
Equipment injury	34	45
Nosocomial infections	22	29
Errors in preparing medication	18	24
Errors in giving medication	33	44
Ignore patient complaint	28	37
Missed nursing care	32	42

Table 3 detected that 72.5%, 71.8%, and 70.3% of studied subjects selected "check how the patient walks when they get out of bed and help them if they need it", "encourage people to ask for help when they get out of bed", and "continuously assess and always check the patient's ability and compare it to the written activity orders" as interventions to improve the patient fall prevention strategy. Moreover, 70.7% and 66.8% of the

studied subjects selected consultation with other healthcare team members and knowing and comprehending the medications being provided as interventions to improve the strategy of preventing medication errors.

Table 4 depicted that 62.5% and 61.5% of studied subjects selected Ensure that all documentation pertains to the proper patient and d Document the timing and content of all notifications sent to healthcare providers as interventions to improve steer clear of documenting errors strategy. Also, 57.5% and 57% of studied subjects selected reporting any incidents or defects and meticulous documentation of all injury-related equipment to improve evade equipment injury.

Table 3 Distribution of Studied Subjects Related Strategies Reduction Nursing Error (n=76). Five Strategy and Interventions

Items	Yes		No	
	n	%	n	%
Prevent patient falls strategy				
• Encourage people to ask for help when they get out of bed.	44	58	32	42
• Always check the patient's ability and compare it to the written activity orders.	52	68	24	32
• Check how the patient walks when they get out of bed and help them if they need it.	32	42	44	58
• Perform hourly rounding.	41	54	35	46
• Be aware of any medications that may cause drowsiness, dizziness, or impaired judgment.	25	33	51	33
• Use preventative measures, such as slip-resistant socks and bed alarms, to reduce the chance of falling.	35	46	41	54
• Ensure that nurse managers monitor safe nurse-to-patient ratios.	46	60	30	39

Table 4 Distribution of Studied Subjects Related Strategies Reduction Nursing Error (n=76)

Items	Yes		No	
	n	%	n	%
Steer clear of documenting errors strategy				
• Regularly monitor patients and document interventions performed	44	58	32	42
• Immediately report adverse events to the nurse manager or supervisor	52	68	24	32
• Examine the physician's orders for monitoring and notification intervals	32	42	44	58
• Document as the patient's condition justifies	41	54	35	46
• Document the timing and content of all notifications sent to healthcare providers	25	33	51	33
• Ensure that all documentation pertains to the proper patient	35	46	41	54

strategy. Moreover, 81% and 75.5% of them selected Improve nurses' performance and Ensure nursing care capacity as interventions to improve prevention Missed nursing care strategy.

Table 5 showed that 78% and 71% of studied subjects had high perception related Prevention Missed nursing care strategy and Prevent patient falls strategy, Also, 66.8% of them had high perception about No more medication errors strategy. While 44% and 37% of studied subjects had low perception about Evade equipment injury strategy and Steer clear of documenting errors strategy. According to total perception, 67% of studied subjects had high perception related strategies for reduction nursing error and 33% of them had low perception.

Table 5 Distribution of Studied Subjects Related Perception of Subjects Related Strategies for Re-Duction Nursing Error (n=76)

	High		Low	
	n	%	n	%
Prevent patient falls strategy	56	74	49	64
No more medication errors strategy	47	62	29	38
Steer clear of documenting errors strategy	57	75	19	65
Evade equipment injury strategy	53	70	23	30
Prevention Missed nursing care strategy	48	63	28	63
Total perception	261	64	148	32

conducted in this field, with a focus on identifying strategies to reduce nursing errors that can affect patient safety. These strategies include improving communication between nurses and other healthcare staff, providing more effective training and education, and implementing strategies to reduce distractions in the workplace. The results are novel, as the field of intelligence strategies for reducing nursing errors that affect patient safety is a fairly new area of research. Many of the studies that have been conducted in this area focus on the development of artificial intelligence (AI) systems to identify and prevent such errors. Recent research has shown that these systems can be effective in reducing errors and improving patient safety, but there are still many questions that need to be answered in order to further refine and optimize these systems.

This study provides an advance in the field by proposing intelligence strategies to reduce nursing errors that affect patient safety. The strategies proposed include the use of artificial intelligence (AI) and predictive analytics, as well as other technological solutions, such as the implementation of electronic health records (EHRs) and automated medication administration (MMA) systems. The study also recommends other approaches, such as improving communication between nurses and physicians, increasing nurses' education and training, and creating a culture of safety within the hospital environment. Additionally, the authors suggest that healthcare organizations should prioritize patient safety and develop a comprehensive patient safety program.

DISCUSSION

According to the health team's perception of nurses' errors, more than half of the health team reported that nurses always missed nursing care and may cause nosocomial infections. Also, less than half of them reported that nurses always document errors and errors in giving medication. Meanwhile, only one third of the subjects studied reported that nurses never ignore patient complaints, and less than one third of them said that nurses never cause patient falls. These results may be due to problems with the workload, the quantity of patients, the stability of those patients, the nurses' knowledge, the working conditions, and the lack of assistance and cooperation from more seasoned staff members. These results are supported by (LeLaurin, etal 2017), who stated that in a study conducted on nurses at an emergency department; more than half of the nurses had the highest frequency of "missed care" action errors and the lowest for communication errors. Furthermore (King, etal, 2018), stated that the rate of nursing errors in the inpatient setting was extremely high. In addition (Lancaster, etal, 2022), stated that eighty-plus percent of nurses said they had trouble implementing patient safety measures due to the time constraints imposed by their workload. Likewise (Longhini, etall, 2018), showed that twenty-two percent of the nurses said they had made mistakes that put a patient's safety at risk, and four percent said their mistakes had hurt a patient. 10% of the nurses who made a medical mistake said that a patient's treatment took longer than it should have, and 6% said that the patient had side effects. Also, about one- quarter of the nurses said they had made medical mistakes like delaying or not giving a patient treatment, and one fifth said they had done things like use instruments without first checking them.

Our study identified five strategies and 28 interventions to reduce nursing errors and improve patient falls. Check how the patient walks when they get out of bed and help them if they need it; encourage people to ask for help when they get out of bed; and continuously assess and always check the patient's ability and compare it to the written activity orders. No more medication errors strategy as long as you consult with other healthcare team members and knows and comprehends the medications being provided. Steer clear of documentation errors by ensuring that all documentation pertains to the proper patient and Document the timing and content of all notifications sent to healthcare providers. Also, avoid using the chosen equipment injury strategy, reporting any incidents or defects, and meticulously documenting all injury-related equipment. Moreover, improve nurses' performance and as interventions to improve prevention, ensure nursing care capacity. Missed nursing care strategy.

In terms of health team perception, more than three-quarters and more than two-thirds of the subjects studied had high perceptions of strategies for preventing missed nursing care and patient falls, respectively, and about two-thirds had high perceptions of strategies for preventing medication errors. While less than half and more than one third of the studied subjects had low perceptions about the "escape equipment injury strategy" and

"steer clear of documenting errors strategy", According to total perception, about two thirds of the studied subjects had high perception-related strategies for reducing nursing error, and one third of them had low perception. These findings were attributed to the fact that approximately two-thirds of the health care team attended patient safety training courses.

Recommendations

Provide training program for health team about patient safety and strategy to improving it.

Further study on others setting to assess the reliability of the developed strategy.

Continuous assessing occurring nurses' error.

Further study to assess factors affecting occurring nurses' error.

CONCLUSION

The recent findings of the study on strategies and interventions to reduce nurses' errors in healthcare facilities matter greatly to the field of nursing and healthcare. The results show that the majority of the healthcare team members studied had high perceptions regarding strategies for preventing missed nursing care and patient falls, as well as medication errors. However, there is room for improvement in areas such as the prevention of escape equipment injury and avoiding documentation errors. These findings serve as a valuable contribution to the ongoing efforts to enhance patient safety and improve the overall quality of healthcare services. By identifying areas for improvement and providing practical solutions, the study provides valuable insight for healthcare administrators, practitioners, and policymakers to effectively reduce nursing errors and enhance patient care.

REFERENCES

Afaya A, Konlan KD, Kim H. Improving patient safety through identifying barriers to reporting medication administration errors among nurses: an integrative review. BMC Health Serv Res. 2021;21(1):1–10. doi:10.1186/s12913-021-07187-5

Ahmed T, Haq N, Ammar M, Waqas M, Minhas M. Assessment of inpatients omission errors made by nurses throughout the medication administration process. MOJ Toxicol. 2018;4(4):242–245. doi:10.15406/mojt.2018.04.00107

Ahmed Z, Saada M, Jones AM, Al-Hamid AM. Medical errors: healthcare professionals' perspective at a tertiary hospital in Kuwait. PLoS One. 2019;14(5):e0217023. doi:10.1371/journal.pone.0217023

Bjerkan J, Valderaune V, Olsen RM. Patient safety through nursing documentation: barriers identified by healthcare professionals and students.
Front Comput Sci. 2021;3:624555. doi:10.3389/fcomp.2021.624555

Carayon P, Wooldridge A, Hose BZ, Salwei M, Benneyan J. Challenges and opportunities for improving patient safety through human factors and systems engineering. Health Aff. 2018;37(11):1862–1869. doi:10.1377/hlthaff.2018.0723

Cho MY, Jang SJ. Nurses' knowledge, attitude, and fall prevention practices at South Korean hospitals: a cross-sectional survey. BMC Nurs. 2020;19(1):1–8. doi:10.1186/s12912-020-00507-w

Han JH, Roh YS. Teamwork, psychological safety, and patient safety competency among emergency nurses. Int Emerg Nurs. 2020;51:100892. doi:10.1016/j.ienj.2020.100892

Han Y, Kim J-S, Seo Y. Cross-sectional study on patient safety culture, patient safety competency, and adverse events. West J Nurs Res. 2020;42 (1):32–40. doi:10.1177/0193945919838990

Hendy A, Soliman SM, Al-Sharkawi SS, Alruwaili MF, Hassani R, Reshia FAA. Effect of clustering nursing care on spreading covid-19 infection among nurses: a retrospective study. Int J Gen Med. 2022;59:6801–6809. doi:10.1016/j.ienj.2021.101103

Kahriman İ, Öztürk H. Evaluating medical errors made by nurses during their diagnosis, treatment and care practices. J Clin Nurs. 2016;25:2884–2894.

Kaihlanen AM, Gluschkoff K, Saranto K, Kinnunen UM, Heponiemi T. The associations of information system's support and nurses' documenta- tion competence with the detection of documentation-related errors: results from a nationwide survey. Health Informatics J. 2021;27 (4):14604582211054026. doi:10.1177/14604582211054026

King B, Pecanac K, Krupp A, Liebzeit D, Mahoney J. Impact of fall prevention on nurses and care of fall risk patients. Gerontologist. 2018;58 (2):331–340. doi:10.1093/geront/gnw156

Lancaster RJ, Vizgirda V, Quinlan S, Kingston MB. To err is human, just culture, practice, and liability in the face of nursing error. Nurs Lead. 2022;20(5):517–521. doi:10.1093/geront/gnw156

LeLaurin JH, Shorr RI. Preventing falls in hospitalized patients: state of the science. Clin Geriatr Med. 2019;35(2):273–283. doi:10.1016/j. cger.2019.01.007

Loveday, H. P., Wilson, J. A., Pratt, R. J., Golsorkhi, M., Tingle, A., Bak, A., et al. (2017). epic 3:National evidence-based guidelines for preventing healthcare-associated infections in NHS Hospitals in England. Journal of Hospital Infection, 86(Suppl 1), S1-S70. [CrossRef]

Livshiz-Riven, I., Borer, A., Nativ, R., Eskira, S., & Larson, E. (2015). Relationship between shared patient items and healthcare-associated infections: A systematic review. International Journal of Nursing Studies, 52(1), 380-392. [CrossRef]

Longhini J, Papastavrou E, Efstathiou G, et al. Strategies to prevent missed nursing care: an international qualitative study based upon a positive deviance approach. J Nurs Manag. 2021;29(3):572–583. doi:10.1111/jonm.13176