IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 11, Issue 2 Ser. IV (Mar. – Apr. 2022), PP 38-43
www.iosrjournals.org

An Evaluative Study on Medication Administration Process and Impact on Patient Experience

Ms. Karishma Khaund[1], Ms. Pinaki Bayan[2]
Ms. Chongpilhing Vaiphei[3], Ms. SarangthemTanuDevi[4], Ms Marylin Flinsi[5]
[1]*(Assistant Nursing Superintendent, Apollo Hospitals, Guwahati, India)*
[2]*(Nursing Superintendent, Apollo Hospitals, Guwahati, India)*
[3]*(Registered Nurse, Apollo Hospitals, Guwahati, India)*
[4]*(Registered Nurse, Apollo Hospitals, Guwahati, India)*
[5]*(Principal/Apollo School of Nursing, New Delhi, India)*

Abstract:
Background: *Medication errors are considered as one of the leading cause of patient harm in hospitalized patients. Although medication administration process is perennial practice however many factors affect the process which leads to medication errors. This process is paramount for nursing profession as it is one of the prime responsibilities of nurses working in hospital set up. Nurse's role in entire process is suboptimal as they can prevent the occurrence as well as the prevention of medication administration error. This study was undertaken with the objective to assess medication administration process of the staff and evaluate the impact on patient experience.*
Materials and Methods: *This descriptive study was conducted among 100 staff nurse and 50 patients in Apollo Hospitals, Guwahati. Purposive sampling technique was used to select the required staff and patient. The data was collected through structured knowledge questionnaire to assess the knowledge of the staff, an observational checklist to assess the compliance of the process and rating scale to evaluate the patient experience.*
Results: *The results of the present study revealed that most of the staff nurses were female (93%) with majority, 54% in the age group of 21-25years. Regarding educational qualification, most of the staff 55% were B.Sc. Nursing/post-basic B.Sc. (N) qualified and 54% were GNM. Majority of the staff (57%) was 0-2 years experienced. The results depicted that majority 42% of the staff had good knowledge regarding medication administration process, 30% had excellent knowledge, 30% had fair knowledge and 8% of them had poor knowledge. The knowledge score obtained by the staff ranges from 5-20 out of a total score of 20 with a mean of 14.72, median 15 and standard deviation was 2.91. The compliance rate of the practice of staff showed 72% compliance to oral medication process and 77% to injectable medication process. It was also noted that majority of the patients i.e. 44% were satisfied with the medication administration process of the staff, 38% were very satisfied, 12% were neutral, 4% were not satisfied and 2% were not very satisfied.*
Conclusion: *The findings of the present study concluded that majority of the staff had good knowledge regarding medication administration process but the practice carried out by the staff were not fully compliance towards standardized medication administration process. Most of the patients were satisfied with the standardized process followed by the staff.*
Key Word: *Medication administration, knowledge, practice, compliance, patient experience*

Date of Submission: 20-03-2022 Date of Acceptance: 02-04-2022

I. Introduction

Safety for all patients is the common goal for every health care provider. One of the major issues faced in the hospital is the medication error. Medication errors are considered as one of the leading cause of patient harm in hospitalized patients. Although medication administration -process is perennial practice however many factors affect the process which leads to medication errors. Medication process in hospital setting involve different layers of people and process however nurses plays a significant role in this regards as the final check can be done from nurses end. Nursing Interventions Classification (NIC) has defined the medication administration process as preparing, giving and evaluating the effectiveness of prescription and non-prescription drugs.[1]Medication administration is paramount for nursing profession as it is one of the prime responsibilities of nurses working in hospital set up. Nurse's role in entire process is suboptimal as they can prevent the occurrence as well as the prevention of medication administration error.

Nurses spend maximum time (40%) of their shift in medication process, nurse represent the last safety check point of the chain of medication event that is why it is important to evaluate the medication administration process in the hospital.[2]

The Food and Drug Administration (FDA) defines medication error as a 'preventable event that may cause or lead to inappropriate medication use or patient harm'. The FDA receives medication errors more than 100,000 reports every year (FDA, 2019). During medication administration, there is about 8%-25% median medication error rate (Patient Safety Network, 2018)[3]. Unsafe medication practices and medication errors are one of the leading cause of injury and avoidable harm in health care systems across the world. Globally, the cost associated with medication errors has been estimated as $42 billion USD annually. The WHO established safety in the administration of medicines as the next global challenge for patient safety in 2017. 'Medication without Harm' aims to reduce severe avoidable medication-related harm by 50%, globally in the next 5 years.[4]

Medication errors can significantly affect patient safety and treatment costs and result in hazards for patients and their families.[5]Developing a standardize process of medication administration is crucial step in any of health care facilities as standardize process in any discipline help to minimize any sort of errors.

Title: An evaluative study on medication administration process and impact on patient experience.

Objectives of the study:

1. To assess the knowledge of the medication administration process.
2. To assess the compliance to standardize medication administration process.
3. To evaluate the impact of standardize process on patient experience.

II. Materials and Methods

A descriptive study was carried out on medication administration process among staff nurse and patients in Apollo Hospitals, Guwahati, India.

Research Approach: Quantitative approach

Research Design: Descriptive design

Study Setting: The study was conducted in Apollo Hospitals, Guwahati

Duration of the study: 3 months

Sample Size: 100 staff nurse, 50 patients

Sampling method:

- Purposive sampling for staff nurse
- Purposive sampling for Patient

Inclusion criteria:

1. Staff nurse who are working in Apollo Hospitals, Guwahati.
2. Patients who got admitted in Apollo Hospitals, Guwahati.

Delimitation: The study is delimited among nurses who provide direct patient care.

Data Collection method:

Based on the objectives of the study, four tools were used to gather necessary data from the sample.

1. **Semi-structured questionnaire**: To collect demographic data of the staff. It covered 5 items i.e., age (in years), gender, educational qualification, years of experience (in years) and working unit.
2. **Structured knowledge questionnaire**: To assess the knowledge of the staff on medication administration process. It comprises of 20 multiple choice questions with a score of '1' against each correct answer and '0' against the incorrect answer.

Level of knowledge score was graded as –

Excellent	above 17
Good	14-17
Fair	10-13
Poor	below 9

Maximum score=20

Minimum score=0

3. **Observational Checklist**: It consist of 2 checklist to assess the practice of the staff-

a) Checklist for Oral medication administration: The checklist contains 16 points against which '1' score is given for compliance and '0' for non-compliance.

b) Checklist for Injectable medication administration: The checklist contains 18 points against which '1' score is given for compliance and '0' for non-compliance.

4. Rating Scale: A rating scale feedback form was developed to evaluate the impact of standardize process on patient experience. It comprises of 5 rates- very satisfied (5), satisfied (4), neutral (3), unsatisfied (2), and very unsatisfied (1).

Procedure methodology: Ethical permission and formal consents from each respondents were obtained to conduct the study. Based on the inclusion criteria, purposive sampling technique was used to obtain the sample. Using the prepared tool, the study was conducted in Apollo Hospitals, Guwahati among the staff nurse and the patients.

Statistical Methodology: After collection of the data, it was organized, tabulated and analyzed. Descriptive statistics were used through SPSS for data analysis.

III. Result

The data was organized, analyzed and presented as:

Section I: Findings related to demographic variables of the staff nurses:

Table 1: Frequency and percentage distribution of demographic data of the staff nurse

n=100

Sample characteristics	Frequency	Percentage (%)
Age(in years)		
21-25	54	54
26-35	43	43
36 and above	03	3
Gender		
Male	07	07
Female	93	93
Transgender	Nil	-
Educational qualification		
GNM	54	54
B.Sc. Nursing/post-basic B.Sc. (N)	55	55
M.Sc. Nursing	01	1
Years of experience(in years)		
0-2	57	57
3-5	25	25
6-10	17	17
11 years and above	01	1
Working Unit		
Critical care area	64	64
General ward	36	36

In the present study, maximum staff (54%) were in the age group of 21-25years, followed by 43% in age group 26-35 years and 3% were 36 years and above. Most of the staff nurses were female i.e. 93% and 7% were male. Regarding educational qualification, most of the staff 55% were B.Sc. Nursing/post-basic B.Sc. (N) qualified, 54% were GNM and 1% was qualified in M.Sc. Nursing. Majority of the staff (57%) was 0-2 years experienced, 25% had 3-5 years experienced, 17% had 6-10 years experienced and 1% had more than 11 years of experience. The working units of majority (64%) were in critical care area and 36% were in general ward.

Section II: Findings related to knowledge score of the staff nurse regarding medication administration process:

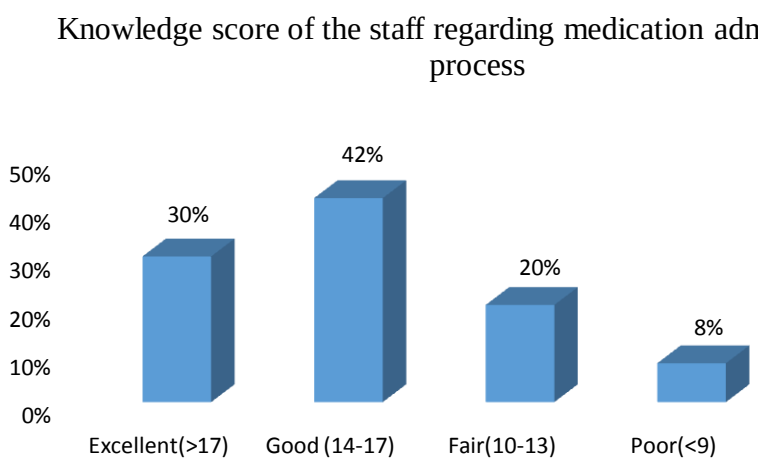
Table 2: Distribution of range, mean, median and standard deviation of knowledge score of the staff regarding medication administration process

n=100

Variable	Range	Mean	Median	Standard deviation
Knowledge	5-20	14.72	15	2.91

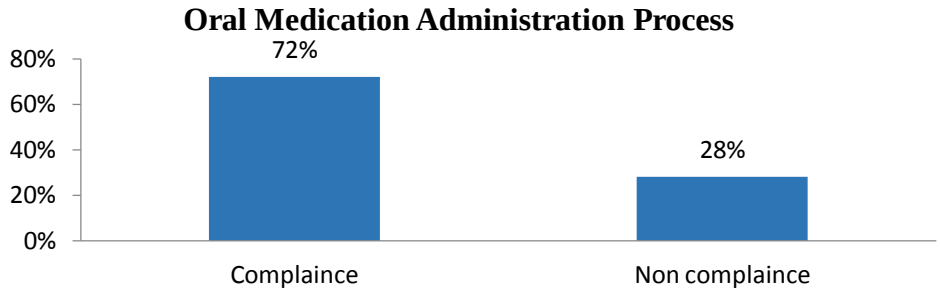
The results depicted that 42% of the staff had good knowledge regarding medication administration process, whereas 30% had excellent knowledge, 30% had fair knowledge and 8% of them had poor knowledge(see graph 1). The knowledge score obtained by the staff ranges from 5-20 out of a total score of 20 with a mean of 14.72 and median 15. The standard deviation calculated was 2.91 which shows that there was mild dispersion of the knowledge score.

Graph 1: Graph showing knowledge score of the staff regarding medication administration process
n=100

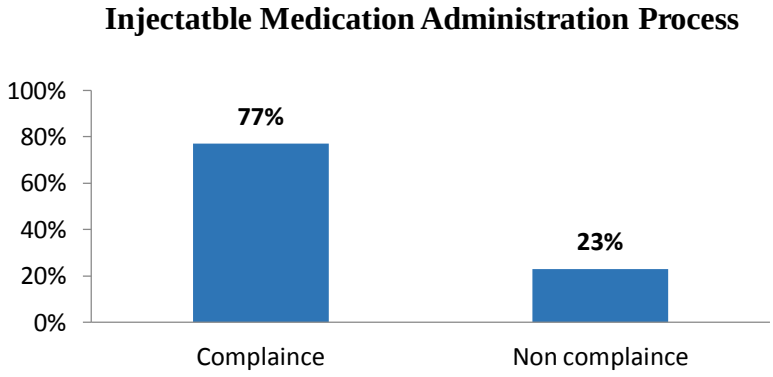


Section III: Findings related to compliance rate of the staff in practice of medication administration process (refer graph 2.a and 2.b)

Graph 2.a: Graph showing compliance rate of staff to standardized oral medication process
n=50



Graph 2.b: Graph showing compliance rate of staff to standardized injectable medication process
n=50



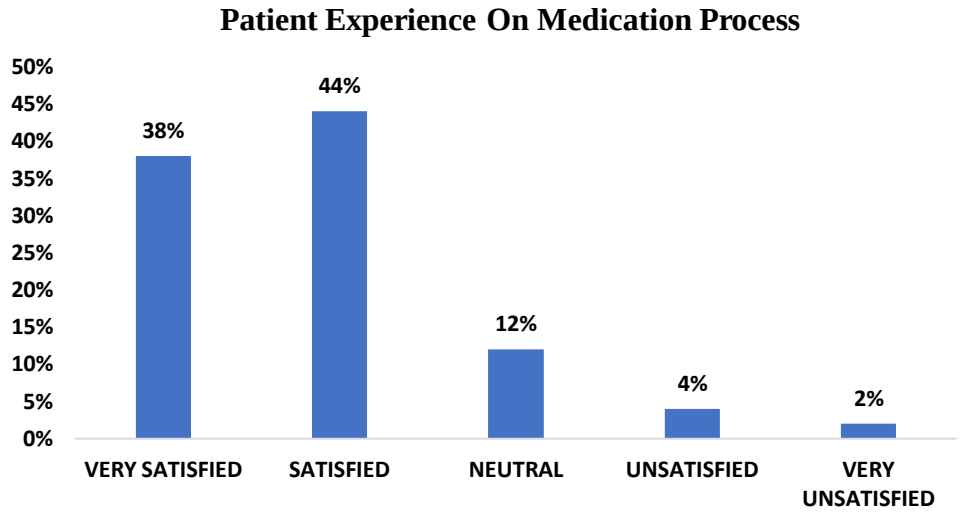
The compliance rate was assessed based on two criteria- oral and injectable medication administration process.
a) Compliance to Oral medication administration process: The result of the present study showed 72% compliance to oral medication process whereas 28% non-compliance (graph 2.a).

b) Compliance to injectable medication administration process: The result showed 77% compliance and 23% non-compliance to injectable medication process (graph 2.b).

Section IV: Findings related to patience experience towards standardized administration process

Graph 3: Graph showing patient experience to standardized medication process

n=50



It was noted that majority of the patients i.e. 44% were satisfied with the medication administration process of the staff, 38% were very satisfied, 12% were neutral, 4% were not satisfied and 2% were not very satisfied.

IV. Discussion

The administration of medication to a patient is one of the most valued nursing practices. Performing it safely is the most crucial professional responsibilities of the nurses.[6]According to WHO (2017), the simplest definition of patient safety is the prevention of errors and adverse effects to patients associated with health care. Medication administration forms a major part of the clinical nurse's role[7]. The major findings of the study were discussed in relation to findings of the other studies.

The result of the present study showed that most of the staff 54% were at the age group of 21-25 years with majority 93% female staff. Almost half of the staff i.e. 55% were B.Sc. Nursing/ Post Basic B.Sc.(N) qualified. Maximum, 57% staffwere experienced for 0-2 with majority, 64% working in critical care area. These findings were supported by the results of the study conducted by **Kaur A, Charan GS**[8]which revealed that majority of the staff 99% were at the age group of 21-40 years and more of female i.e. 98%. The results also showed 50% as B.Sc. Nursing/P.B B.Sc. Nursing qualification with majority 62% with less than 5 years of experience. As per clinical working status, most of the staff was found to be working in intensive care unit i.e. 28%. Nurses are the biggest health care professional group who mainly administer medicines[9].Hence a consistent update of knowledge is clearly important. In the present study, majority 42% had good knowledge about the subject, followed by 30% excellent knowledge, 20% had fair knowledge and 8% had poor knowledge. These findings were consistent with the study findings of **Devi AN, et al.**[10]which showed majority 55% had moderate knowledge about drug administration, 32% had adequate knowledge and 13% had inadequate knowledge**. On the contrary**, the finding of the study conducted by **Elmageed EMA, Soliman HM, Abdelhamed M**[11]showed slightly less than two thirds (62.9%) of nurses have poor total knowledge score regarding medication administration. Major findings of the present study revealed that the practice to standardized oral medication administration process showed 72% compliance with 28% non-compliance and that of injectable medication process, 77% compliance rate with 23% non-compliance. Similarly, the study findings of **Elmageed EMA, Soliman HM, Abdelhamed M**[11]concluded thataround half (46.4%) of the nurses have poor total practice score. It was noted that majority of the patients i.e. 44% were satisfied with the medication administration process of the staff, 38% were very satisfied, 12% were neutral, 4% were not satisfied and 2% were not very satisfied. The findings of the study was also consistent with the findings of the study conducted by **Kartika IR, Melani V**[12] which showed that half of the respondents (50%) were satisfied with the nurses during medication administration.

V. Conclusion

The findings of the present study concluded that majority of the staff had good knowledge regarding medication administration process but the practices carried out by the staff were not fully compliance towards standardized medication administration process. Most of the patients were satisfied with the standardized process followed by the staff.As medication administration plays a vital role for the safety of a patient, full compliance to the process is at the most priority. Therefore, further interventions and re-interventions are highly required so as to adhere to the standardized process and prevent errors in the near future.

References

[1]. Bulecheck G, Butcher H, Dochterman J. Nursing Interventions Classification. 5th edition. ST. Louis: Mosby/Elsvier; 2008

[2]. Dumo AMB. Factors affecting medication errors among staff nurses: basis in the formulation of medication information guide. IAMURE Int J Health Educ. 2012;1(1):88–149.

[3]. Medication errors statistics2022, SingleCare. Available at https://www.singlecare.com/blog/news/medication-errors-statistics

[4]. WHO. Medication without harm 2017. Available athttps://www.who.int/initiatives/medication-without-harm

[5]. Hashemi F Response ethics to nursing errors. Journal of Medical Ethics and History of Medicine. 2007; 4:31-46.

[6]. Garrett, S.K., & Craig, J. B. Medication administration and the complexity of nursing workflow. South Carolina: Clemson University. 2007

[7]. World Health Organization. Patient Safety. 2017. Retrieved on November. 2017. Available at: http://www.euro.who.int/en/health-topics/Health-systems/patient-safety

[8]. Kaur A, Charan GS. A Study to Assess the Knowledge Regarding Medication Error among Staff Nurses at SGRD Hospital, Amritsar, Punjab. International Journal of Health Sciences & Research (www.ijhsr.org). August 2018;8(8): 213-218 available from. https://www.ijhsr.org/IJHSR_Vol.8_Issue.8_Aug2018/32.pdf

[9]. McMullan M, Jones R, Lea S. Patient safety: numerical skills and drug calculation abilities of nursing students and Registered Nurses. Journal of Advanced Nursing 2010; 66: 891–899.

[10]. Devi AN, et al. A Study to Assess the Knowledge Regarding Intravenous Fluids and Drug Administration among Staff Nurses Working in Narayana General Hospitals at Nellore. Indian Journal of Public Health Research and Development. January 2016.7(4):14

[11]. Elmageed EMA, Soliman HM,Abdelhamed M. Knowledge, Attitude and Practice of Nurses in Administering Medications at Mansoura University Hospitals. IOSR(IOSR-JNHS). Jul.–Aug 2020; 9(4): 06-16

[12]. Kartika IR, Melani V. Application of 'six rights' on medication administration by nurse and patient satisfaction. Journal INJEC. December 2017; 2: 178-183

Ms. Karishma Khaund, et. al. "An Evaluative Study on Medication Administration Process and Impact on Patient Experience." *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 11(02), 2022, pp. 38-43.