

Analyze the Gap Between Knowledge and Practice Regarding Patient Safety Procedures and Factors Responsible for the Gap Among Staff Nurses Working in Selected Hospitals in India

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Abstract: *Introduction:* Health care professionals need to maintain their competency which in turn needed to ensure patient safety and provide safe care. Researchers suggest that providing positive attitudes, adequate skill and knowledge regarding patient safety among nurses, is likely to improve safe practices, to strengthen patient care and also to decrease mortality and morbidity rates. *Methods:* A Mixed Approach with Quantitative and Qualitative research with Convergent Mixed Method Research design is used in this study. 215 Staff Nurses working in selected hospitals in Kanpur district were selected by convenient sampling technique. A structured questionnaire was used to assess the knowledge regarding patient safety practices, a checklist was used to assess the practice and in depth un-structured interview with open ended questions was used to assess the factors responsible for the gap. *Results* The knowledge distribution on medication safety. Out of 215 samples, 22 (10%) have Inadequate Knowledge, 118 (55%) have Moderately Adequate Knowledge and 75 (35%) have Adequate Knowledge. Regarding Practice, 140 (65%) have Inadequate practice, and 75 (35%) have Adequate Practice. The knowledge distribution on Infection Control Practices. Out of 215 samples, 29 (13.3%) have Inadequate Knowledge, 86 (40%) have Moderately Adequate Knowledge and 100 (46.7%) have Adequate Knowledge. The practice on infection Control Practice, 122 (56.7%) have Inadequate practice, and 93 (43.3%) have Adequate Practice. The knowledge distribution on Communication Safety. Out of 215 samples, 32 (15%) have Inadequate Knowledge, 133 (61.7%) have Moderately Adequate Knowledge and 50 (23.3%) have Adequate Knowledge. The practice distribution on Communication Safety. Out of 215 samples, 147 (68.3%) have Inadequate practice, and 68 (31.7%) have Adequate Practice. The association between level of knowledge and practice regards to all three practices shows non-significance. The Correlation between the level of knowledge with practices on patient safety practices among nurses show Positive Correlation. From the above data the researcher has found that, the staff nurses have accepted that there is an existence of gap between theory and practice in nursing education the factors included where identified as lagging in clinical exposure, inadequate lab settings, lagging in stimulation training. With respect to patient safety practices, the factors responsible for the gaps are: lack of time, reduced staffing, over burden of work, unavailability of equipment, unreasonable fear on physician, reduced concentration etc. *Conclusion* The study concludes that there is a gap between theory and practice in Nursing. According to the patient safety procedures, nurses have moderately adequate knowledge and inadequate practice in medication Safety, Adequate Knowledge and Inadequate practice in Infection Control Practices and moderately adequate knowledge and inadequate practice in Communication Safety. And the factors responsible for the gap identified were lack of time, reduced staffing, over burden of work, unavailability of equipment, unreasonable fear on physician, reduced concentration etc.

Keywords: Analyze, Gap, Knowledge, Practice, Patient safety procedures, Factors responsible for the gap.

INTRODUCTION

The World Health Organization (WHO) is promoting a goal of universal health care to ensure that all people obtain the health services they need without suffering financial hardship when paying for them. The goals of health care system are to provide good health for the citizens.

WHO defines health system as a health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health as well as more direct health-improving activities.¹

According to WHO, Health care is one of the most unsafe industries. Hence the nation's health care system is prone to errors, and can be detrimental to safe patient care, as a result of basic system flaws. A variety of people are responsible for ensuring the patient care in a safer way. The major one of stake holder is a nursing staff.²

Gap means break in an object or anything. A formal discussion heard among the nurses those practicing emphasizes in lack of understanding about the value of theory in practice of nursing. This lack of understanding is referred as theory – practice gap. In nursing education, the gap is a parable for the dissonance between desired learning and demonstrated learning.

The theory practice gap as it sometime called, occurs when practitioners struggle to integrate knowledge learnt in an academic environment with real world clinical practice. The goal of nursing education is to ensure professional clinical competencies and to enhance the delivery of safe, quality nursing care.³

The theory-practice gap has persisted in nursing and continued to have negative connotations, although the continued presence may facilitate dynamic change within the profession. The gap between theory and what happens in the clinical environment is not new. Yet it is not only the practiced skills of new graduate nurses that are questioned. It is also potential lack of proficiency among nurses in both their clinical skills and critical thinking abilities. Thus, the theory practice gap remains a continuing problem for nursing, felt both by experienced and newly graduated student nurses.⁴

Statement of Problem

A study to analyze the Gap between Knowledge and Practice regarding patient safety procedures and factors responsible for the gap among staff nurses working in selected hospitals in Kanpur District, Uttar Pradesh.

Objectives

- To assess the gap between knowledge and practice on Medication Safety.
- To assess the gap between knowledge and practice on Infection Control practice.
- To assess the gap between knowledge and practice on Communication Safety.
- To associate the level of education and Experience with knowledge regard to all Three procedures.
- To associate the level of education and Experience with practice regard to all Three procedures.
- To correlate the level of gap between knowledge and practice with regards to all the three procedures.
- To find the factors responsible for the gap between knowledge and practice.

Hypothesis

- H₁: There is a significant gap between the level of knowledge and Practice regarding Medication Safety Procedure
- H₂: There is a significant gap between the level of knowledge and Practice regarding Infection Control practice Procedure
- H₃: There is a significant gap between the level of knowledge and Practice regarding Communication Safety Procedure
- H₄: There is a significant association between the level of knowledge with Level of Education and Experience with regard to all Three procedures.

- H₅: There is a significant association between the level of practice with Level of Education and Experience with regard to all Three procedures.

MATERIALS AND METHODS

Research Approach

Mixed Method Research Approach with Quantitative and Qualitative design was chosen in this study.

Research Design

A Convergent Research Design was used in this study. In this design Collection and analysis of Quantitative and Qualitative data separately at same time and merged only at the time of interpretation.

Variables

Research variable

In this study Knowledge and Practice regarding patient safety procedures are said to be research Variables.

Research Settings

The study was conducted inpatient wards of Two hospitals. The reason for choosing multiple hospitals was to have a larger and a more diverse sample of participants. However, keeping the administrative and logistics feasibility in mind, permission was sought from different hospitals from the Kanpur city and data was collected in the medical-surgical wards of the hospitals.

Population

The study population included Staff Nurse working in private hospitals, Kanpur.

Sample

The sample for this study is Staff Nurses working in Selected Hospitals in Kanpur, Uttar Pradesh.

Sample Size

As per the analysis made for infinite population with the help of power analysis using Cochran's formula, the sample size calculated was 217, after adjusted the final sample size was estimated as 215.

Sampling Technique

Convenient sample technique was used to select the samples for Quantitative Data. From 215 samples, only 60 samples those who were willing to participate in interview schedule were selected for Qualitative data.

Criteria for sample selection

Inclusion Criteria

- Both male and female above 20 years.
- Those who could understand and speak English or Hindi.

Exclusion Criteria

- Those who completed M.Sc (N).
- Those who are not willing to participate.
- Those who are working in OPD.

RESULTS

Section - A

Frequency and Percentage wise Distribution of Samples according to their Demographic Variables. out of 215 samples, 65 (30.2%) have 20-25 years of age, 82 (38.1%) have 26-30 yrs of age, 50 (23.2%) have 31-35 yrs of age and 18 (8.5%) have above 35 yrs. with respect to gender, 42 (19.5%) were male and 173 (80.5%) were female. with regard to educational status, 75 (34.8%) were GNM, 101 (46.9%) were B.Sc and 39 (18.3%) were P.B.B.Sc (N). According to years of experience 68 (31.7%) were have 0-3 years, 32 (15%) have 3-5 years and 115 (53.3%) were

having more than 5 years of experience. Marital Status 88 (40.9%) were singles, 117 (54.4%) were married and 10 (4.7%) were divorced. out of 215 samples, 22 (10.3%) have night duty two months once, 43 (20%) have monthly once, 133 (61.8%) were having every two weeks and 17 (7.9%) never had night duty. with respect to duty hours 25 (11.7%) have 6 hours of duty, 50 (23.3%) have 7 hours of duty, 104 (48.3%) have 8 hours of duty and 36 (16.7%) having more than 8 hours of duty. with related to nurse patient ratio 39 (18.1%) doing 1:1 ratio, 18 (8.4%) doing 1:5 ratio, 68 (31.6%) doing 1:8 ratio and 90 (41.9%) doing duty with 1:10 nurse patient ratio.

Section - B

Assess the gap between level of knowledge and practice on medication safety procedure among nurses.

Table 1: Distribution of Level of Knowledge on Medication Safety N = 215

Knowledge Level	Frequency	Percentage
Inadequate Knowledge	22	10
Moderately Adequate Knowledge	118	55
Adequate Knowledge	75	35

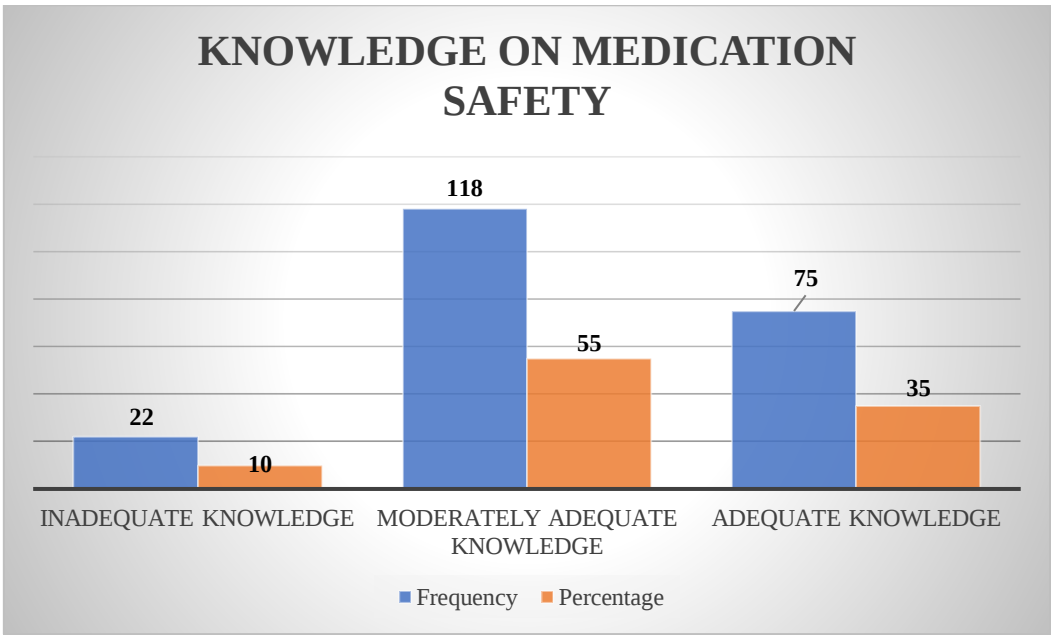


Fig. 1: Column Diagram shows the Level of Knowledge on Medication Safety

The knowledge distribution on medication safety. Out of 215 samples, 22 (10%) have Inadequate Knowledge, 118 (55%) have Moderately Adequate Knowledge and 75 (35%) have Adequate Knowledge. The mean and standard deviation for the level of knowledge on medication safety is 13.98 and 3.04 respectively.

Table 2:- Distribution of Level of Practice on Medication Safety N = 215

Practice Level	Frequency	Percentage
Inadequate Practice	140	65
Adequate Practice	75	35

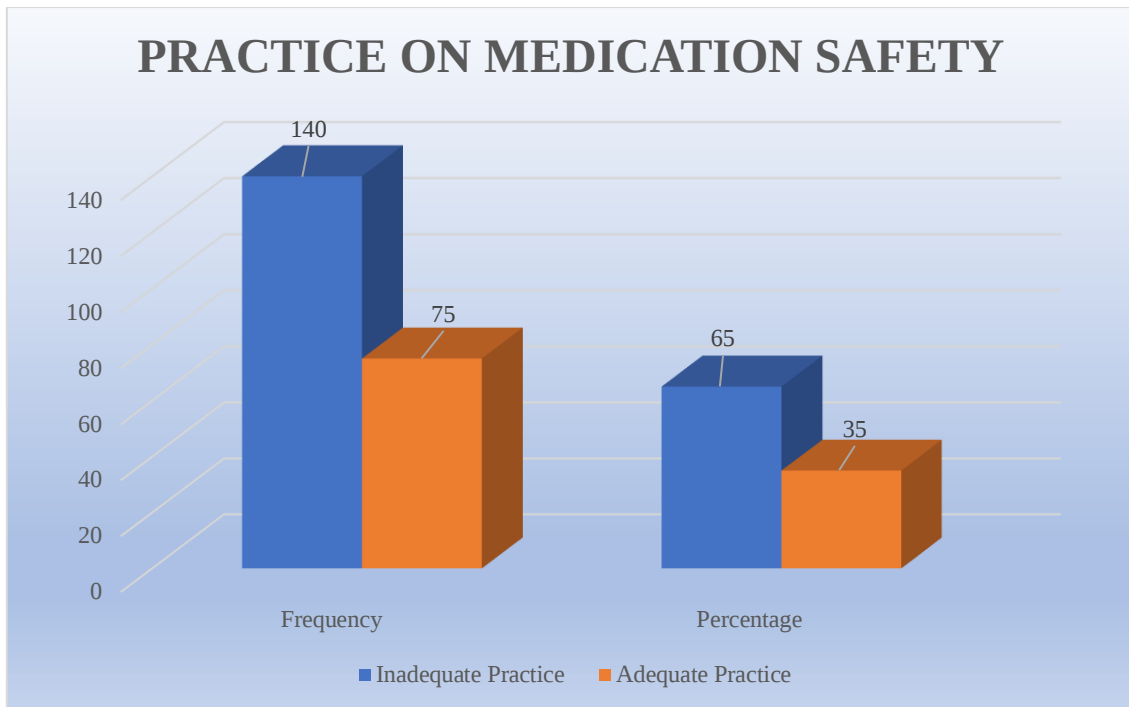


Fig. 2: Bar Diagram shows the Level of Practice on Medication Safety

Out of 215 samples, 140 (65%) have Inadequate practice, and 75 (35%) have Adequate Practice on medication safety. The mean and standard deviation for the level of practice on medication safety is 5.15 and 1.96 respectively.

Table 3:- Correlation between the level of knowledge with practice on Medication Safety procedure among nurses
N = 215

S. No.	Variable	Correlation (r)	
1	Medication Safety	0.26	Positive

The Correlation between the level of knowledge with medication safety procedure among nurses shows Positive Correlation.

From the above, It shows that Staff Nurses having Moderately adequate knowledge and Inadequate practice on Medication Safety Procedure. **Hence H₁ is accepted.**

Section - C

Assess the gap between level of knowledge and practice on Infection control practices procedure among nurses.

Table 4:- Distribution of Level of Knowledge on Infection Control Practices N = 215

Knowledge Level	Frequency	Percentage
Inadequate Knowledge	29	13.3
Moderately Adequate Knowledge	86	40
Adequate Knowledge	100	46.7

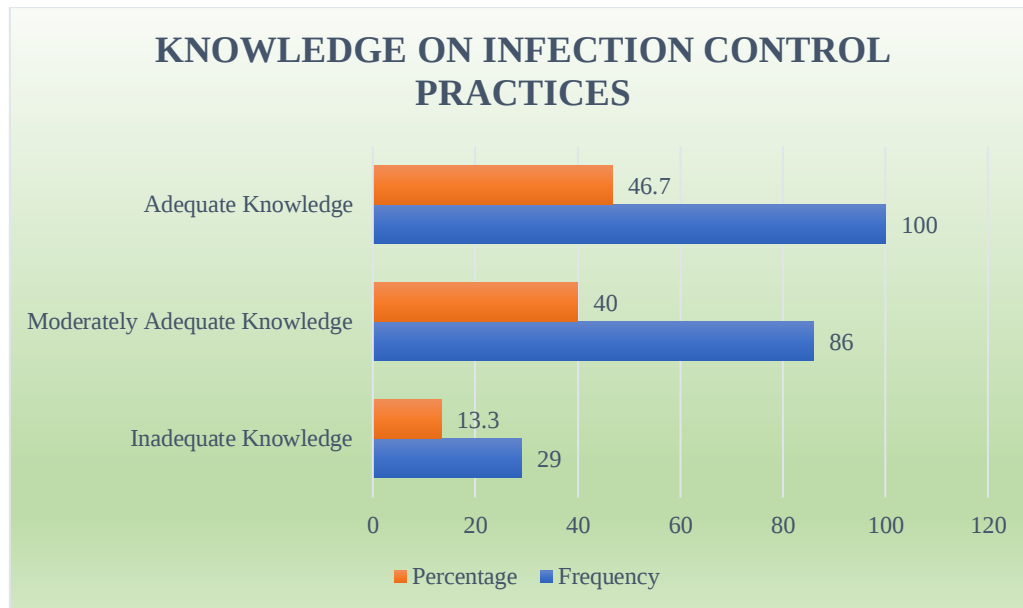


Fig. 3: Horizontal Bar Diagram shows the Level of Knowledge on Infection Control Practices

Out of 215 samples, 29 (13.3%) have Inadequate Knowledge, 86 (40%) have Moderately Adequate Knowledge and 100 (46.7%) have Adequate Knowledge on Infection Control Practices. the mean and standard deviation are 14.35 and 3.55 respectively.

Table 5:- Distribution of Level of practice on Infection Control Practices N = 215

Practice Level	Frequency	Percentage
Inadequate Practice	122	56.7
Adequate Practice	93	43.3

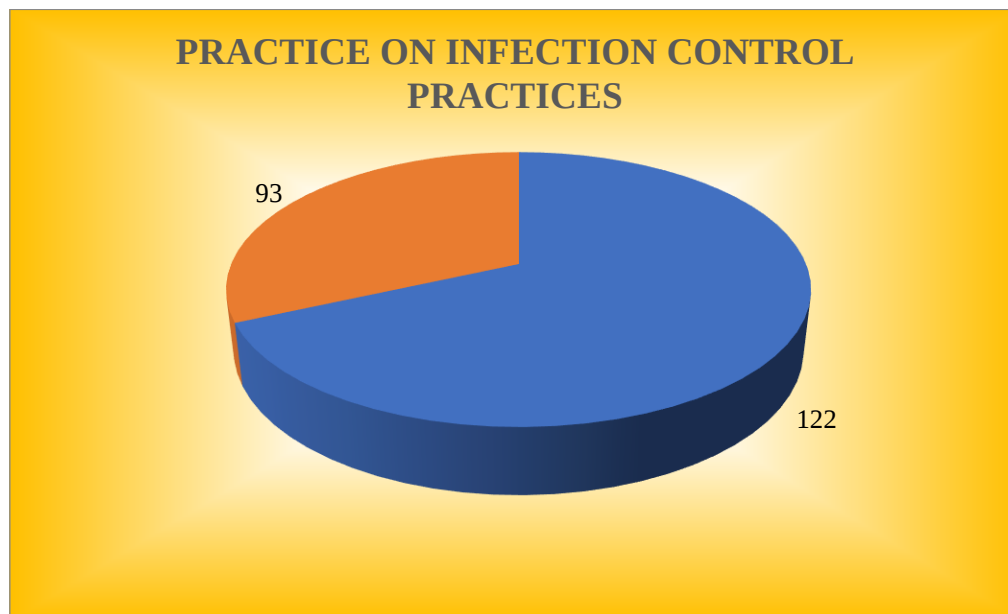


Fig. 4: Pie Diagram shows the Level of Practice on Infection Control Practices

Out of 215 samples, 122 (56.7%) have Inadequate practice, and 93 (43.3%) have Adequate Practice on Infection Control Practices. the mean and standard deviation for the level of practice is 11.15 and 4.70 respectively.

Table 6 :- Correlation between the level of knowledge with practice on Infection Control Safety procedures among nurses N = 215

S. No.	Variable	Correlation (r)	
1	Infection Control Safety	0.24	Positive

The Correlation between the level of knowledge with practices on Infection Control safety procedures among nurses shows Positive Correlation.

From the above, It shows that Staff Nurses having Moderately adequate knowledge and Inadequate practice on Infection Control Safety Practices. **Hence H₂ is accepted.**

Section – D

Assess the gap between level of knowledge and practice on communication safety procedure among nurses.

Table 7:- Distribution of Level of Knowledge on Communication Safety N = 215

Knowledge Level	Frequency	Percentage
Inadequate Knowledge	32	15
Moderately Adequate Knowledge	133	61.7
Adequate Knowledge	50	23.3

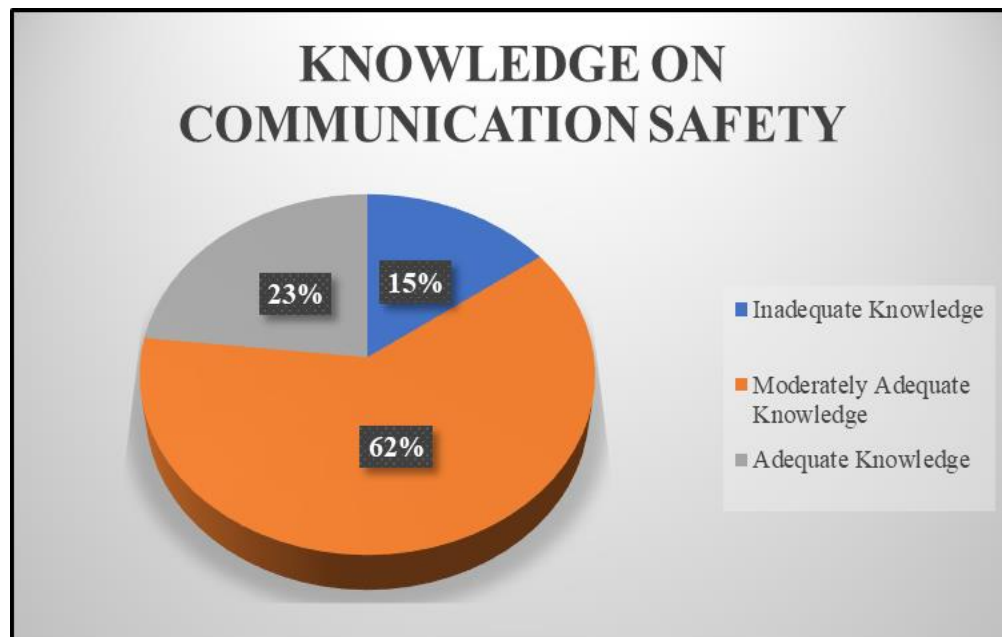


Fig. 5: Pie Diagram shows the Level of Knowledge on Communication Safety

The knowledge distribution on Communication Safety. Out of 215 samples, 32 (15%) have Inadequate Knowledge, 133 (61.7%) have Moderately Adequate Knowledge and 50 (23.3%) have Adequate Knowledge. the mean and standard deviation for the level of knowledge on Communication Safety is 6.38 and 1.77 respectively.

Table 8:- Distribution of Level of practice on Communication Safety N = 215

Practice Level	Frequency	Percentage
Inadequate Practice	147	68.3
Adequate Practice	68	31.7

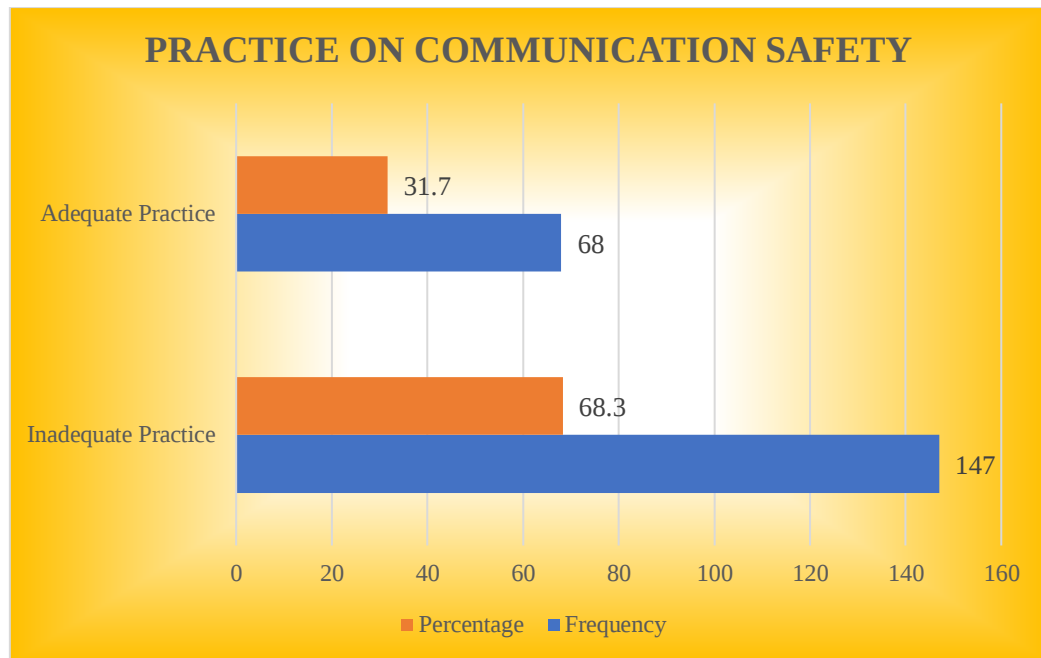


Fig. 6: Bar Diagram shows the level of Practice on Communication Safety

The practice distribution on Communication Safety. Out of 215 samples, 147 (68.3%) have Inadequate practice, and 68 (31.7%) have Adequate Practice. mean and standard deviation for the level of practice on Communication Safety is 4.8 and 2.26 respectively.

Table 9 :- Correlation between the level of knowledge with practices of Communication safety procedure among nurses N = 215

S. No.	Variable	Correlation (r)	
1	Communication Safety	0.27	Positive

The Correlation between the level of knowledge with practices on communication safety procedures among nurses shows Positive Correlation.

From the above, It shows that Staff Nurses having Moderately adequate knowledge and Inadequate practice on Communication Safety Practices. **Hence H₃ is accepted.**

Section – E

Associate the level of knowledge on patient safety practices with selected demographic variables of nurses.

The association between level of knowledge on medication safety, Infection Control Practices and Communication Safety with selected demographic variable educational qualification shows significance and experience in years shows Non Significance.

It shows that there is a significant association between level of knowledge regarding Medication Safety and Infection Control Practices with educational qualification. **Hence H₄ is accepted**

It shows that there is No significant association between level of knowledge regarding Communication safety Practices with educational qualification, and Level of Knowledge regarding Medication Safety, Infection Control Practices and Communication safety Practices with experience in years. **Hence H₄ is rejected**

Section – F

Associate the level of practice on patient safety practices with selected demographic variables of nurses.

The association between level of practice on medication safety, Infection Control Practices and Communication Safety with selected demographic variable educational qualification shows non-significant.

From the above, It shows that there is a significant association between level of practice regarding Communication Safety with educational qualification. **Hence H₅ is accepted**

It shows that there is No significant association between level of practice regarding Medication Safety, Infection Control Practices with educational qualification, and Level of practice regarding Medication Safety, Infection Control Practices and Communication safety Practices with experience in years. **Hence H₅ is rejected**

Section - G

Find the factors responsible for gap between knowledge and practice on patient safety practices.

Out of 60 staff nurses, most of them merely 43 (72%) have accepted that there is a gap between theory and practice.

Among 60 staff nurses, 39(65%) have accepted that they cannot follow the proper safety practices in medication administration. Out of 60 staff nurses, 35 (58.3%) have accepted that due to time lag and reduced staff in the ward. It is difficult for staff for double checking every time

Among 60 staff nurses, 34 (56.7%) have accepted that they are lagging in selected infection control practices. Total of 45 (75%) of samples have confusion in disposal of waste in proper methods and bins. Total of 49 (81.6%) of samples are not wearing mask during their duty time.

Among 60 staff nurses, 41 (68.3%) have accepted that they are not taking handover in front of patient and having some fear on clarifying doubts with senior doctors or physician. 46 (76.7%) of staff nurses are taking handover only in nursing stations. 39 (65%) of staff nurses were not taking direct phone orders from physician. 3 (21.74%) of staff nurses have less than 3 years of experience having fear in clarifying their doubts in written order.

From the above data the researcher has found that, the staff nurses have accepted that there is an existence of gap between theory and practice in nursing education the factors included where identified as lagging in clinical exposure, inadequate lab settings, lagging in stimulation training.

With respect to patient safety practices, the factors responsible for the gaps are lack of time, reduced staffing, over burden of work, unavailability of equipment, unreasonable fear on physician, reduced concentration etc.

CONCLUSION

The study concludes that there is a gap between theory and practice in Nursing. According to the patient safety procedures, nurses have moderately adequate knowledge and inadequate practice in medication Safety, Adequate Knowledge and Inadequate practice in Infection Control Practices and moderately adequate knowledge and inadequate practice in Communication Safety. And the factors responsible for the gap identified were lack of time, reduced staffing, over burden of work, unavailability of equipment, unreasonable fear on physician, reduced concentration etc.

REFERENCES

1. Bulletin of the world health organization 2009; 87:880-882, DOI: 10.2471/BLT.08.059865.
2. www.who.int/news-room/factsheets/detail/patient-safety.
3. Barsaite I, Kavnonen M. Healthcare Professionals attitude and knowledge regarding patient safety and skills for safe patient care. *BMC Research Notes*. 2016; 9: 177.
4. Ajani K. Moez S. Gap between knowledge and practice in nursing. *Procedia Social and Behavioural sciences*. 2011. Pg-3927-3931.
5. Jamshide N. et al. The Challenges of Nursing students in the clinical learning environment: A Qualitative study. Hindawi Publishing Corporation. 2016: 1-7. DOI: <http://dx.doi.org/10.1155/2016/1846178>.
6. Mahmoud MH. Practical Learning and Theory practice gap as perceived by Nursing Students. *International Journal of Current Research*. 2014; 16:02. Pg: 5083-5093.
7. Salifu DA. Gross J. Experiences and Perceptions of Theory Practice gap in Nursing in a resource constrained setting. *Wiley-Nursing open*. 2019; 6: 72-83.
8. Greenway K. what is theory – practice gap? An exploration of the concept. *Nurse Education in Practice*. 2018; Nov: 1-24.
9. Andrade M. George A. Perception of health care consumers, deliverers and nurse educators on nursing practice. *Nitte Journal of Health Science*: 2013; 1:3. PP: 11-16.
10. Bagnara S. Tartaglia R. Patient Safety - an old and a new issue. *Theoretical Issues in Ergonomics Sciences*. 2007; 8:5. Pp 365-369.
11. Ulrich B. Kaer T. Patient Safety and Patient Safety Culture: Foundations of excellent health care delivery. *Nephrology Nursing Journal*. 2014; 41:5. PP 447-458.
12. James J. Simon D et al., Knowledge regarding patient safety among nursing staff of a tertiary care hospital in Lucknow. *International Journal of Science and Research*. 7(10) 2018; PP 312 - 314
13. Kahriman I. Ozteurk H. Evaluating medical errors made by nurses during their diagnosis, treatment and care practices in Turkey. *Journal of Clinical Nursing*, 2016: 25: PP 2884–2894, doi: 10.1111/jocn.13341.

14. Joshi SK. 2012. Safety Management in Hospitals. Jaypee brothers Medical publishers (P) Ltd. New Delhi. Edition 1; PP: 09-22.
15. World Health Organization. Global action on Patient Safety. 144th session, provisional agenda item 6.6.2018: PP: 01-08.
16. Lahariya C. Agarwal L. Patient Safety and Universal Health Coverage. Indian Journal of Medical Research. 2019; PP: 211-213.
17. National patient Safety Implementation framework 2018-2025. Ministry of health and Family welfare. Government of India.
18. Reddy NR. Prevention of Errors in health care - Patient Safety, India. Medico Research Chronicles. 2015, 2(3): 371-383.
19. www.who.int/patient-safety/education/curriculum/course1-handout.pdf.
20. Avillion A. Prevention of medical errors in Nursing. Elite professional education. 2016. PP: 10-20.