



IMPLEMENTATION OF WHO PATIENT SAFETY SOLUTION IN A TERTIARY CARE HOSPITAL



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Background

Patient safety and improved quality of care have become priority issues in the healthcare system. The occurrence of adverse events due to unsafe care is likely one of the 10 leading causes of death and disability in the world. Globally, as many as 4 in 10 patients are harmed in primary and outpatient health care. Up to 80% of harm is preventable. Patient safety is a discipline that emphasizes safety in health care through the prevention, reduction, reporting, and analysis of medical error that often leads to adverse effects.

This year The National Accreditation Board for Hospitals and Healthcare Providers (NABH) launched its fifth edition of accreditation standards for hospitals and WHO nine Patient Safety is a requirement of NABH 5th edition and as Hospital was going for NABH accreditation it becomes a necessity for hospital to implement these Patient safety solutions.





Introduction

Worldwide, the delivery of health care is challenged by a wide range of safety problems.

In year 2005 the Joint Commission and Joint Commission International in collaboration with WHO launched Nine life saving International Patient Safety Solutions.

“Patient Safety Solution” : Any system design or intervention. that has demonstrated the ability to prevent or mitigate patient harm stemming from the processes of health care”

For this study out of WHO 9 patient safety solutions, 3 patient safety solutions were selected as listed below

01

LASA Medication

02

Patient Identification

03

Control of Concentrated electrolytes

Research Questions



01

What are gaps in the implementation of WHO International Patient Safety solution in the hospital?

02

What measures are taken to close the gaps identified?

03

How effective is the training programmes in enhancing the knowledge of staff?

Objectives

General objective : To identify the gaps in the implementation of WHO International Patient Safety Solutions in 200 bedded tertiary care hospital, devise and implement necessary pieces of the training intervention.

Specific objectives:

1 To identify gaps in the implementation of WHO international patient safety solutions

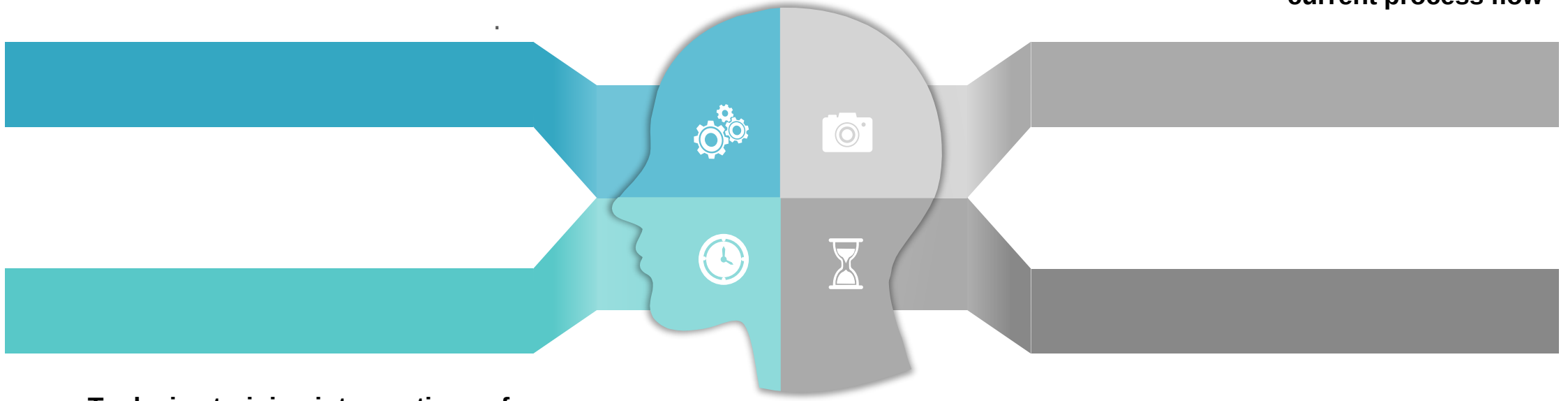
To compare WHO International patient safety solutions with the organization's current process flow

2

3 To devise training interventions of International patient safety solutions to all stakeholders

To monitor the change Post-training intervention

4



Hypothesis

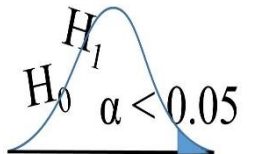
Testing the Hypothesis that the training program was effective in improving the Knowledge of participants on LASA & concentrated electrolytes

- **H0:** $\mu_d = \mu_0$: Training program has not changed the understanding of participants on LASA & concentrated electrolytes
- **H1:** $\mu_d > \mu_0$: Training program has improved the understanding of participants on LASA & concentrated electrolytes

Testing the Hypothesis that the training program was effective in improving the Knowledge of participants on Patient Identification

- **H0:** $\mu_d = \mu_0$: Training program has not changed the understanding of participants on Patient identification
- **H1:** $\mu_d > \mu_0$: Training program has improved the understanding of participants on Patient identification

Level of Significance: ($\alpha=0.05$)



Research Methodology

Study design

This was a descriptive cross-sectional study based on retrospective record review and prospective observation based on daily activities in paras JK hospital.



Study time period

The study duration was 3 months from 7th February to 18th may 2020.



Sample Selection

Inclusion criteria-All Nursing staff who were present at the time of the study, all pharmacists, consultants. Exclusion criteria -nursing staff who were not available at the time of the study . Junior residents and visiting consultants.



Data collection

Primary data

From the sample group, Observations Discussions with hospital staff.



Secondary data

From the hospital records, SOP's, manuals . also collected from reviewing the literature articles, journals, and websites available on the internet.



Sample and sampling technique

Sampling technique- purposive sampling was considered. Sample size-The total sample size of the study was 75



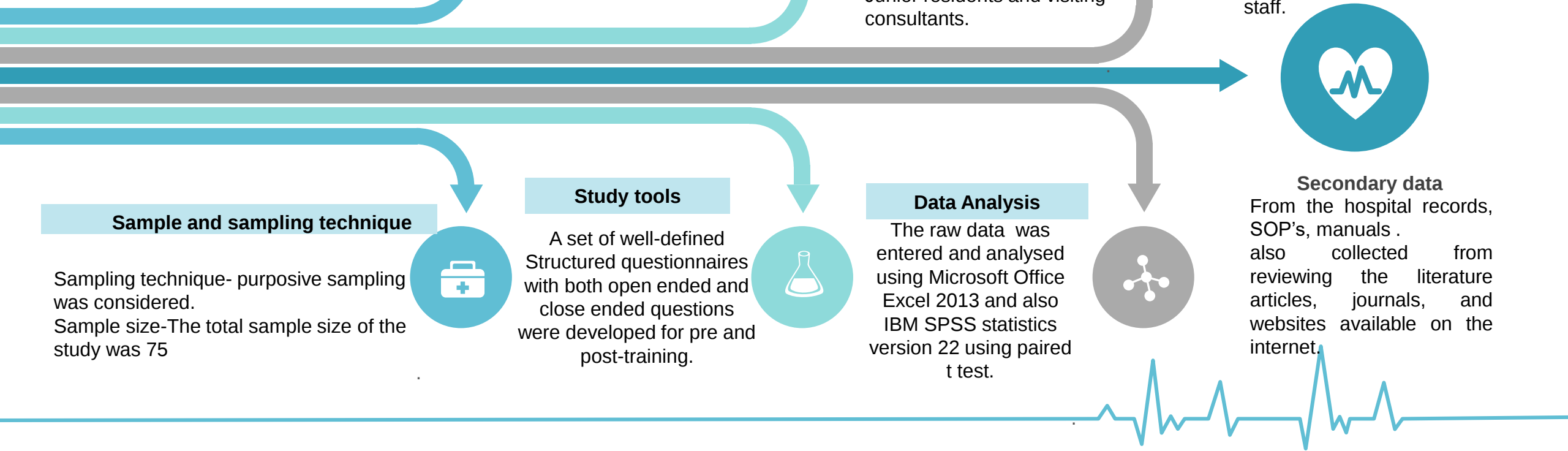
Study tools

A set of well-defined Structured questionnaires with both open ended and close ended questions were developed for pre and post-training.



Data Analysis

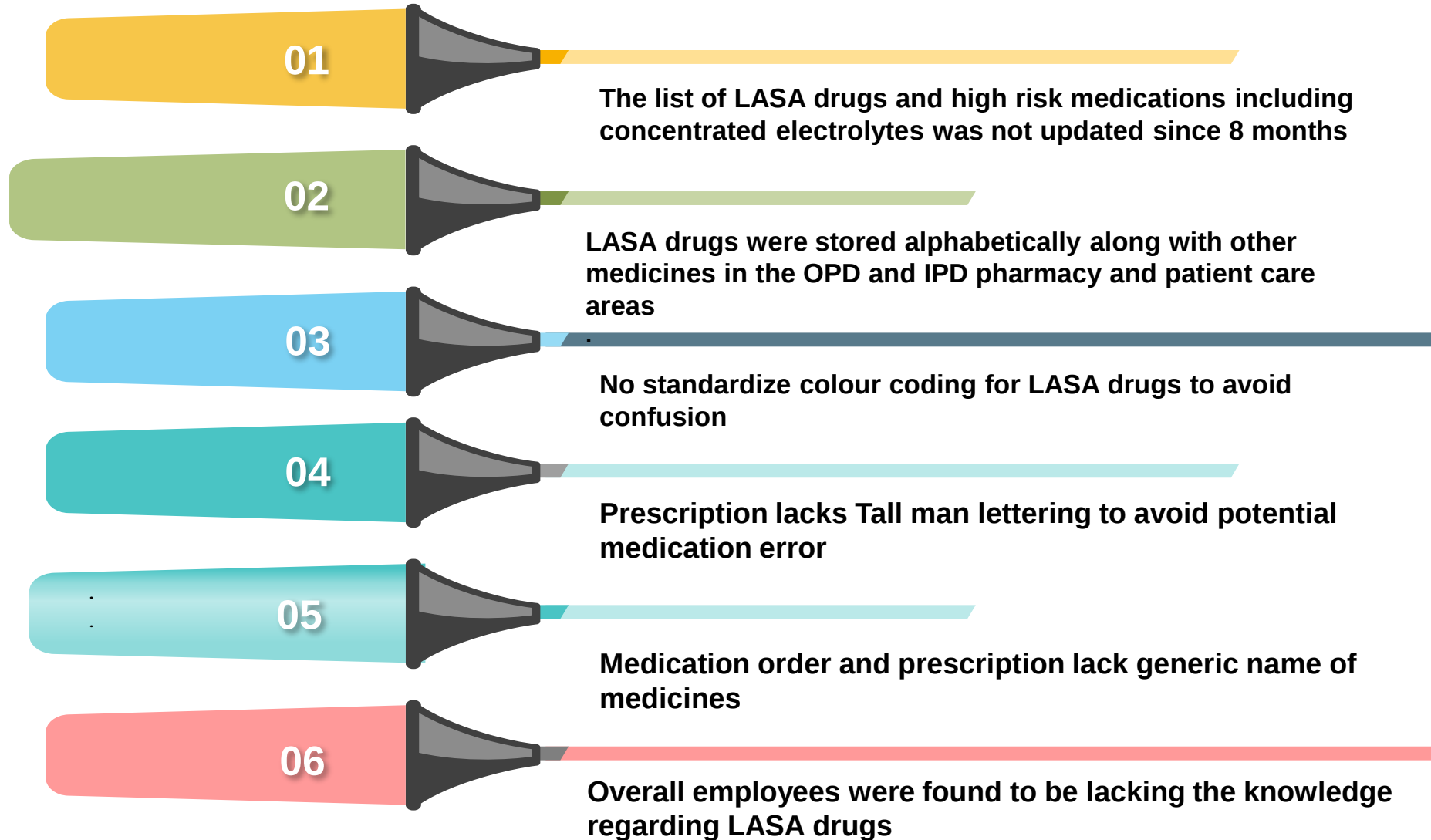
The raw data was entered and analysed using Microsoft Office Excel 2013 and also IBM SPSS statistics version 22 using paired t test.





Result & Analysis

LASA and Control of concentrated electrolytes

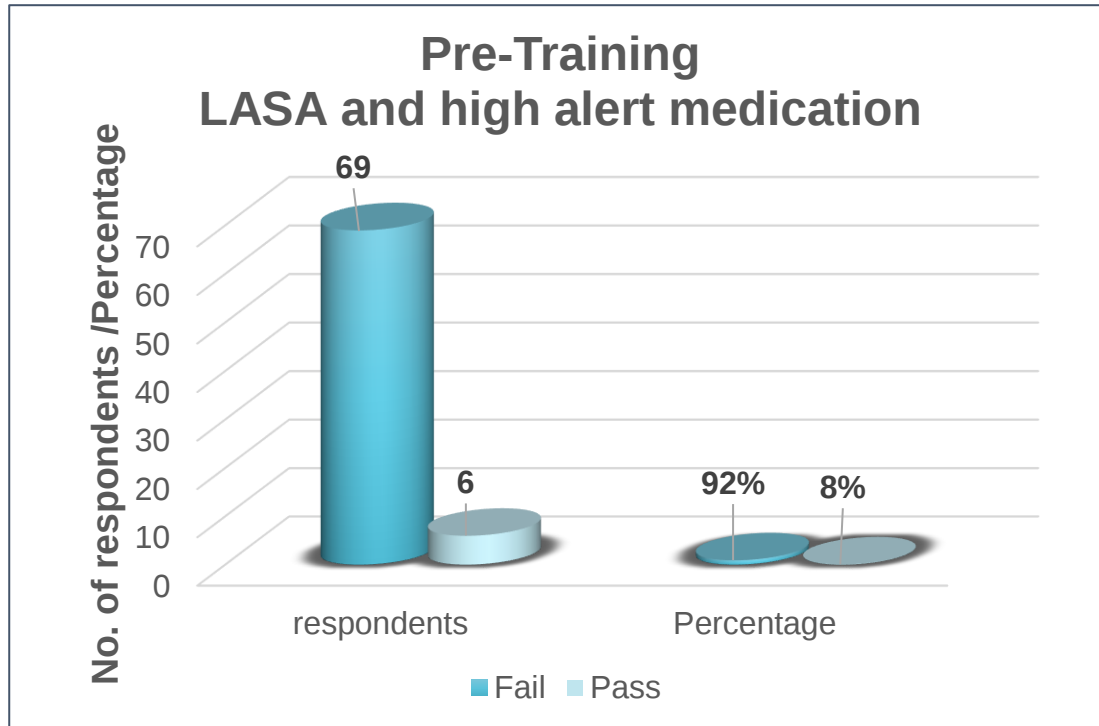




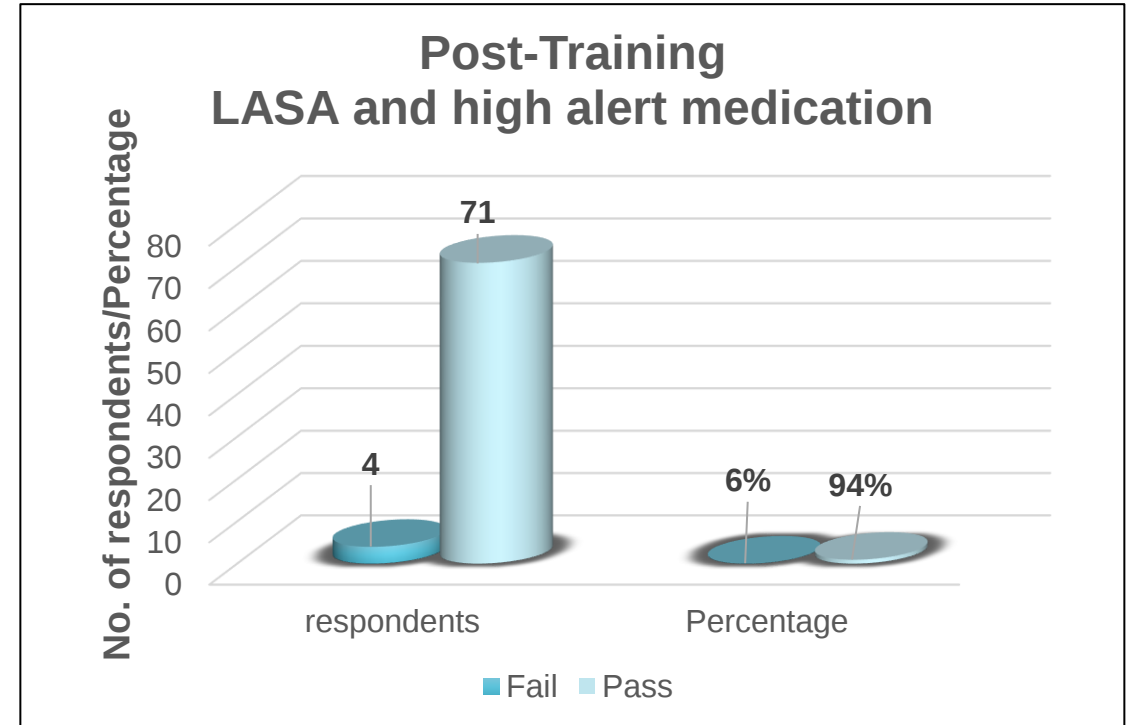
Standard Operating Procedures

S.NO	WHO Suggested Options	Revised SOP
01	Annually reviewing the LASA medications	The LASA list should be updated in every 6 months
02	Colour differences to reduce confusion	Colour coding done Pink colour- look alike drugs Blue colour- sound alike drugs Orange colour- concentrated electrolytes
03	Storing in separate location in non-alphabetical order in racks	LASA drugs and high risk drugs should be stored in non-alphabetical order under single lock and key cupboard with colour coding
04	Minimize the use of verbal orders or telephonic orders to reduce medication error	Verbal or telephonic orders should only be accepted in case of life threatening situations by read back policy.
05	Prescription should include capital letters and also the generic name of the drug to avoid medication error	Prescription should include capital letters and also the generic name of the drug to avoid medication error which is being audited by prescription audit.

Trainings



Out of 75 respondent who participated, only 8% scored 70% or more. 92% of the participates scored less than 70%. This implies that the majority of the hospital staff lack basic knowledge on LASA, and high risk/alert medications.

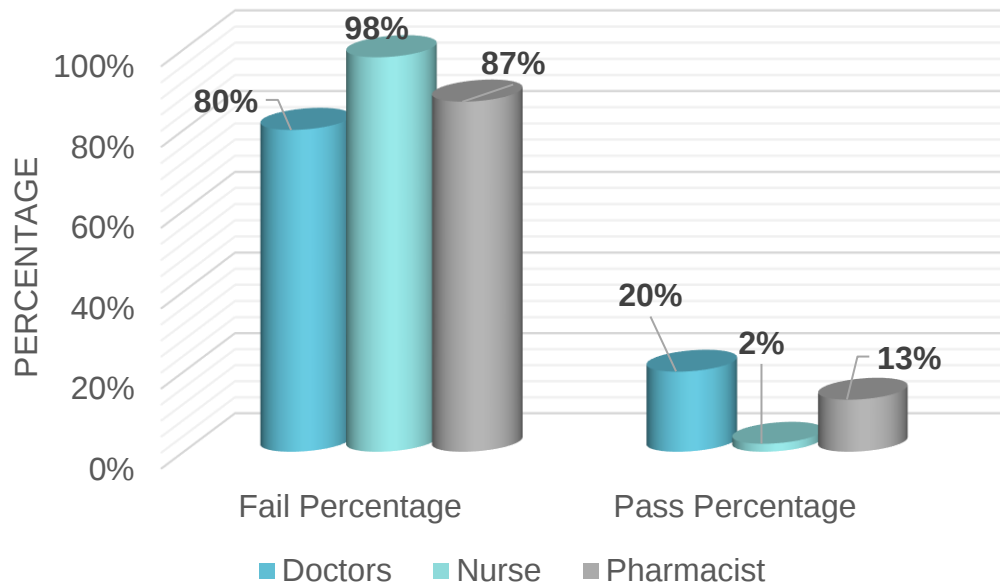


A significant improvement was seen in the understanding of participants. 94% of the participants scored 70% or more while 6% of the respondents still lack the conceptual understanding

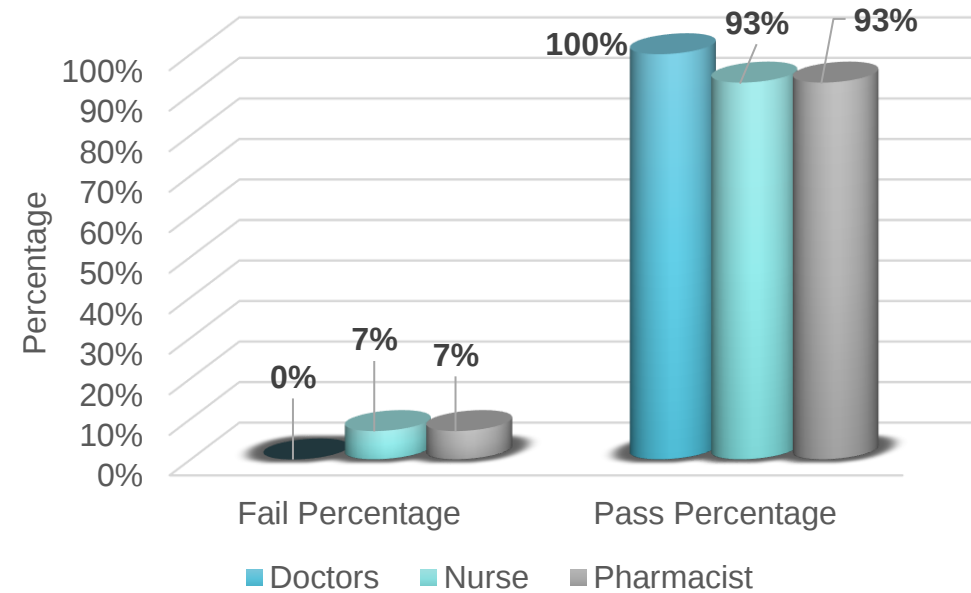


Below Graph showing pre & post training results for Lasix & High alert medication category wise

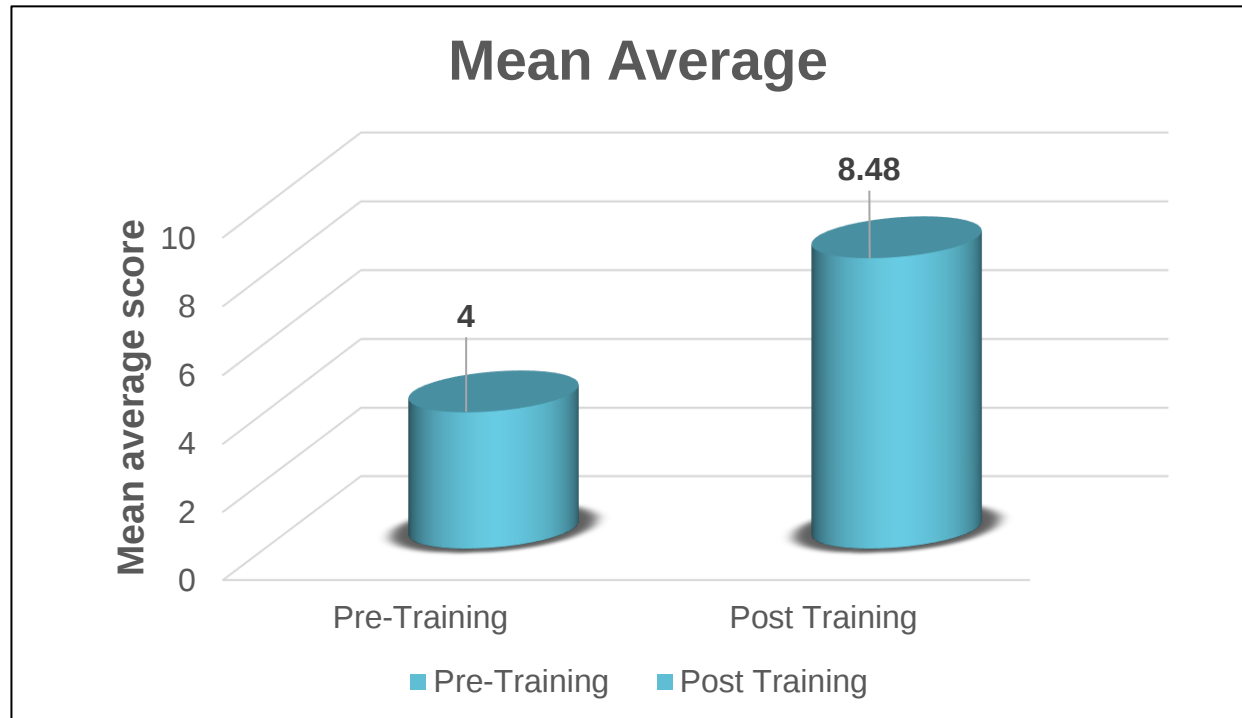
Pre-Training
LASA and high alert medication



Post-Training
LASA and high alert medication



Paired t-Test Results



The graph shows the mean average of LASA and concentrated electrolytes scores before training and after training respectively. There is significant increase from 4 to 8.48 in the mean average score post training.

Paired Sample t Test								
	Paired Differences					t	df	Sig. (1-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Post-test – pre-test	4.000	1.551	0.179	3.643	4.357	22.336	74	0.000075

The level of significance is 0.05 and P-value (0.000075) is significantly lower ($p\text{-value} < \alpha$ i.e. $0.000075 < 0.05$), therefore we reject null hypothesis (H_0). If said differently, the difference between the mean average of the post training & pre-training scores is big enough to be statistically significant.

Results & Analysis

Patient Identification

GAPS

01

Lack of knowledge regarding colour coding ID bands

02

Unaware of checklist which tells when and how patient is to be identified

03

Unaware of incident reporting and documentation

04

Overall the staff was lacking knowledge regarding Patient Identification

Standard Operating Procedures

EXAMPLE OF Patient Identification

Policy

Emphasize that health-care providers have primary responsibility for checking/verifying a patient's identity, while patients should be actively involved and should receive education on the importance of correct patient identification.

Admission

Upon admission and prior to the administration of care, use at least two identifiers to verify a patient's identity, neither of which should be the patient's room number.

Patient Identifiers

- ▶ Standardize the approaches to patient identification among different facilities within a health-care system. For example, use white ID bands on which a standardized pattern or marker and specific information (e.g. name and date of birth) would be written.
- ▶ Develop an organizational protocol for identifying patients without identification or with the same name.
- ▶ Use other non-verbal approaches, such as biometrics, for comatose patients.

Intervention

Even if they are familiar to the health-care provider, check the details of a patient's identification to ensure the right patient receives the right care.

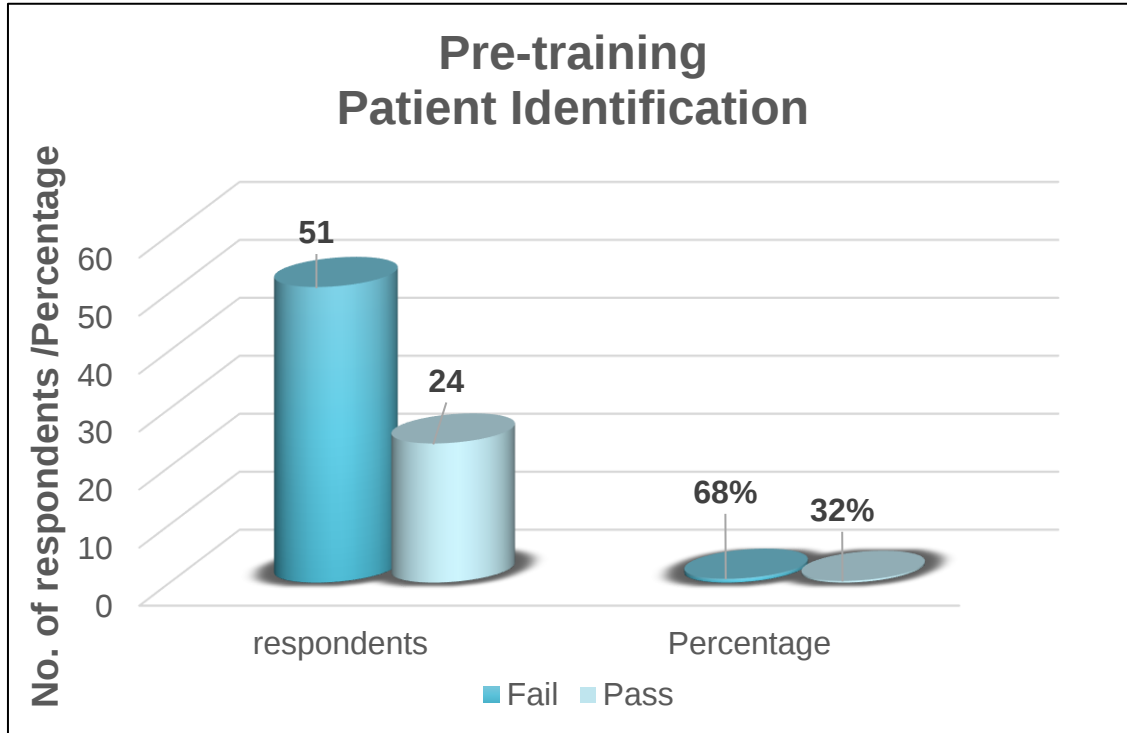
Patient

Involve patients in the process of patient identification.

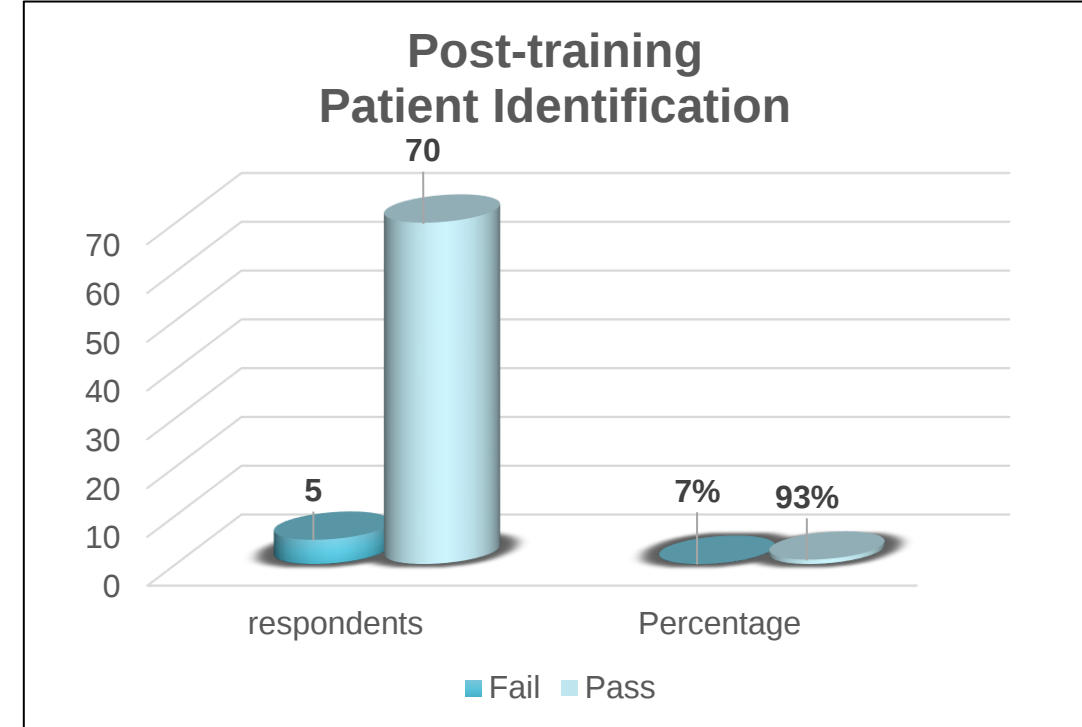
This example is not necessarily appropriate for all health-care settings.



Trainings



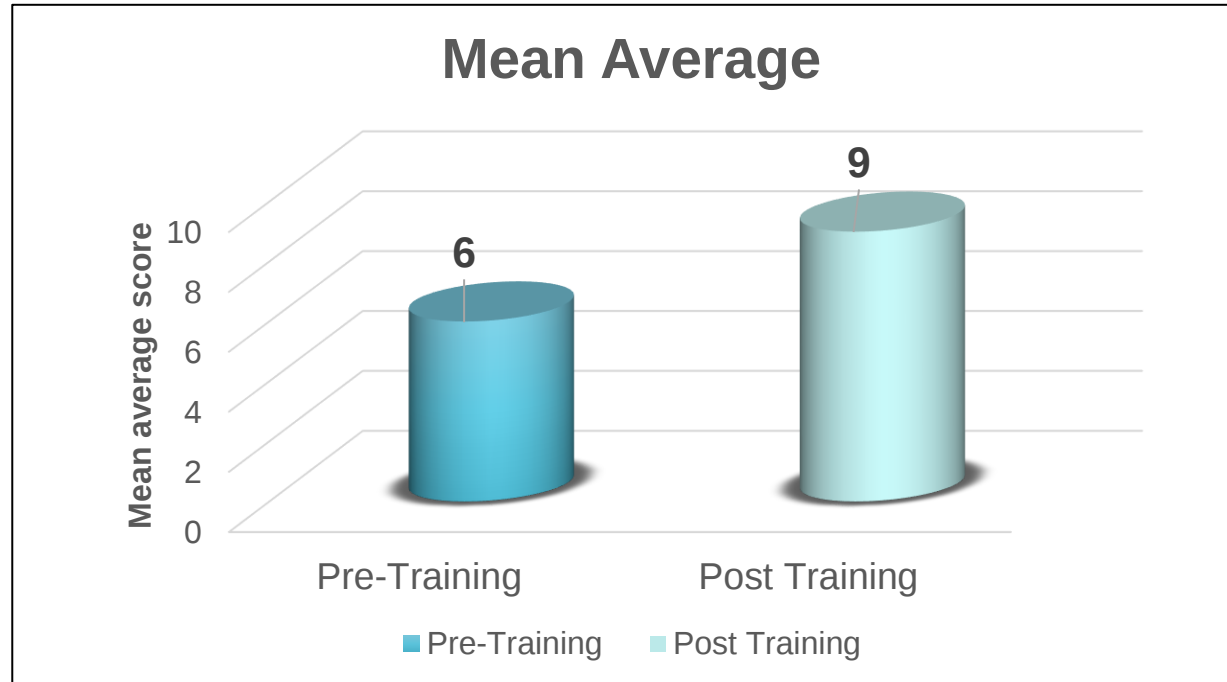
Out of 75 respondents, only 24 nursing staff passed the test and rest 51 were below the passing criteria. In terms of percentage 32% nurses scored 70% or more marks in the test conducted before training. While 68% of the participant scored below passing levels which indicates that there is need to train the nursing staff on Patient identification.



Post training results showed a straight jump of 61% taking passing percentage from 32% to 93%..Only 7% of the participants couldn't make it to passing pool. In other words out of 75 respondents 70 passed the test and remaining 5 still in the category of fail.



Paired t-Test Result



The graph shows the mean average of Patient Identification scores before training and after training respectively. There is significant increase from 6 to 9 in the mean average score post training.



Paired Sample Test								
	Paired Differences					t	df	Sig. (1-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Post-test – pre-test	2.427	2.001	0.231	1.966	2.887	10.502	74	0.007976

The level of significance is 0.05 and P-value (0.007976) is significantly lower ($p\text{-value} < \alpha$ i.e. $0.007976 < 0.05$), therefore we reject null hypothesis (H_0). If said differently, the difference between the mean average of the **post training & pre-training scores** is big enough to be statistically significant.



Conclusion



The study aims to identify the gaps and devise required interventions for implementation of patient safety solutions recommended by WHO.



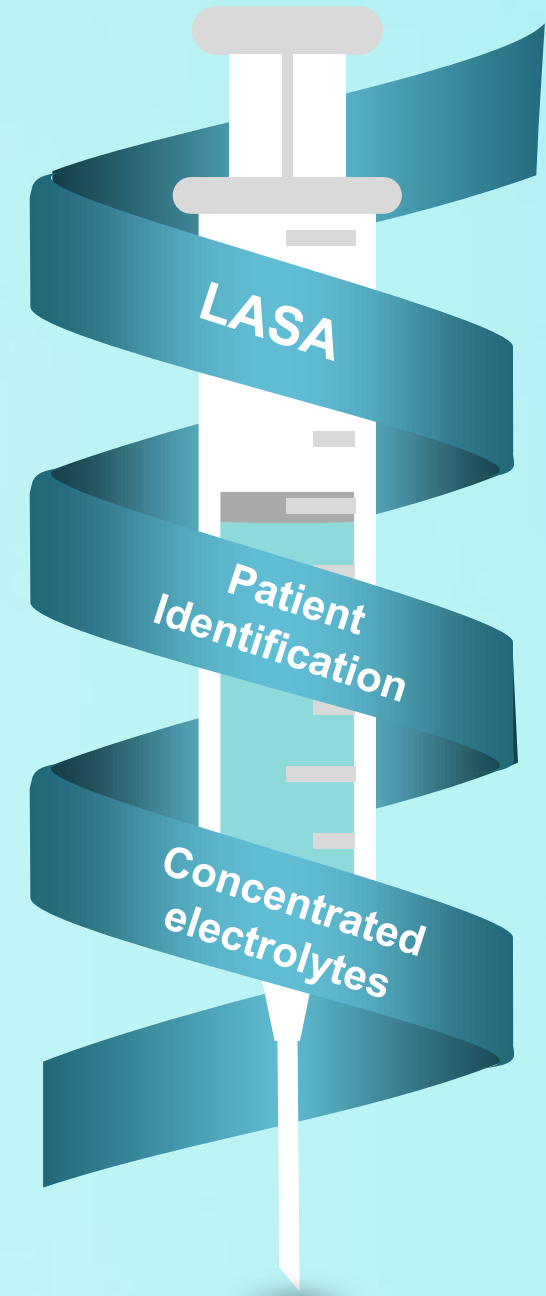
After reviewing all the WHO nine International Patient safety solutions in Paras JK Hospital the most significant problematic areas for patient safety were found to be Patient Identification ,Look alike sound medication and control of concentrated electrolytes on which gaps were identified and required interventions in the form of training was given to the concerned staff.



The significant improvement in the post training assessment scores shows that unintentional harm or errors can be diminished by giving continuous and regular trainings of staff for example patient should be identified before every single procedure, Use of tall man and generic name in the prescription can reduce the dispensing error, trainings on how to use concentrated electrolytes and lastly how to store High risk medications.



By applying paired t test, it is being proved that there is improvement in the knowledge of staff by training interventions. Therefore, hospital should continue doing the trainings to enhance the understanding of staff.



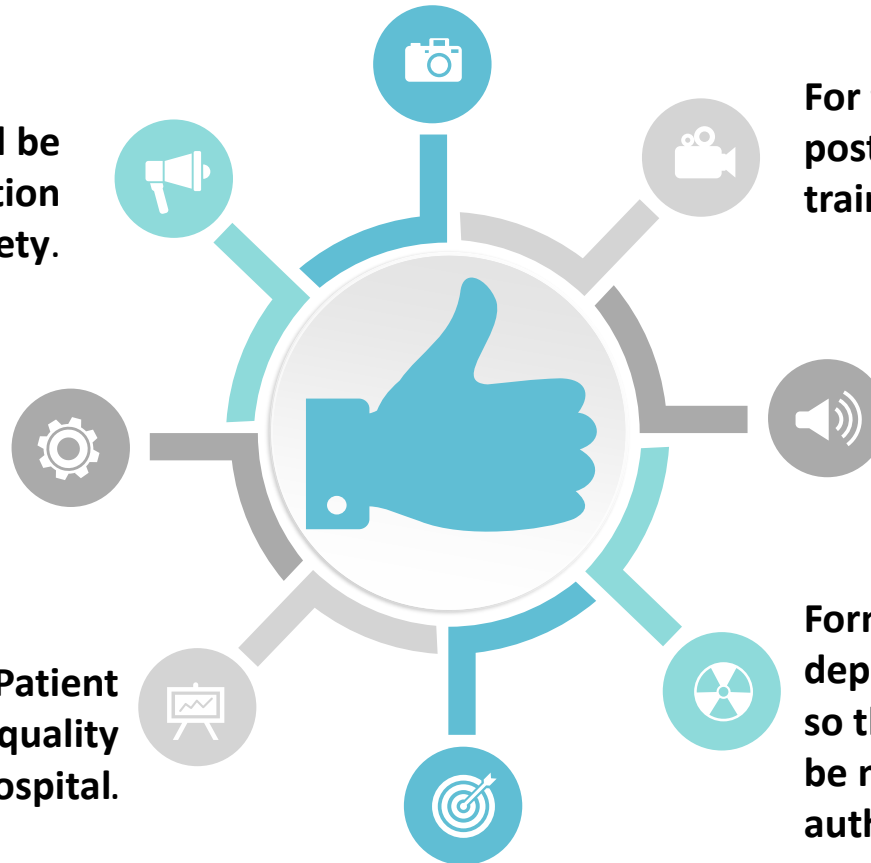
Recommendations

Maintenance of training records on regular basis

Where available technologies should be implemented to streamline the information access regarding patient safety.

Induction Programme should be introduced on Patient Safety

Any change from WHO regarding Patient safety should be updated by the quality department in the hospital.

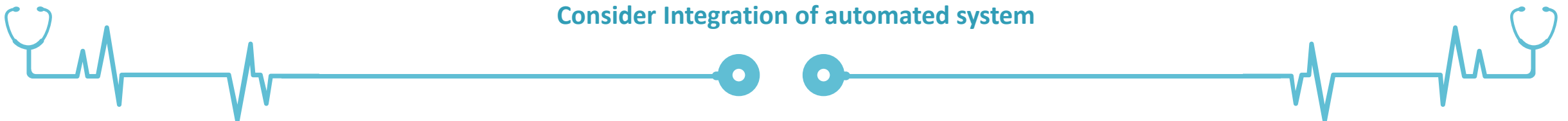


For the respondents who could not clear the post assessment test should be given additional trainings

Proper documentation in case of any incident.

Formulation of patient safety guidelines in department manuals detailed SOP's for the same so that so that it can evaluated, and changes can be made according to the requirement by the authorized person.

Consider Integration of automated system



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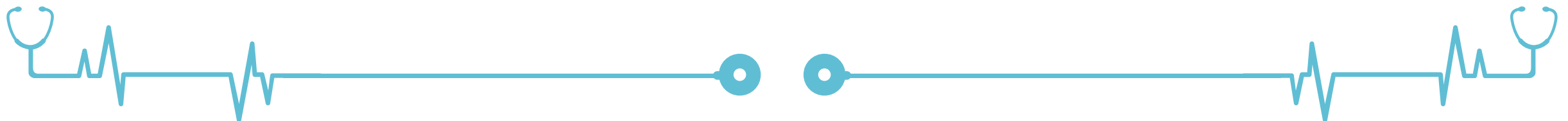
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Thank you

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