Evaluation of knowledge assessment, trainings & mock drill on competence & compliance with NABH standards

Submitted By

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INTRODUCTION

It is essential to ensure high levels of patient care in the healthcare field.

In India, NABH has established strict quality benchmarks for which continuous staff training is required if they are to be accredited.

This dissertation investigates effectiveness of knowledge assessment, training and mock drills to enhance staff competence and compliance with NABH standards

OVERVIEW OF NABH

NABH in India, layout guidelines in its 5th edition; which are arranged in 10 chapters.

(5 are patient centric & 5 organization centric)

These chapters aim to maintain quality healthcare services and patient protection.

Its overall aim is to uphold high-quality care standards and improve patient outcomes across healthcare institutions in India.

Type	Chapters
Patient- centric Chapter	1) AAC 2) COP 3) MOM 4) PRE 5) HIC
Organization centric Chapter	1) PSQ 2) ROM 3) FMS 4) HRM 5) IMS

LITERATURE REVIEW

Sr. no	Title of the study	Author & year	Methodology	Salient features
1)	To Assess Effectiveness of Plan Teaching Programme on National Accreditation Board for Hospitals and Health Care Providers (NABH) Guidelines Among Newly Recruited Staff Nurses at Krishna Hospital, Karad	Kapurkar KS, Jagadale SA, Babar RV (2015)	Evaluatory survey approach with one group pre-test, post-test design Purposive sampling of 51 newly recruited staff nurses	• Assessed knowledge among new nurses. • Used Questionnaire (Pre- & Post-test) • Found majority had average knowledge (19.38%) and practice (17.85%) post-intervention
2)	A study to assess the knowledge of NABH accreditation standards and quality improvement among intensive care unit staff nurses	Marry Minolin T, Kamali M, Kalabarathi S (2023)	Quantitative approach with descriptive research design. Simple random sampling of 60 ICU staff nurses.	• Assessed knowledge of ICU nurses. • Used self-structured questionnaire. • Conducted in ICU of Saveetha Medical College and Hospital • Found 28.3% had moderately adequate knowledge and 71.7% had adequate knowledge

LITERATURE REVIEW

Sr. no	Title of the study	Author & year	Methodology	Salient features
3)	A Study on Quality Improvement and Awareness of NABH Accreditation Standards in A Cardiac Speciality Hospital	N. Junior Sundresh, Anupriya Jose, and Sandeep Muraleedharan (2016)	Descriptive approach of study	• Descriptive study conducted in a 200-bed super specialty cardiac hospital. • Assessment based on NABH pre-accreditation entry level standards. • Data collected through observation, interviews audits, and structured questionnaires.
4)	Training of Hospital Staff to Respond to a Mass Casualty Incident	Edbert B. Hsu, Mollie W. Jenckes, Christina L. Catlett, Karen A. Robinson, Carolyn J. Feuerstein, Sara E. Cosgrove, Gary Green, Otto C. Guedelhoefer, and Eric B. Bass, April 2004.	Quantitative approach with descriptive research design. Simple random sampling of 60 ICU staff nurses.	• Assessed knowledge of ICU nurses. • Used self-structured questionnaire. • Conducted in ICU of Saveetha Medical College and Hospital • Found 28.3% had moderately adequate knowledge and 71.7% had adequate knowledge

Objectives

1) Find the change (increase/reduce) in knowledge pertaining to competence regarding NABH standards.

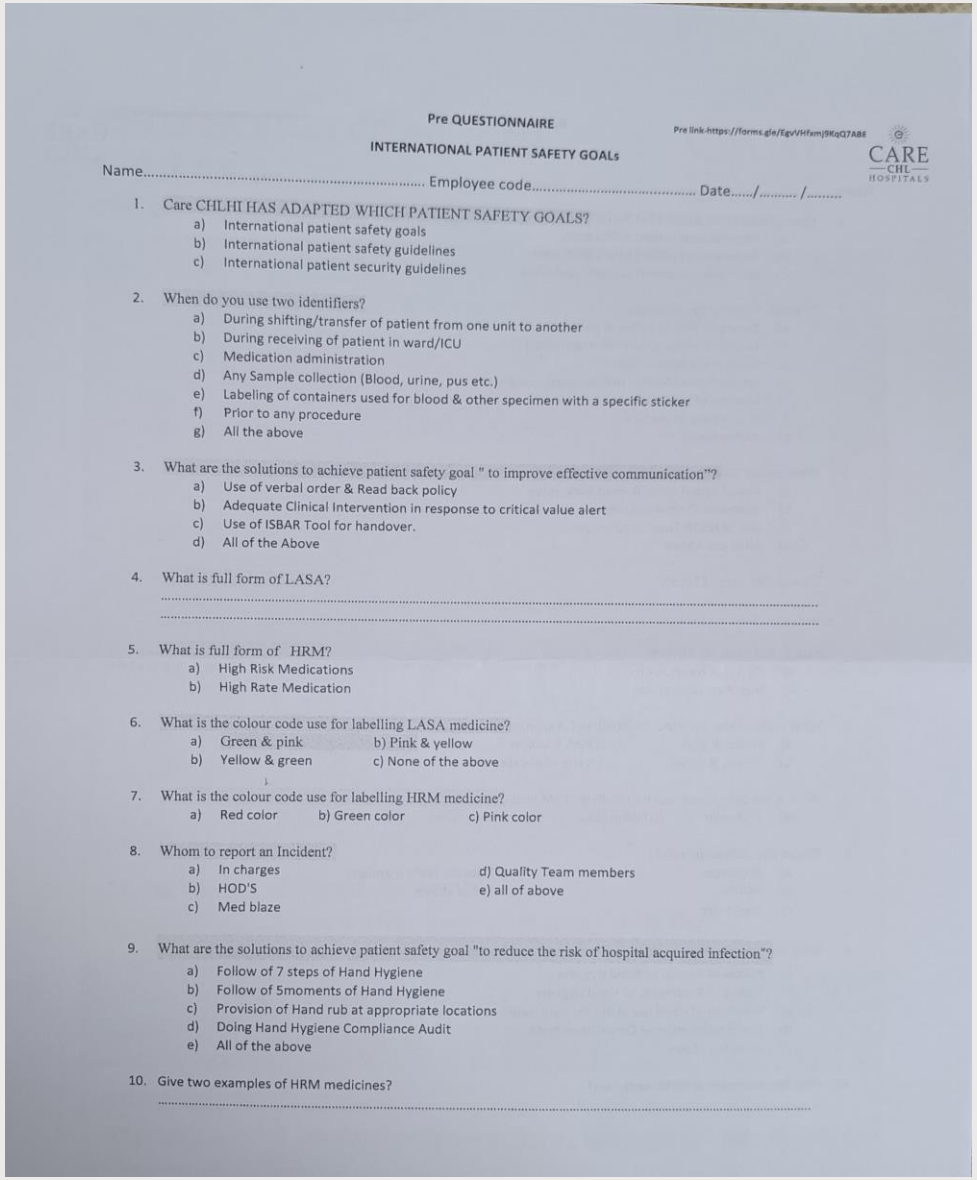
2) Observe changes amongst hospital staff regarding compliance of NABH standards following the implementation of trainings and mock drills.

Research Question

How do trainings & mock drills change the knowledge regarding competence & compliance of hospital staff for NABH standards?

Methodology

- Study Design: Pre-test & Post-test study design
- Setting: The study is carried out in 200 bedded multi- specialty hospital.
- Study Population: Hospital workforce
- Study tools: Questionnaire (Pre- & Post- questionnaire form of Emergency codes, IPSG, PRR)



Pre QUESTIONNAIRE

Pre link-https://forms.gle/EgvVHfxmj9KqQ7A88

INTERNATIONAL PATIENT SAFETY GOALs

CARE CHL HOSPITALS

Name..... Employee code..... Date...../...../.....

1. Care CHLHI HAS ADAPTED WHICH PATIENT SAFETY GOALS?
   a) International patient safety goals
   b) International patient safety guidelines
   c) International patient security guidelines

2. When do you use two identifiers?
   a) During shifting/transfer of patient from one unit to another
   b) During receiving of patient in ward/ICU
   c) Medication administration
   d) Any Sample collection (Blood, urine, pus etc.)
   e) Labeling of containers used for blood & other specimen with a specific sticker
   f) Prior to any procedure
   g) All the above

3. What are the solutions to achieve patient safety goal " to improve effective communication"?
   a) Use of verbal order & Read back policy
   b) Adequate Clinical Intervention in response to critical value alert
   c) Use of ISBAR Tool for handover.
   d) All of the Above

4. What is full form of LASA?
   .....
   .....

5. What is full form of HRM?
   a) High Risk Medications
   b) High Rate Medication

6. What is the colour code use for labelling LASA medicine?
   a) Green & pink b) Pink & yellow
   b) Yellow & green c) None of the above

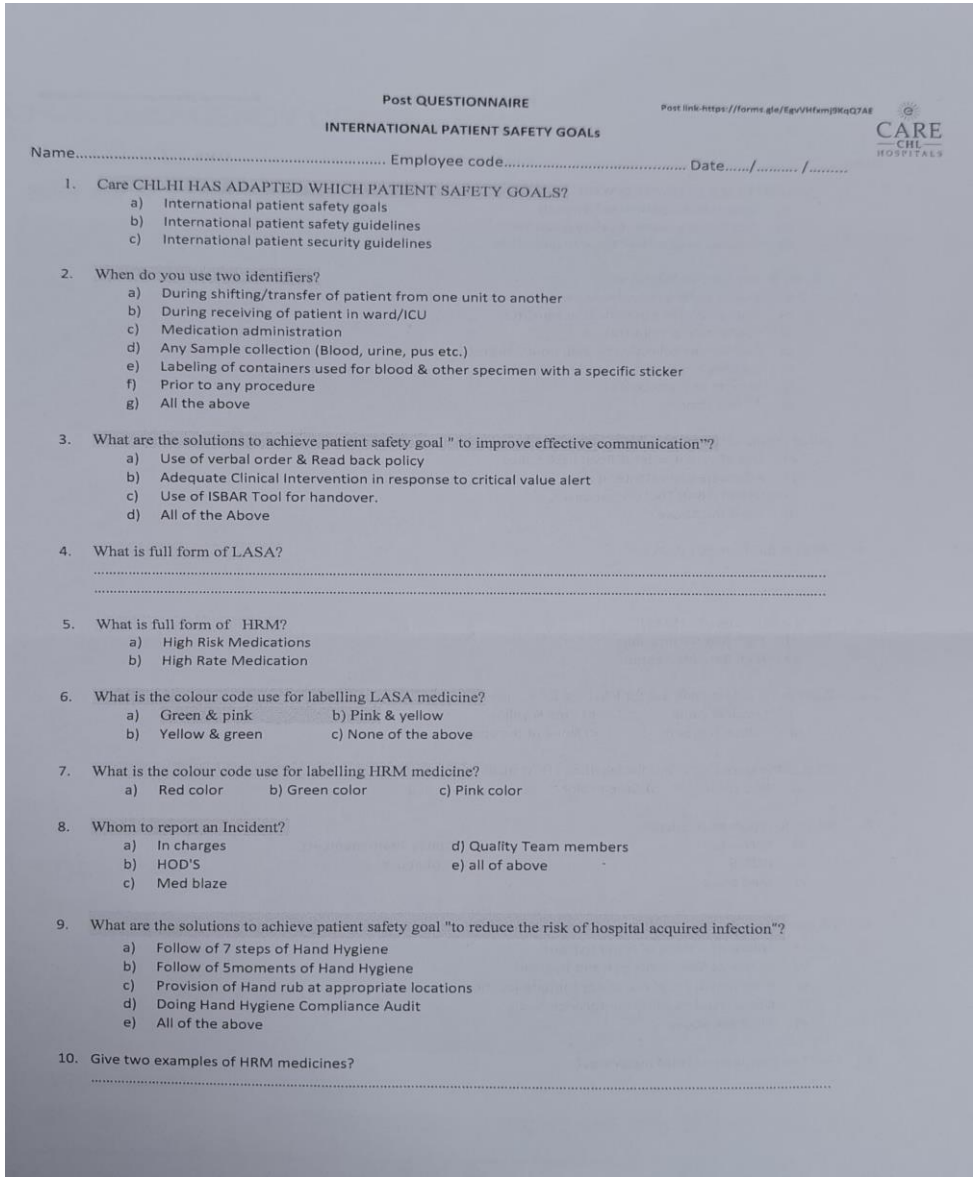
7. What is the colour code use for labelling HRM medicine?
   a) Red color b) Green color c) Pink color

8. Whom to report an Incident?
   a) In charges d) Quality Team members
   b) HOD'S e) all of above
   c) Med blaze

9. What are the solutions to achieve patient safety goal "to reduce the risk of hospital acquired infection"?
   a) Follow of 7 steps of Hand Hygiene
   b) Follow of 5moments of Hand Hygiene
   c) Provision of Hand rub at appropriate locations
   d) Doing Hand Hygiene Compliance Audit
   e) All of the above

10. Give two examples of HRM medicines?
    .....

Fig.1 IPSG Pre- Questionnaire



Post QUESTIONNAIRE

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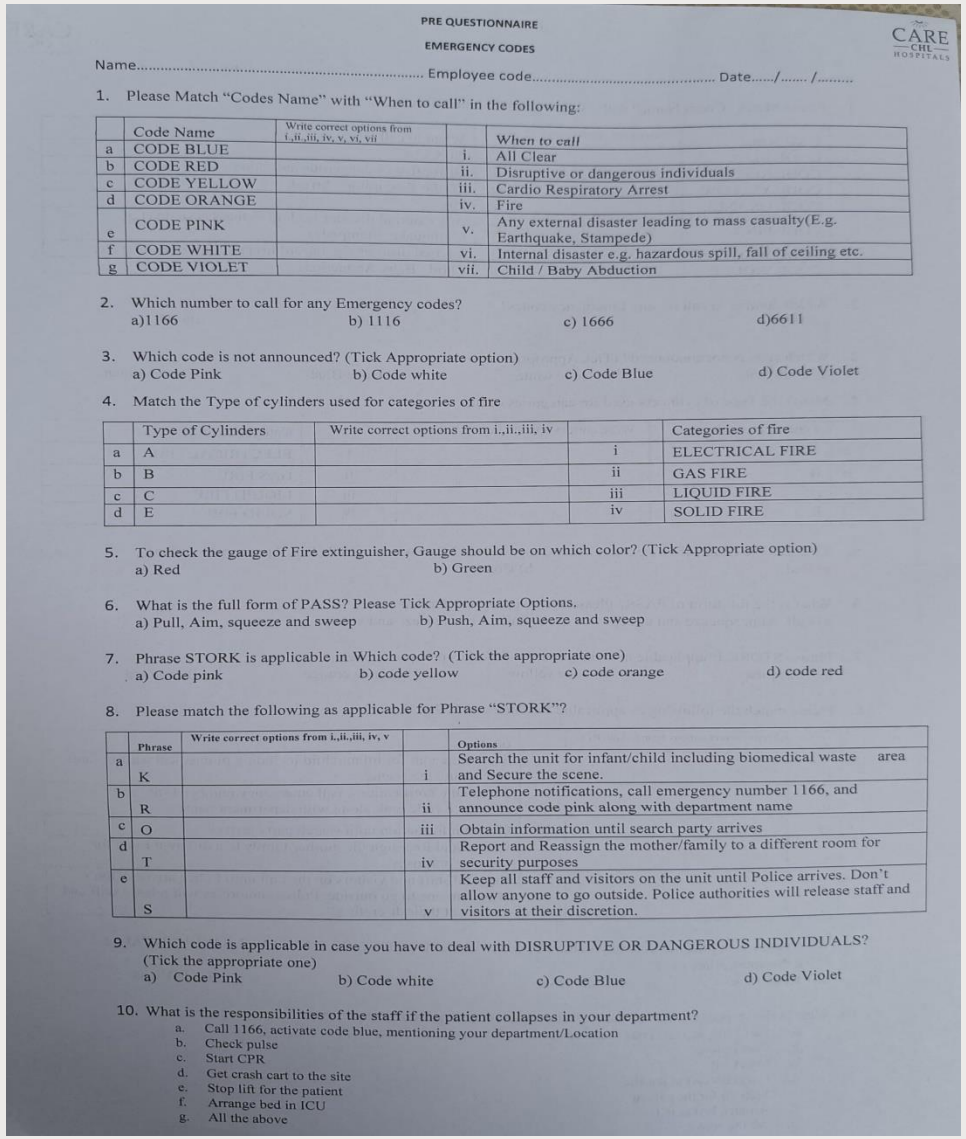
Fig.2 IPSG Post- Questionnaire



PRE QUESTIONNAIRE

EMERGENCY CODES

CARE CHL HOSPITALS

Name..... Employee code..... Date...../...../.....

1. Please Match "Codes Name" with "When to call" in the following:

	Code Name	Write correct options from i.,ii.,iii, iv, v, vi, vii		When to call
a	CODE BLUE		i.	All Clear
b	CODE RED		ii.	Disruptive or dangerous individuals
c	CODE YELLOW		iii.	Cardio Respiratory Arrest
d	CODE ORANGE		iv.	Fire
e	CODE PINK		v.	Any external disaster leading to mass casualty(E.g. Earthquake, Stampede)
f	CODE WHITE		vi.	Internal disaster e.g. hazardous spill, fall of ceiling etc.
g	CODE VIOLET		vii.	Child / Baby Abduction

2. Which number to call for any Emergency codes?
a)1166 b) 1116 c) 1666 d)6611

3. Which code is not announced? (Tick Appropriate option)
a) Code Pink b) Code white c) Code Blue d) Code Violet

4. Match the Type of cylinders used for categories of fire

	Type of Cylinders	Write correct options from i.,ii.,iii, iv		Categories of fire
a	A		i	ELECTRICAL FIRE
b	B		ii	GAS FIRE
c	C		iii	LIQUID FIRE
d	E		iv	SOLID FIRE

5. To check the gauge of Fire extinguisher, Gauge should be on which color? (Tick Appropriate option)
a) Red b) Green

6. What is the full form of PASS? Please Tick Appropriate Options.
a) Pull, Aim, squeeze and sweep b) Push, Aim, squeeze and sweep

7. Phrase STORK is applicable in Which code? (Tick the appropriate one)
a) Code pink b) code yellow c) code orange d) code red

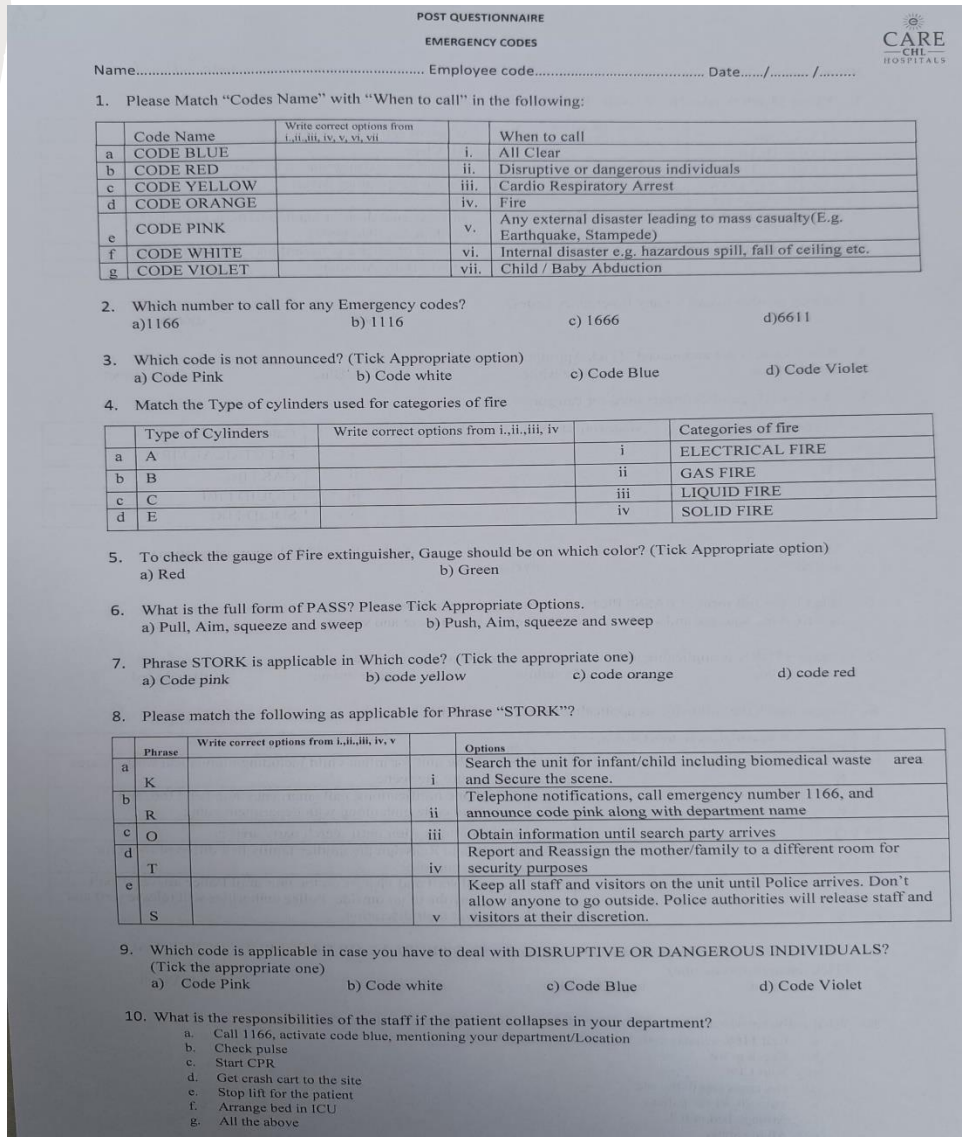
8. Please match the following as applicable for Phrase "STORK"?

	Phrase	Write correct options from i.,ii.,iii, iv, v		Options
a	K		i	Search the unit for infant/child including biomedical waste area and Secure the scene.
b	R		ii	Telephone notifications, call emergency number 1166, and announce code pink along with department name
c	O		iii	Obtain information until search party arrives
d	T		iv	Report and Reassign the mother/family to a different room for security purposes
e	S		v	Keep all staff and visitors on the unit until Police arrives. Don't allow anyone to go outside. Police authorities will release staff and visitors at their discretion.

9. Which code is applicable in case you have to deal with DISRUPTIVE OR DANGEROUS INDIVIDUALS? (Tick the appropriate one)
a) Code Pink b) Code white c) Code Blue d) Code Violet

10. What is the responsibilities of the staff if the patient collapses in your department?
a. Call 1166, activate code blue, mentioning your department/Location
b. Check pulse
c. Start CPR
d. Get crash cart to the site
e. Stop lift for the patient
f. Arrange bed in ICU
g. All the above

Fig.1 Emergency Code Pre-



POST QUESTIONNAIRE

EMERGENCY CODES

CARE CHL HOSPITALS

Name..... Employee code..... Date...../...../.....

1. Please Match "Codes Name" with "When to call" in the following:

	Code Name	Write correct options from i.,ii.,iii, iv, v, vi, vii		When to call
a	CODE BLUE		i.	All Clear
b	CODE RED		ii.	Disruptive or dangerous individuals
c	CODE YELLOW		iii.	Cardio Respiratory Arrest
d	CODE ORANGE		iv.	Fire
e	CODE PINK		v.	Any external disaster leading to mass casualty(E.g. Earthquake, Stampede)
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b. Check pulse
c. Start CPR
d. Get crash cart to the site
e. Stop lift for the patient
f. Arrange bed in ICU
g. All the above

Fig.2 Emergency Code Post-

continue..

Methodology

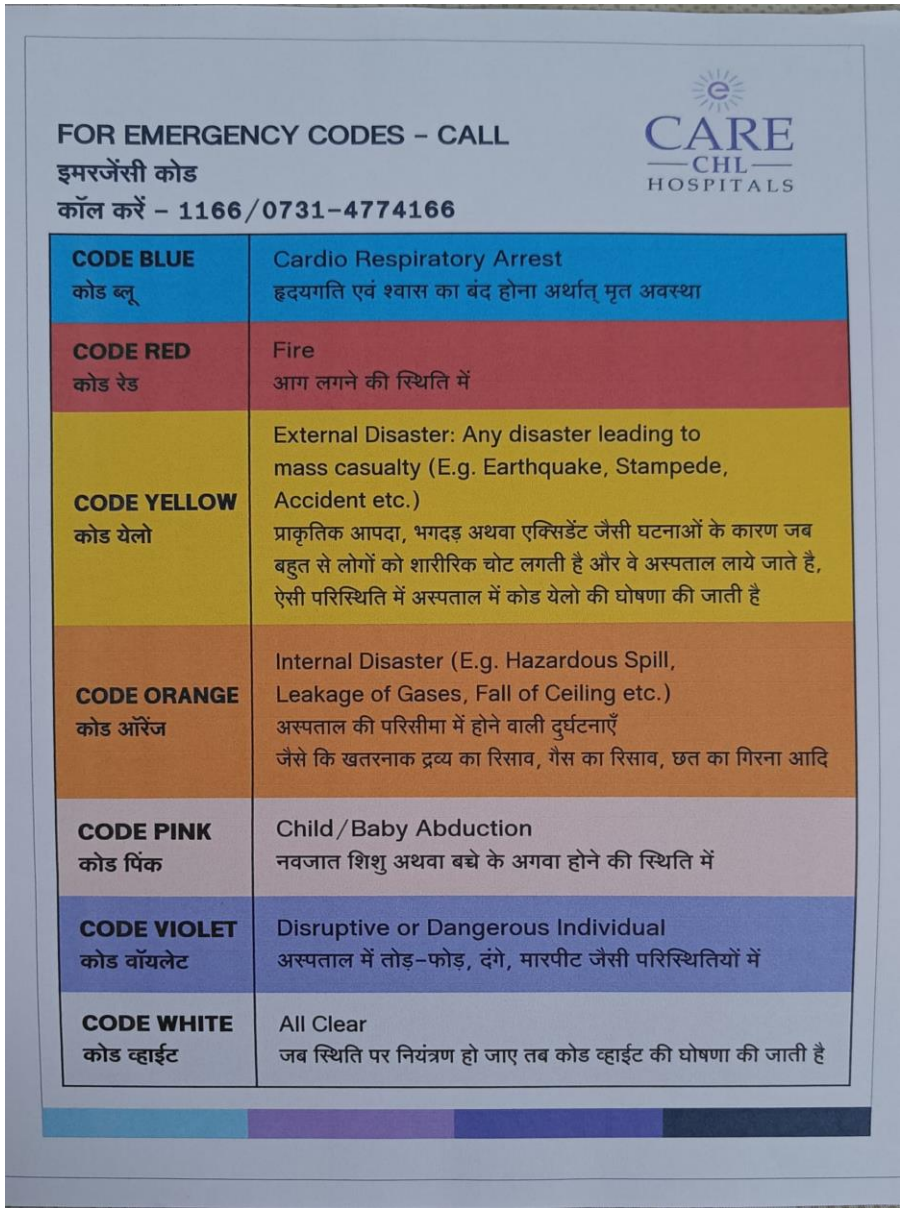
- Duration of Study: 60 days
- Sample Size: 200 hospital staff
- Sampling Technique: Convenient Sampling

continue..

Inclusion criteria: Hospital staff working in departments directly involved in patient care (e.g., doctors, nurses, technicians).

Exclusion criteria: Hospital staff on leave or absent during the study period. Staff members who are unable or unwilling to participate

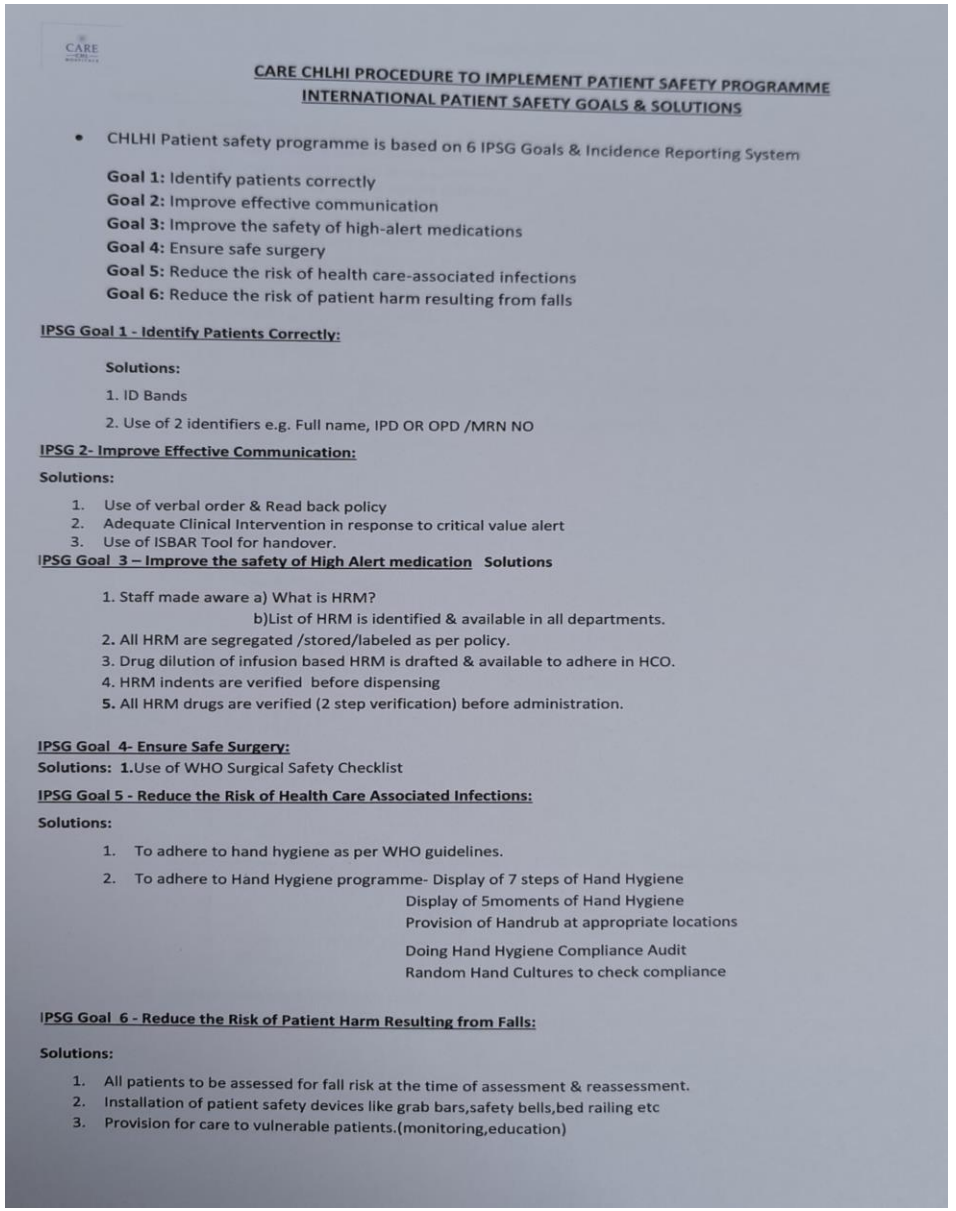
Trainings: 1) All were received training during working hours/on job.
2) Emergency codes, IPSG, PRR, Incident Reporting trainings were provided.



FOR EMERGENCY CODES – CALL
इमरजेंसी कोड
कॉल करें – 1166/0731-4774166

CARE CHL HOSPITALS

CODE BLUE कोड ब्लू	Cardio Respiratory Arrest हृदयगति एवं श्वास का बंद होना अर्थात् मृत अवस्था
CODE RED कोड रेड	Fire आग लगने की स्थिति में
CODE YELLOW कोड येलो	External Disaster: Any disaster leading to mass casualty (E.g. Earthquake, Stampede, Accident etc.) प्राकृतिक आपदा, भगदड़ अथवा एक्सिडेंट जैसी घटनाओं के कारण जब बहुत से लोगों को शारीरिक चोट लगती है और वे अस्पताल लाये जाते है, ऐसी परिस्थिति में अस्पताल में कोड येलो की घोषणा की जाती है
CODE ORANGE कोड ऑरेंज	Internal Disaster (E.g. Hazardous Spill, Leakage of Gases, Fall of Ceiling etc.) अस्पताल की परिसीमा में होने वाली दुर्घटनाएँ जैसे कि खतरनाक द्रव्य का रिसाव, गैस का रिसाव, छत का गिरना आदि
CODE PINK कोड पिंक	Child/Baby Abduction नवजात शिशु अथवा बच्चे के अगवा होने की स्थिति में
CODE VIOLET कोड वॉयलेट	Disruptive or Dangerous Individual अस्पताल में तोड़-फोड़, दंगे, मारपीट जैसी परिस्थितियों में
CODE WHITE कोड व्हाईट	All Clear जब स्थिति पर नियंत्रण हो जाए तब कोड व्हाईट की घोषणा की जाती है



CARE

CARE CHLHI PROCEDURE TO IMPLEMENT PATIENT SAFETY PROGRAMME
INTERNATIONAL PATIENT SAFETY GOALS & SOLUTIONS

- CHLHI Patient safety programme is based on 6 IPSG Goals & Incidence Reporting System

Goal 1: Identify patients correctly
Goal 2: Improve effective communication
Goal 3: Improve the safety of high-alert medications
Goal 4: Ensure safe surgery
Goal 5: Reduce the risk of health care-associated infections
Goal 6: Reduce the risk of patient harm resulting from falls

IPSG Goal 1 - Identify Patients Correctly:

Solutions:

1. ID Bands
2. Use of 2 identifiers e.g. Full name, IPD OR OPD /MRN NO

IPSG 2- Improve Effective Communication:

Solutions:

1. Use of verbal order & Read back policy
2. Adequate Clinical Intervention in response to critical value alert
3. Use of ISBAR Tool for handover.

IPSG Goal 3 – Improve the safety of High Alert medication Solutions

1. Staff made aware a) What is HRM?
   b)List of HRM is identified & available in all departments.
2. All HRM are segregated /stored/labeled as per policy.
3. Drug dilution of infusion based HRM is drafted & available to adhere in HCO.
4. HRM indents are verified before dispensing
5. All HRM drugs are verified (2 step verification) before administration.

IPSG Goal 4- Ensure Safe Surgery:

Solutions: 1.Use of WHO Surgical Safety Checklist

IPSG Goal 5 - Reduce the Risk of Health Care Associated Infections:

Solutions:

1. To adhere to hand hygiene as per WHO guidelines.
2. To adhere to Hand Hygiene programme- Display of 7 steps of Hand Hygiene
   Display of 5moments of Hand Hygiene
   Provision of Handrub at appropriate locations
   Doing Hand Hygiene Compliance Audit
   Random Hand Cultures to check compliance

IPSG Goal 6 - Reduce the Risk of Patient Harm Resulting from Falls:

Solutions:

1. All patients to be assessed for fall risk at the time of assessment & reassessment.
2. Installation of patient safety devices like grab bars,safety bells,bed railing etc
3. Provision for care to vulnerable patients.(monitoring,education)

Training Leaflet

Ethical Consideration

Informed consent obtained

Confidentiality & Privacy maintained

Transparency & Right to withdraw

Data Security

Non- Coercion

Data Collection & Analysis

Data Collection Procedure:

Data was collected in phased manner:

1) Pre- intervention Phase
2) Intervention Phase
3) Post- intervention Phase
4) Reporting & Dissemination

Analysis :

Data was analysed using descriptive statistics to observe the changes in knowledge through training and mock drills.

MS Excel was used for analysis.

RESULTS

1) Hospital Emergency Codes:

- 7 Emergency codes are taken into consideration.
- Training was given to 109 Healthcare staff.
- Pre- questionnaire form was given followed by training.
- Further post-questionnaire form was given.
- Based on the marks obtained in pre- & post- test, the rating was given, respectively.
- Rating Scale:

Marks Range	Grade
0-3	Poor
4-6	Average
7-8	Good
9-10	Excellent

FIG.1 HOSPITAL EMERGENCY CODES PREE-TEST

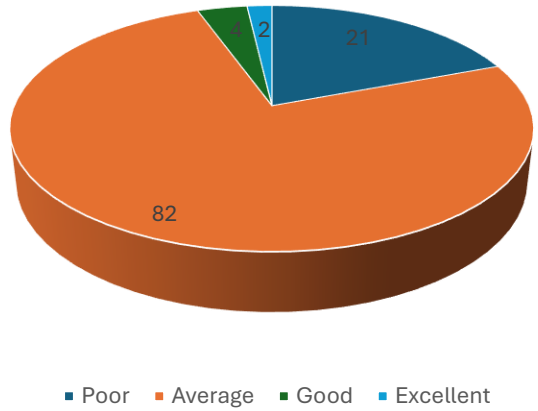
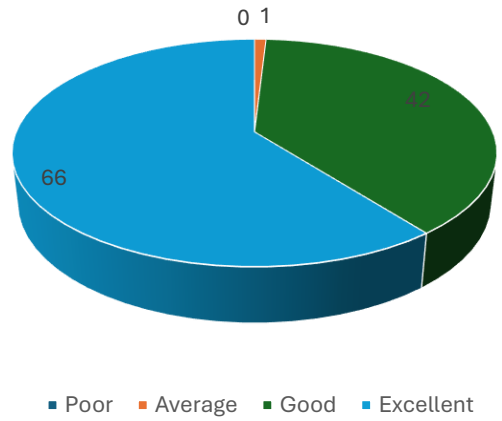


Fig.2 HOSPITAL EMERGENCY CODES POST-TEST



It is observed that 59% increase in excellent grade & 34% increase in good grade. As a result of training, hospital staff found more equipped with these skills.

RESULTS

2) IPSG (International Patient Safety Goals): 6 goals

- IPSG training was given to 45 healthcare staff.
- Pre- questionnaire form was given followed by training.
- Further post-questionnaire form was given.
- Based on the marks obtained in pre- & post- test, the rating was given respectively.
- Rating Scale:

Marks Range	Grade
0-3	Poor
4-6	Average
7-8	Good
9-10	Excellent

Fig.1 IPSG
PRE-TEST

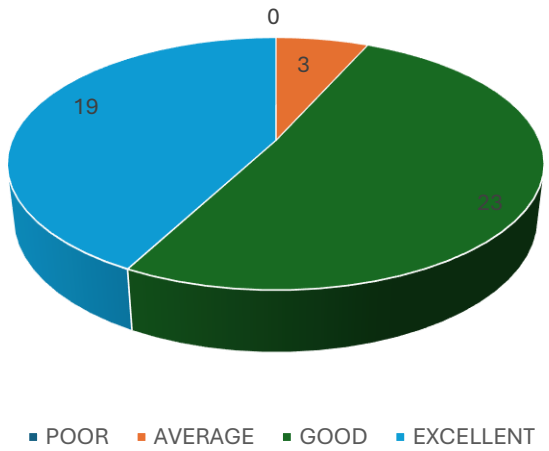
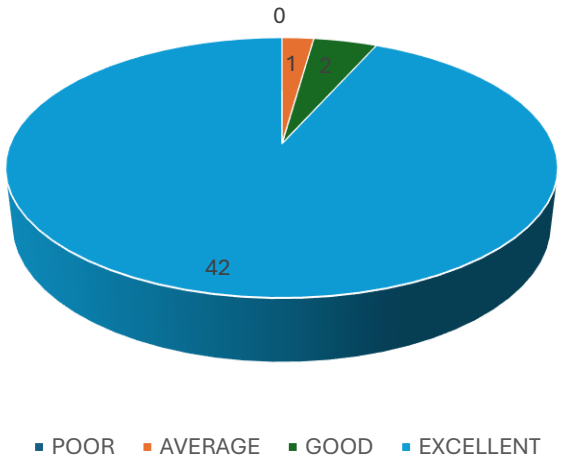


Fig.2 IPSG
POST-TEST



It is observed that 51% increase in excellent grade after the training.

RESULTS

3) PRR (Patients' Rights & Responsibilities):

- IPSG training was given to 41 healthcare staff.
- Pre- questionnaire form was given followed by training.
- Further post-questionnaire form was given.
- Based on the marks obtained in pre- & post- test, the rating was given respectively.
- Rating Scale:

Marks Range	Grade
0-2	Poor
3	Average
4	Good
5	Excellent

Fig.1 PATIENTS RIGHTS & RESPONSIBILITIES PRE-TEST

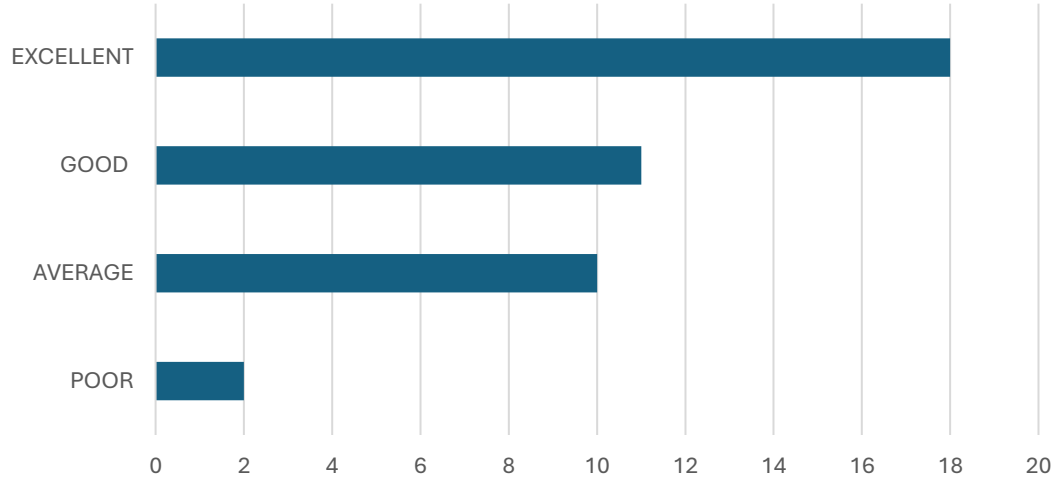
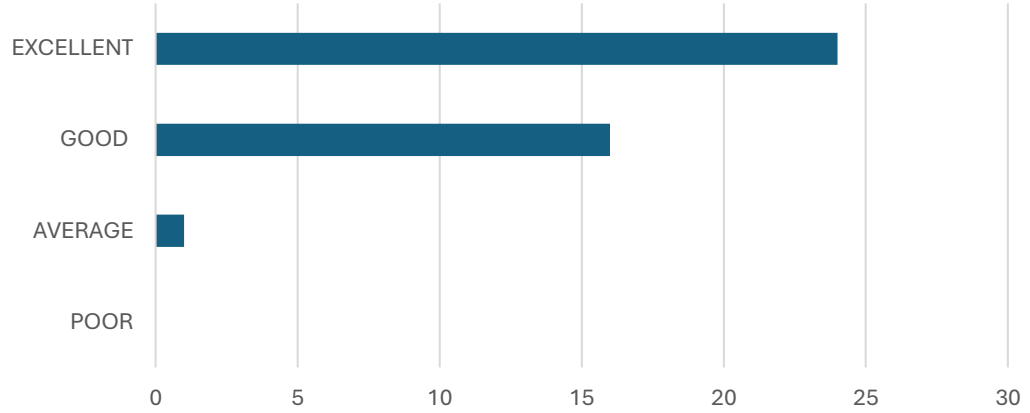


Fig.2 PATIENTS RIGHTS & RESPONSIBILITY POST-TEST



The analysis assess the level of knowledge gained by staff, their ability to apply this knowledge in real-world scenarios, and the overall impact of the training on patient care.

Challenges & Limitation

1) Readiness Among Staff
2) Incomplete Tests
3) Variability in Availability
4) Single Hospital Study
5) External Validity

Implication of Research:

- Enhanced staff competence.
- Increased compliance for NABH accreditation.

Recommendations

- Conduct Regular Training Programs/Refresher Training Programs for NABH compliance for the staff
- Tailor made Trainings for Specific Needs
- Encourage Continuous Learning
- Monitor and Evaluate Training Effectiveness

Conclusion

- Knowledge assessments, trainings and mock drills improve staff competence and readiness to adhere to NABH standards.
- Pre-test and post-test assessments show improvement in staff knowledge regarding NABH compliance after training.
- Enhances adherence to quality standards, may lead to improving healthcare delivery.

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THANK YOU