

# NURSING DIGEST

Official Newsletter - Association of Nurse Executives (India)

**ANEI Newsletter Special Edition of AAPSC 2024**



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Capt. Ajitha Nair

## ANEI Annual Patient Safety Conference 2024

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## Message from the President



**Capt Ajitha Nair**  
**President, ANEI**

**Dear ANEElans,**

The month September has been a very significant month for us as we successfully conducted 4th ANEI Annual Patient Safety Conference, this time in a hybrid format at Ramaiah Institute of Nursing Education and Research, Bangalore on 27 Sept 2024 on the theme "Towards Zero Harm: Improving Diagnosis for Patients" in alignment with the theme of International Patient Safety Day this year. This is yet another milestone for us to be able to showcase our meaningful activities and contributions in ensuring Patient Safety in our workplaces. It is a matter of pride for us that the conference was addressed by luminaries in the field like Dr Neelam Dhingra, Vice President and Chief Patient Safety Officer at the Joint Commission International (JCI); Mr Howard Catton, Chief Executive Officer of International Council of Nurses and Dr Michael E Ramsay, Chief Executive Officer of the Patient Safety Movement Foundation, USA and Mr Kuldeep Kumar Raina, Vice Chancellor of the Ramaiah University of Applied Sciences. There was meaningful discussions by many leaders from many walks of healthcare which were interactive and thought provoking. The conference also had presentations by eight ANEI Patient Safety Fellows of the 3rd cohort which was chaired by Dr Michael Ramsay. The conference was attended by 300 delegates in person and more than a thousand virtually. Another significant event during the conference was the release of ANEI's first publication which is a milestone for us titled "Learnings Ignited from Errors (LiFE) in the hands of Dr Kuldeep Kumar Raina.

Our appreciations to the Organising Committee led by the Chair Dr Jadhav Sonali, Dean and Principal of Ramaiah Institute of Nursing Education and Research, Ms Latha Nonis, the President of ANEI Karnataka Chapter under the able guidance of Ms Thankam Gomez, our Founder President. The entire team worked together and the logistics support by the University was commendable. Also I would like to place on record my gratitude to the sponsors, members of the ANEI Executive committee, the resource persons and the delegates for their support and participation.

This special edition of the News Letter comes to you highlighting the above Annual Patient Safety Conference which will provide you with glimpses of all the actions.

We also had a National Nursing Leadership Summit, an invite only program in association with 3M at Hotel Grand Hyatt, Kochi from 18-20 Oct 2024 in which more than 60 nurse leaders across the country participated, which had meaningful discussions, networking and membership drive.

Besides these, we are in the making of creating an exclusive education vertical of ANEI which has ambitious projects lined up for the benefit of practising nurses, leaders as well as the nursing students. Any members who are interested to participate in this initiative in the field of nursing education can reach out to me @aneipresident@gmail.com.

Also we are in the preparatory face of our flagship conference ANEICON 2025 at Kochi, Kerala in the last week of May 2025. I shall get back to you with dates asap so that you can block your calendar.

I'm happy that many of the state chapters are engaging their members through many meaningful activities. I hope you are able to make the most of being an ANEI member and you are enjoying your engagement avenues. Sky is the limit for anyone who is intentional, committed and focused.

Sincerely Yours,  
Ajitha

## ANEI Annual Patient Safety Conference 2024 – Report



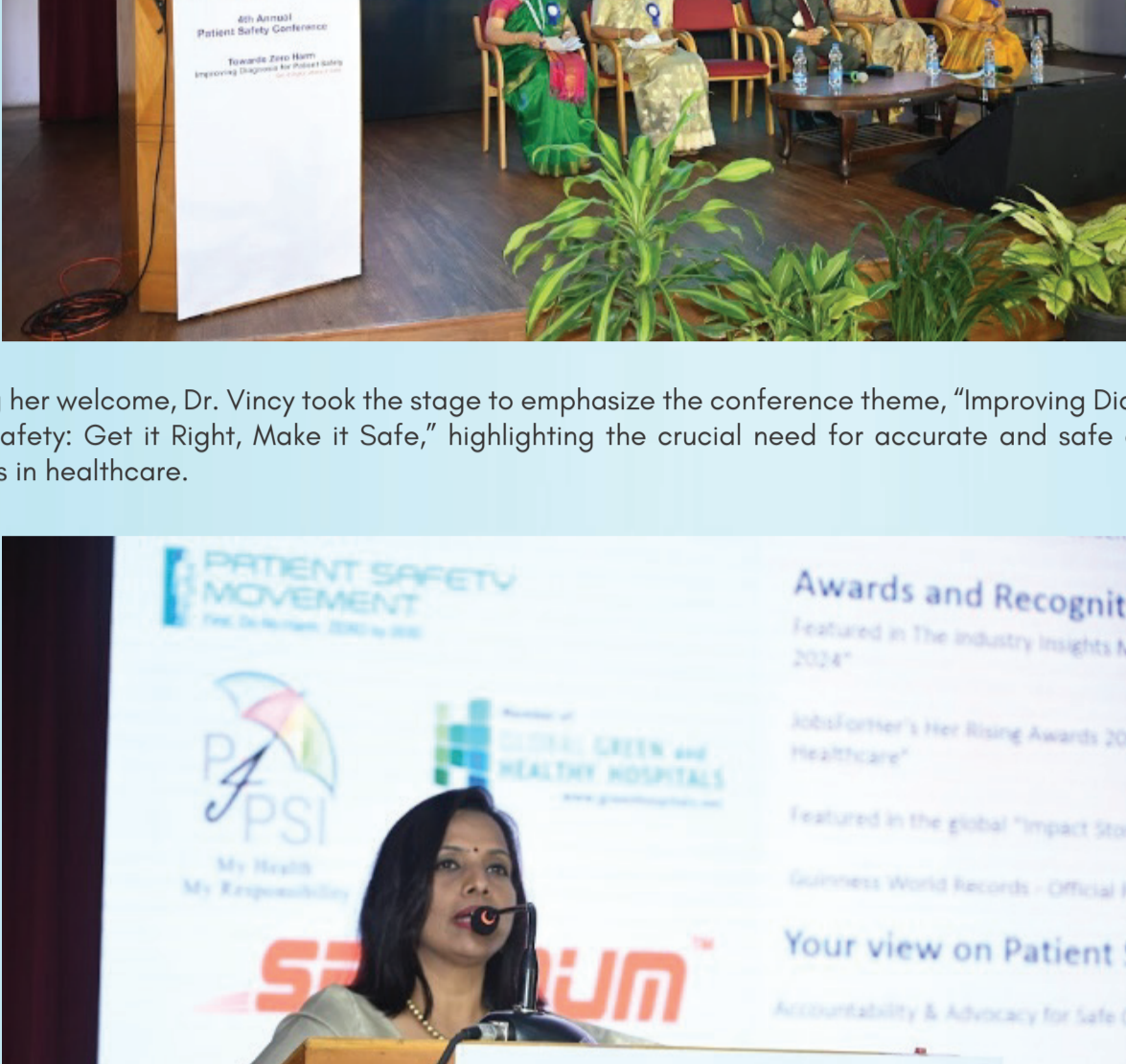
The 4th Annual Patient Safety Conference, hosted by the Karnataka Chapter of ANEI at the Ramaiah Institute of Nursing Education and Research, was a significant event dedicated to advancing the quality of healthcare by focusing on patient safety. In alignment with Florence Nightingale's principle, "The very first requirement in a hospital is that it should do the sick no harm," the conference embraced the theme "Towards Zero Harm: Improving Diagnosis for Patient Safety" to highlight the importance of safe and effective care delivery.



The event emphasized collective learning, advocacy, and professional collaboration to reduce harm and improve patient outcomes. Spearheaded by Ms. Latha Nosis, the President of the Karnataka Chapter, and guided by National Leaders such as Capt. Ajitha Nair – The National President and Ms. Thankam Gomez – The Former Founding President, the conference created a platform for professionals passionate about safeguarding patient well-being.

Key supporters like Ms. Shiny Varghese, Vice President of the Karnataka Chapter, Mr. Abdul Dhayan Razak, Secretary of the Karnataka Chapter and Dr. Jadhav Sonali, Dean of Ramaiah Institute as Organizing Chair, along with Ms. Latha U S as the Organizing Secretary, played pivotal roles in bringing the conference to life. The event aligned with World Patient Safety Day, emphasizing the global importance of patient safety and the ongoing efforts to improve healthcare standards.

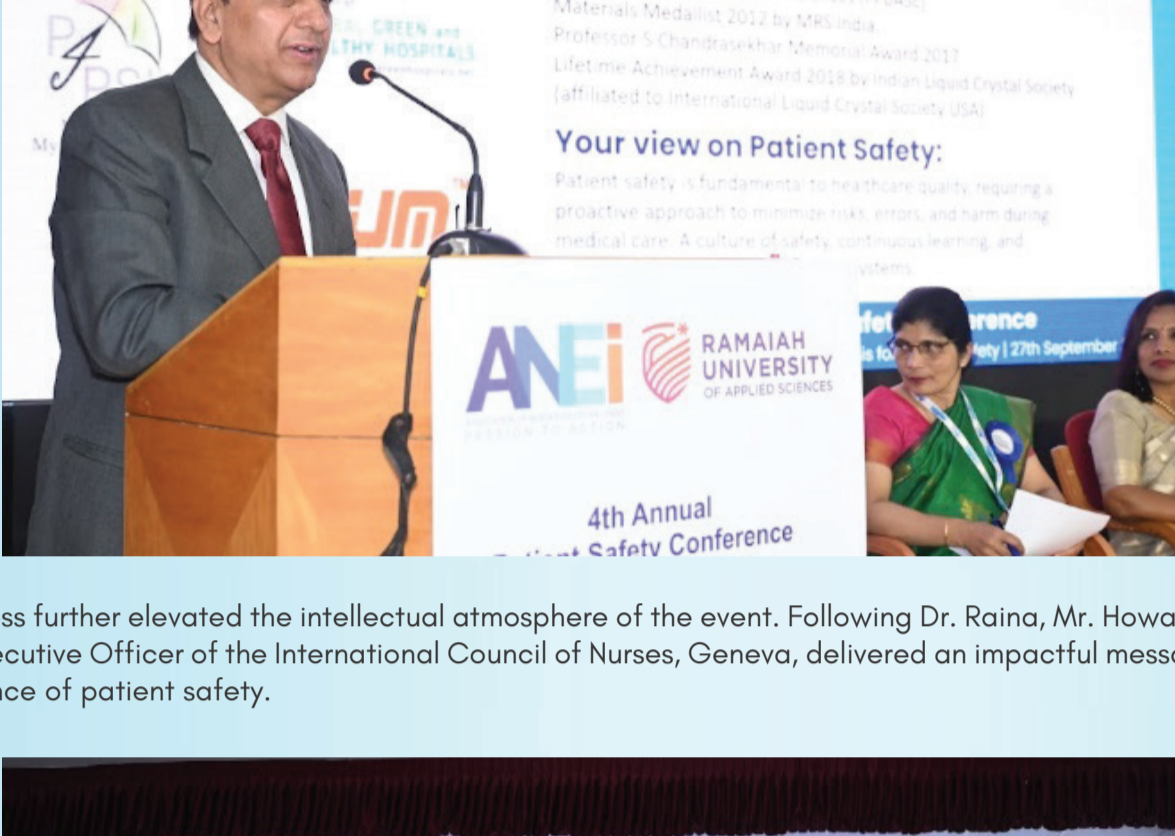
The 4th Annual Patient Safety Conference, held on September 27, 2024, began at 9:45 a.m. with a captivating invocation dance by Ms. Shreyosi Majumder.



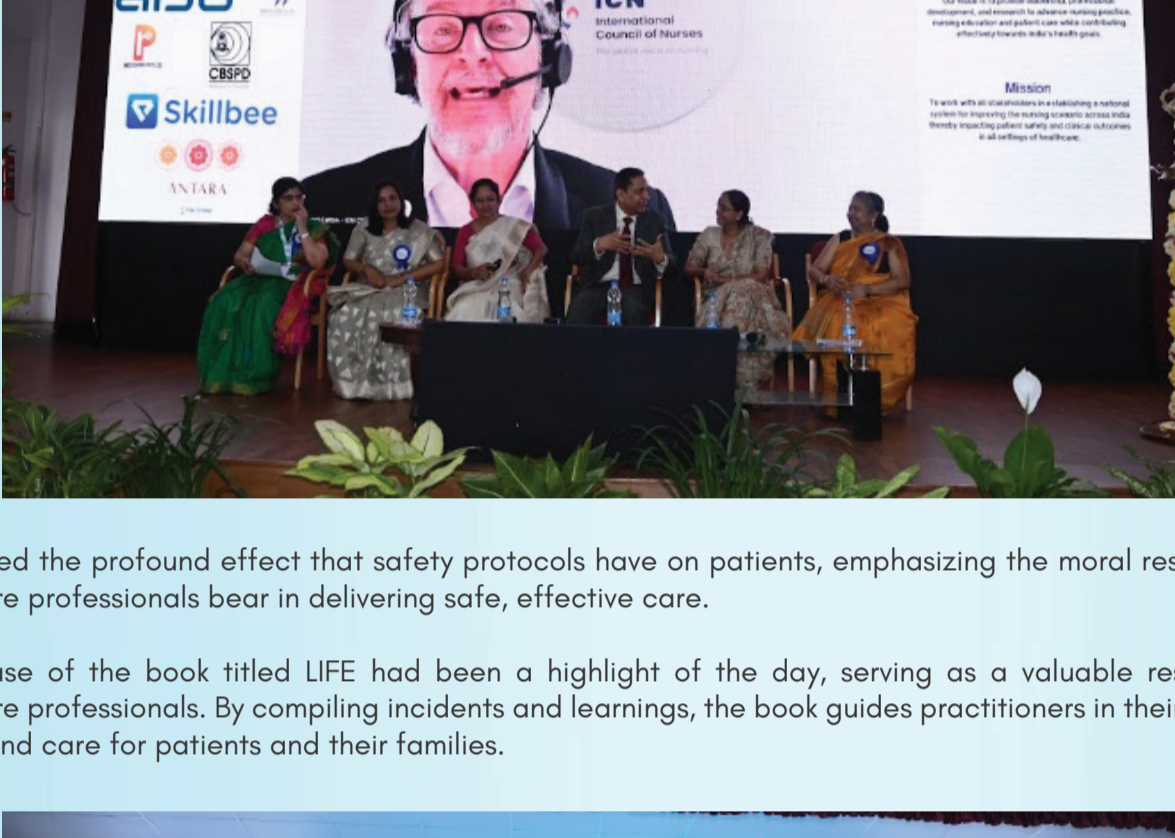
Her elegant Bharatanatyam performance mesmerized the audience, earning loud applause and setting a graceful tone for the day. The event then transitioned to the formal proceedings, beginning with the welcome address by Capt. Ajitha Nair, the National President of ANEI. She greeted the dignitaries and warmly welcomed the participants to the important gathering.



Following her welcome, Dr. Vincy took the stage to emphasize the conference theme, "Improving Diagnosis for Patient Safety: Get it Right, Make it Safe," highlighting the crucial need for accurate and safe diagnostic processes in healthcare.



A special online address was delivered by Dr. Neelam Dhingra, Vice President and Chief Patient Safety Officer of the Joint Commission International, Geneva. She reinforced the significance of patient safety by focusing on the six International Patient Safety Goals, which serve as key pillars for healthcare systems worldwide.



Dr. Dhingra's message resonated deeply with the audience, inspiring them to reflect on the importance of these safety standards.

The audience remained attentive as Dr. Kuldeep Kumar Raina, the Vice Chancellor of Ramaiah University of Applied Sciences, enriched the conference with his insightful contributions to the discourse on patient safety.



His address further elevated the intellectual atmosphere of the event. Following Dr. Raina, Mr. Howard Catton, Chief Executive Officer of the International Council of Nurses, Geneva, delivered an impactful message on the significance of patient safety.



He stressed the profound effect that safety protocols have on patients, emphasizing the moral responsibility healthcare professionals bear in delivering safe, effective care.

The release of the book titled LIFE had been a highlight of the day, serving as a valuable resource for healthcare professionals. By compiling incidents and learnings, the book guides practitioners in their efforts to protect and care for patients and their families.



The honor of the book release was attended by distinguished guests like Dr. Raina, Capt Ajitha Nair, Dr. Vincy, Mr. Jaydeep, Ms. Thankam Gomez, and Ms. Shiny Varghese, underscoring the collaborative spirit of the conference.

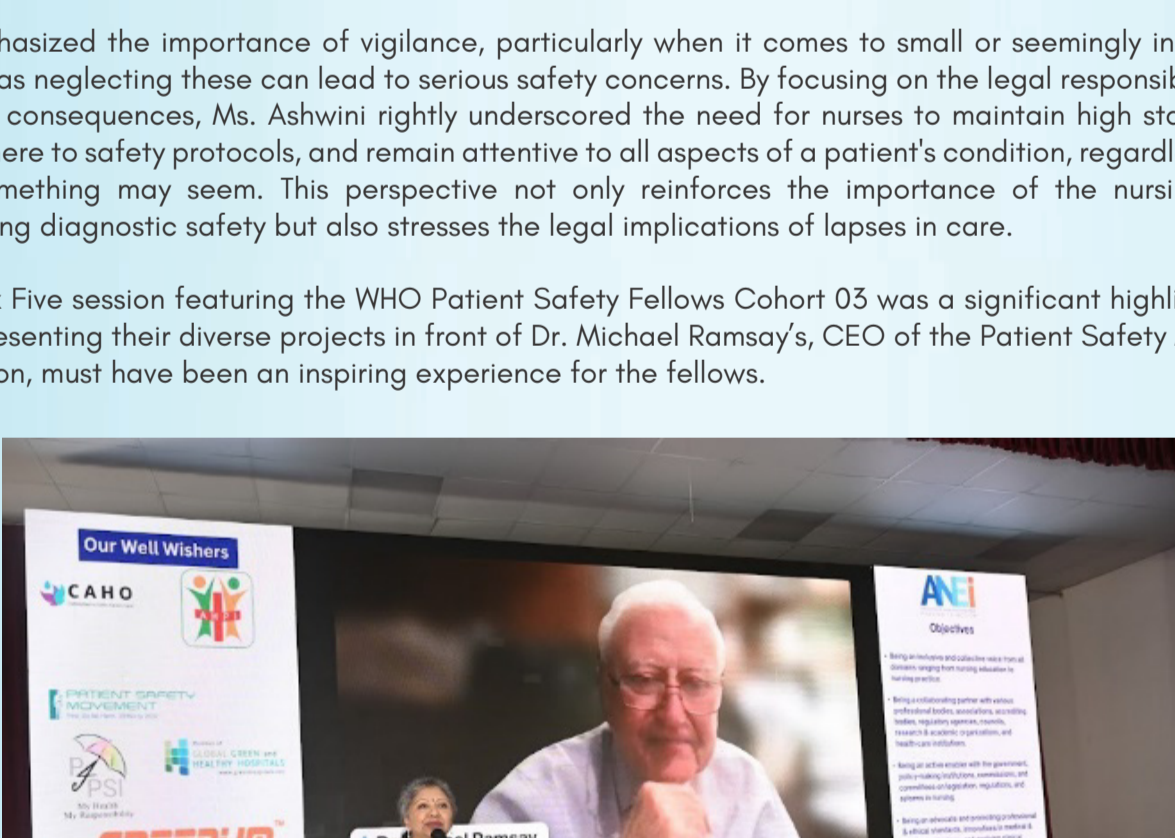
As the Inaugural ceremony approached its conclusion, the tradition of extending gratitude was honored. Ms. Shiny Varghese, Vice President of the Karnataka Chapter of ANEI, took on the important task of delivering the vote of thanks, expressing heartfelt appreciation to both the dignitaries on the dais and those off the dais who contributed to the success of the event.



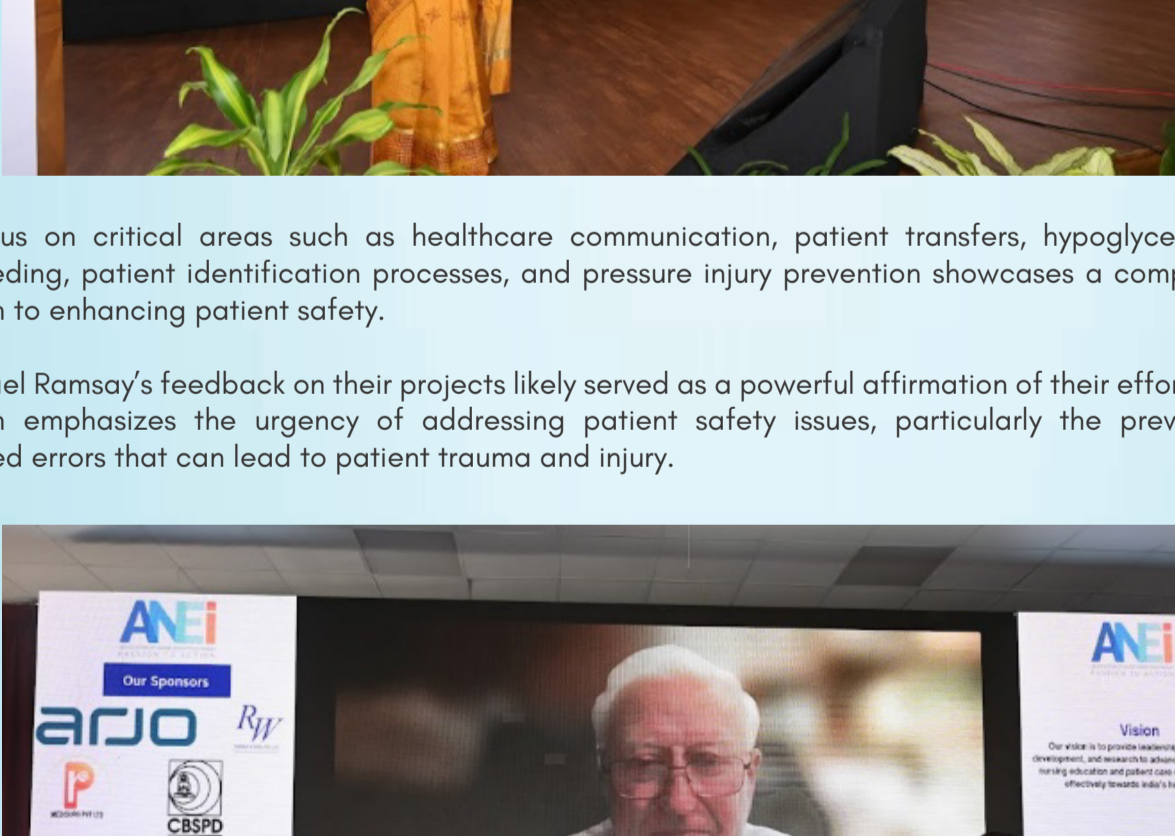
Her words of gratitude closed the session on a note of appreciation and reflection on the collective effort required to achieve patient safety.

The panel discussion on "Building the Gap: Nurse Interventions to Mitigate Diagnostic Errors in Healthcare Settings," moderated by Dr. Jadhav Sonali, highlighted the vital role nurses play in reducing diagnostic errors. With expert panelists such as Ms. Ashvi Mathew, Ms. Margaret, Ms. Jasmine Banu, and Col. Suma, the discussion emphasized several key points:

1. Importance of Nurse Intervention
2. Collaborative Care
3. Training and Continuing Education
4. Communication Skills
5. Use of Technology



Ms. Rekha Chakrabarti's case study on the Implementation of Joint Commission International (JCI) Safety Recommendations to Address Diagnostic Safety provided valuable insights into how healthcare institutions can adopt JCI standards to reduce diagnostic errors.



Her presentation was highly appreciated by participants for offering a practical and in-depth understanding of how JCI safety recommendations can be implemented to mitigate diagnostic errors effectively. Followed by Ms. Ashwini's presentation on Diagnostic Patient Safety: Legal Aspects highlighted the critical role that nurses play in ensuring safe patient care.



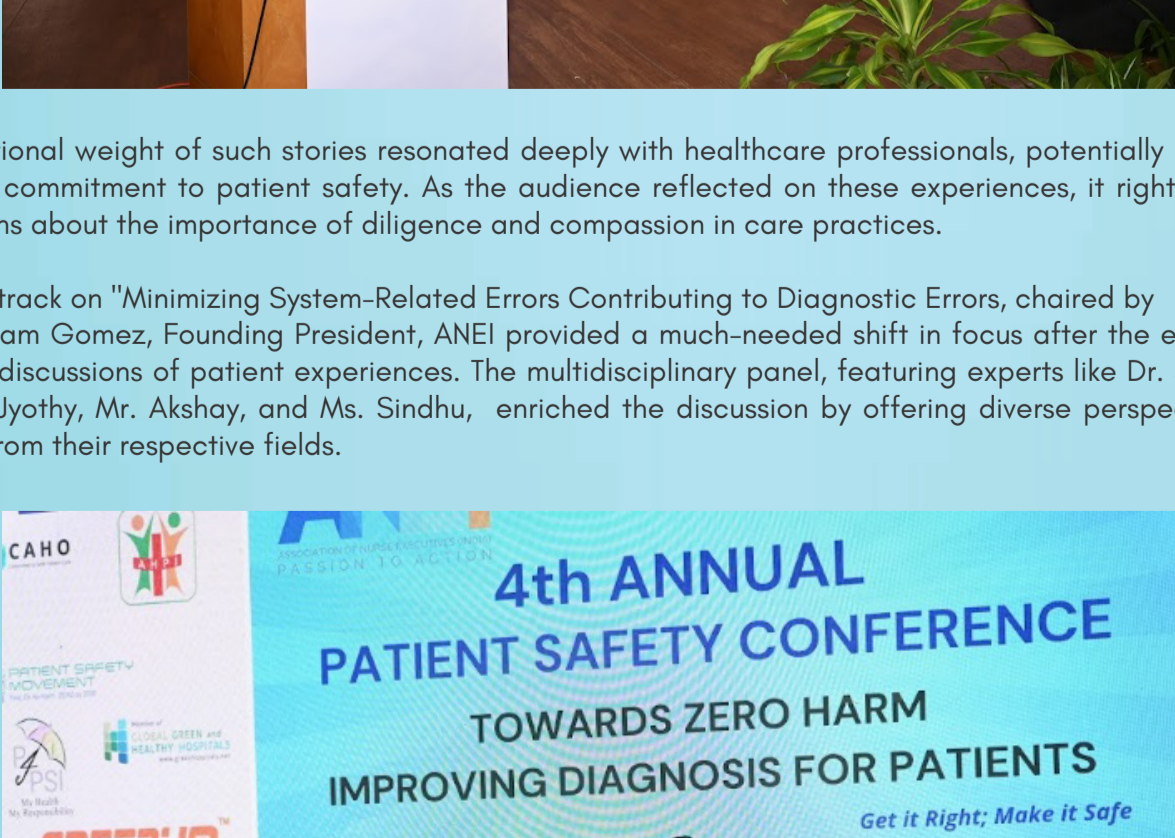
She emphasized the importance of vigilance, particularly when it comes to small or seemingly insignificant findings, as neglecting these can lead to serious safety concerns. By focusing on the legal responsibilities and potential consequences, Ms. Ashwini rightly underscored the need for nurses to maintain high standards of care, adhere to safety protocols, and remain attentive to all aspects of a patient's condition, regardless of how minor something may seem. This perspective not only reinforces the importance of the nursing role in maintaining diagnostic safety but also stresses the legal implications of lapses in care.

The Track Five session featuring the WHO Patient Safety Fellows Cohort 03 was a significant highlight of the event. Presenting their diverse projects in front of Dr. Michael Ramsay's, CEO of the Patient Safety Movement Foundation, must have been an inspiring experience for the fellows.



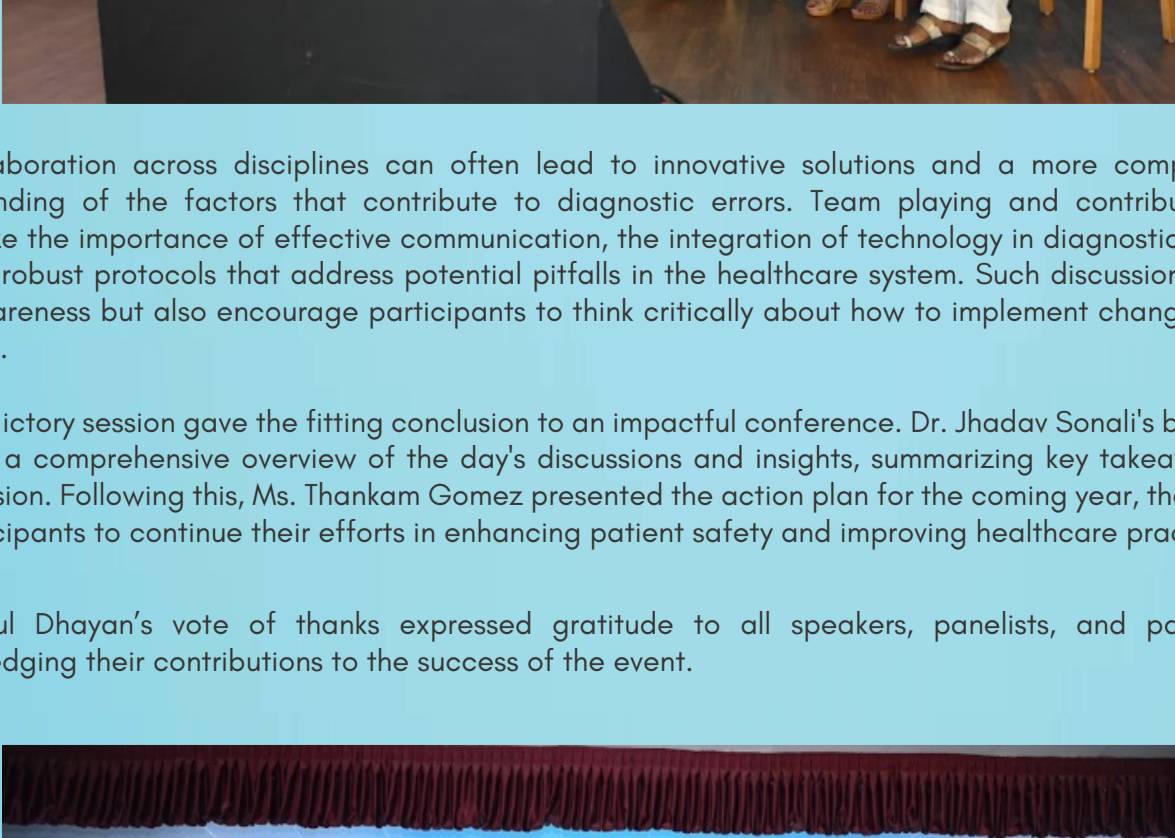
Their focus on critical areas such as healthcare communication, patient transfers, hypoglycemia, early breastfeeding, patient identification processes, and pressure injury prevention showcases a comprehensive approach to enhancing patient safety.

Dr. Michael Ramsay's feedback on their projects likely served as a powerful affirmation of their efforts. His call to action emphasizes the urgency of addressing patient safety issues, particularly the prevalence of unreported errors that can lead to patient trauma and injury.



By stressing the ethical obligation of nurses to protect patient safety, he emphasized the crucial role healthcare professionals play in advocating for and implementing safety measures. This session not only highlighted the importance of patient safety initiatives but also the need for ongoing education and vigilance in the healthcare community.

The session featuring the life stories of patients sharing their lived experiences was incredibly powerful and impactful. Hearing firsthand accounts of neglected care highlighted the real consequences that minor errors had created on patients and their families. These narratives served as a stark reminder of the human element in healthcare, emphasizing that every action—or inaction—can significantly affect a patient's well-being.



The emotional weight of such stories resonated deeply with healthcare professionals, potentially inspiring a renewed commitment to patient safety. As the audience reflected on these experiences, it rightly sparked discussions about the importance of diligence and compassion in care practices.

The next track on "Minimizing System-Related Errors Contributing to Diagnostic Errors, chaired by Ms Thankam Gomez, Founding President, ANEI provided a much-needed shift in focus after the emotionally charged discussions of patient experiences. The multidisciplinary panel, featuring experts like Dr. Sangeeta, Col. SG Jyothy, Mr. Akshay, and Ms. Sindhu, enriched the discussion by offering diverse perspectives and insights from their respective fields.



This collaboration across disciplines can often lead to innovative solutions and a more comprehensive understanding of the factors that contribute to diagnostic errors. Team playing and contributions can emphasize the importance of effective communication, the integration of technology in diagnostics, and the need for robust protocols that address potential pitfalls in the healthcare system. Such discussions not only raise awareness but also encourage participants to think critically about how to implement changes in their practices.

The valedictory session gave the fitting conclusion to an impactful conference. Dr. Jhadav Sonali's brief report provided a comprehensive overview of the day's discussions and insights, summarizing key takeaways from each session. Following this, Ms. Thankam Gomez presented the action plan for the coming year, that inspired the participants to continue their efforts in enhancing patient safety and improving healthcare practices.

Mr. Abdul Dhayan's vote of thanks expressed gratitude to all speakers, panelists, and participants, acknowledging their contributions to the success of the event.



# Effectiveness of Nurse-Managed Interventions to Prevent Hypoglycemia among Hospitalized Patients with Type II Diabetes Mellitus



**Amita Naze,**  
ANEI Patient Safety Fellow  
2023 - 2025

## Introduction

Patients admitted in hospitals with type 2 diabetes mellitus are susceptible to hypoglycemia during their stay and that can lead to severe life-threatening complications. Hypoglycemia during hospitalization may arise from various risk factors such as patient-related, provider-related, and treatment-related factors. Nurses are on the frontline of diabetes management in hospitals. Effective nurse-led interventions are key to reduce complications and ensuring high-quality patient care. Timely intervention of nurses along with patient education can reduce the risk of hypoglycemia related hospital admission. Preventing inpatient hypoglycemia is achievable by managing modifiable risk factors and providing education about hypoglycemia to both patients and healthcare providers. This quality improvement project was initiated due to the increasing monthly incidents of hypoglycemia, with the goal of reducing these rates as close to zero as possible.

## Objectives

To assess the effectiveness of a nurse-managed intervention to prevent hypoglycemia among hospitalized patients with Type 2 diabetes mellitus (T2DM). To identify the related factors of hypoglycemia in patients with T2DM. To investigate the translation of nurses' knowledge into practice for better-glycemic control.

## Methods

A pre-audit was conducted from September 2023 to February 2024 to collect the monthly incidents of inpatient hypoglycemia among T2DM patients at Sree Narayana Institute of Medical Sciences, Ernakulam. Prior to the data collection, a root-cause analysis was performed using a fishbone analysis to identify the contributing factors of hypoglycemia. A semi-structured questionnaire was used to assess the hypoglycemia-related factors in 150 randomly selected T2DM patients and introduced a comprehensive patient and family education program by the nursing team. Pre-test and post-test evaluations, were conducted via Google form to assess the knowledge regarding hypoglycemia and its management among 150 randomly selected staff nurses. Continuous training sessions were initiated for the nursing staff to improve their knowledge and practice. Data analysis was done by using descriptive statistics based on the objectives of the study.

## Results

A pre-audit was conducted from September 2023 to February 2024 to collect the monthly incidents of inpatient hypoglycemia among T2DM patients at Sree Narayana Institute of Medical Sciences, Ernakulam. Prior to the data collection, a root-cause analysis was performed using a fishbone analysis to identify the contributing factors of hypoglycemia. A semi-structured questionnaire was used to assess the hypoglycemia-related factors in 150 randomly selected T2DM patients, and introduced a comprehensive patient and family education program by the nursing team. Pre-test and post-test evaluations, were conducted via Google form to assess the knowledge regarding hypoglycemia and its management among 150 randomly selected staff nurses. Continuous training sessions were initiated for the nursing staff to improve their knowledge and practice. Data analysis was done by using descriptive statistics based on the objectives of the study.

**Table 1: Clinical Data**

n = 150

Parameters	Frequency (%)
1. Body Mass Index (BMI): 18.5 - 24.9	78 (52%)
2. Multiple Co-morbidities: Present	112 (74.6%)
3. Duration of T2DM: >10 Years	98 (65.3%)
4. HbA1C Value: 6.5 - 8	84 (56%)
5. FBS Value: < 70 mg/dl	68 (45.3%)

Table 1 shows that in terms of clinical factors, 74.6% of the participants had multiple comorbidities, while 65.3% of patients had T2DM for more than 10 years.

**Figure 1: Comparison of Pretest and Post-test Knowledge of Hypoglycemia and its management among Staff Nurses**

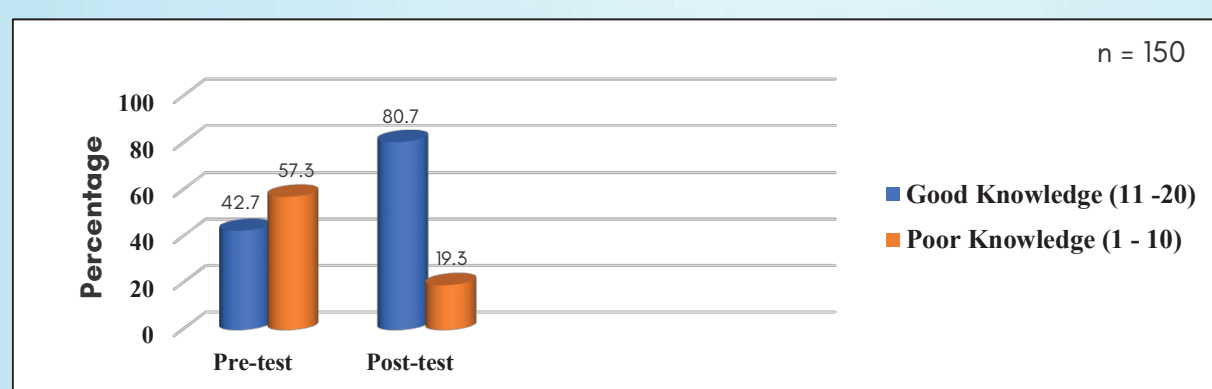


Figure 1 shows that 150 staff nurses, more than half 86 (57.3%) of the staff nurses had poor knowledge (score: 1 to 10) in the pre-test while in the post-test, majority of them 121 (80.7%) achieved good level of knowledge (score: 11 to 20).

## Nursing Implications

### Nursing Practice

- **Early Intervention and Monitoring:** Regular monitoring and timely intervention by nurses can prevent hypoglycemia and to be vigilant in assessing risk factors and responding promptly to early signs of hypoglycemia.
- **Patient Education and Empowerment:** Educating the patients about the early warning signs of hypoglycemia and its prompt management, emphasizing the importance of medication adherence, and promoting a strict dietary regimen can empower the patient to participate in self-care management, ultimately reducing the risk of hypoglycemic events.
- **Personalized Care Plans:** Nurse-managed interventions to develop individualized care plans for diabetic patients, focusing on early recognition of hypoglycemia and its prompt intervention, regular monitoring of blood glucose levels, following sliding scale regimen along with adherence of proper diet and medication can prevent hypoglycemic events.
- **Staff Training and Education:** Regular staff training sessions improved the application of nurses' knowledge into practice.

### Nursing Administration

- **Policy Development:** Nurse administrators can develop and implement policies that support nurse-led interventions for hypoglycemia, such as standardized protocols for blood glucose monitoring and hypoglycemic management.
- **Resource Allocation:** Allocating resources to support continuous training and access to tools (e.g., glucometer) needed for effective hypoglycemic management can empower nurses to intervene proactively.
- **Promoting a Culture of Patient Safety:** Nurse administrators can advocate for a culture where preventing hypoglycemia is prioritized. This can involve establishing interdisciplinary communication strategies, where nurses play a central role in coordinating with doctors, dietitians, and pharmacists.

### Nursing Education

- **Incorporation into Curriculum:** Nursing programs should integrate evidence-based practices for managing Type II DM, emphasizing the prevention of hypoglycemia. Teaching nursing students about the role of nurse-managed interventions can prepare them for real-world applications.
- **Clinical Skills Training:** Emphasize the skills in monitoring blood glucose levels, recognizing early signs of hypoglycemia, and implementing preventive interventions, can better equip the nursing students.
- **Simulation and Case Studies:** Using case studies and simulations focused on hypoglycemic management can help nursing students understand the critical role of nurses in preventing hypoglycemic events and improve decision-making skills.

## Limitations

As the intervention area of the proposed study is limited to a single institution, hence the generalization of the study findings may not be feasible.

## Conclusion

This quality improvement project demonstrates the potential of nurse-managed interventions in reducing inpatient hypoglycemia mainly by addressing contributing factors through structured patient and family education programs. In this project, patient above 50 years, rural area of residence, multiple co-morbidities, long-term diabetes (>10 years), poor knowledge and improper techniques, non-compliance to medications, and glucose monitoring were found to be the related factors of hypoglycemia. Many of these factors also can be minimized by nurse-led interventions. This requires creation of a multidisciplinary team to develop strategies by targeting factors like early response to hypoglycemic symptoms, prompt management, glucometrics, coordination of medicine and nutrition administration, policies and protocols, transitions of care, staff awareness, communication, and patient education. The hypoglycemic events can be reduced by improving the safety and quality of inpatient care without increasing the hospital stay and resources.

**Keywords:** diabetes, hypoglycemia, nurse-led interventions

## References

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# HEALING - Pressure Injuries



**K S Nitu**  
ANEI Patient Safety Fellow  
2023 - 2025

## “Reduction of Hospital Acquired Pressure Injury (HAPI) & Improvement in patient care with identifying pressure injury at early stages”

### ABSTRACT

#### Introduction

Pressure injuries cause pain and disability, compromise the quality of life. Individuals with limited mobility are at greater risk of pressure injuries, which result from prolonged pressure on the skin. In Rajagiri Hospital the concerns identified:

- **High Incidence Rate:** High Incidence rates i.e. 0.67 per 1000 days due to long duration surgeries, & prolonged bed ridden high risk patients.
- **Inappropriateness of documentation:** Inappropriate documentation of Pressure Injury Risk assessment score in 55% of patient records.
- **Inadequate of knowledge:** Knowledge score awareness related to risk assessment & prevention of pressure injury found 60% score.

#### Aim and Objectives

##### Aim:

The study intended to reduce the incidence of HAPI in OT due to long hour surgeries, critical and non-critical areas due to high risk patients, by improving nurses' knowledge and awareness.

##### Objectives:

1. Reduce the Incidence Rate of Pressure Injuries below benchmark (0.36 per 1000 IP Days) (ref. MDPI).
2. Enhance the knowledge and awareness of nurses regarding pressure injury assessment, prevention and management protocol by >90%.
3. Implement Pressure injury management protocol.

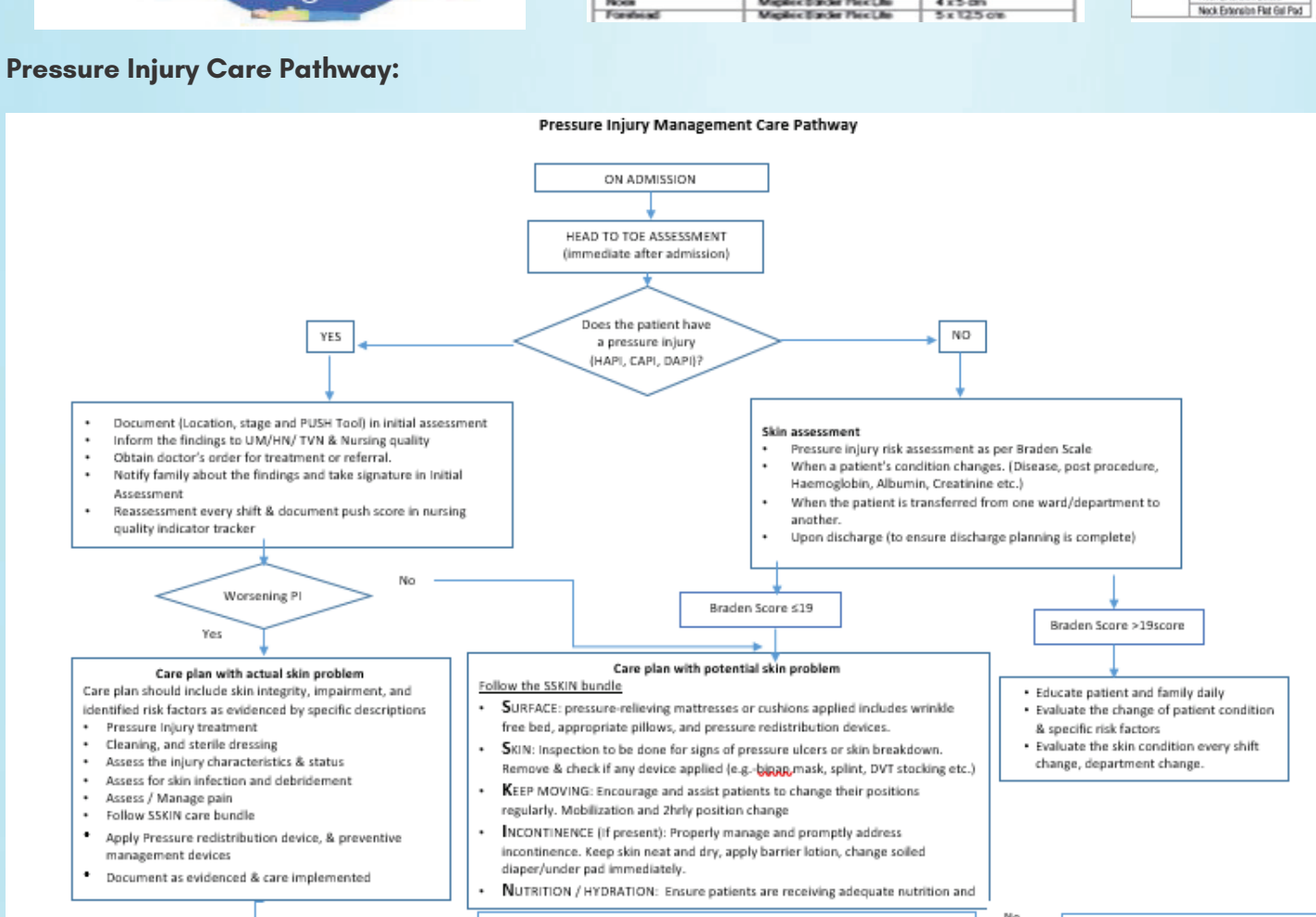
#### Materials and Methods:

This study was done with Quantitative Research Design & retrospective data analysis. Overall PI prevalence and HAPI rates were obtained and analysed using DMAIC Tool. For RCA utilised Fishbone analysis and implemented CAPA for improvement.

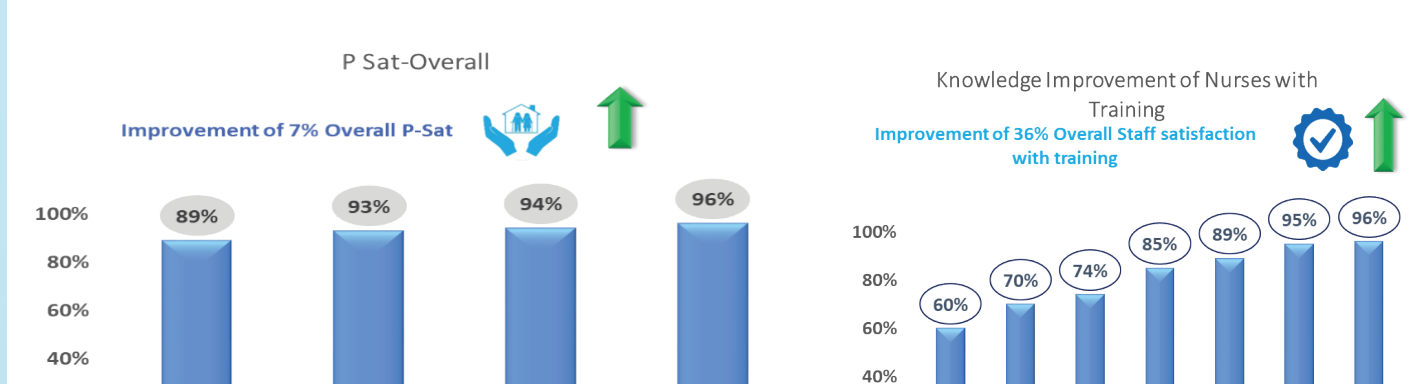
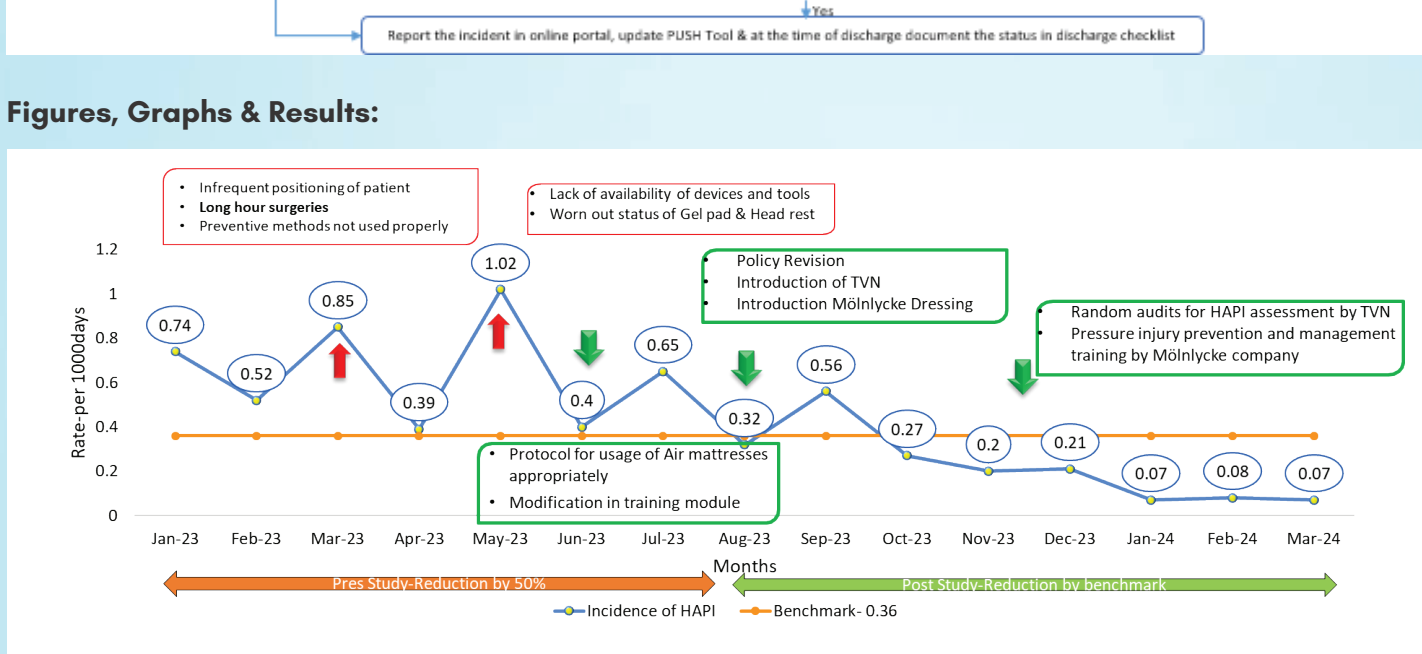
Plan for Project					Project Scope
<b>Metric</b>	<b>Phase 0</b>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Status</b>	In scope: Phase 1: OT, 2MICU, 6T1, 6T2, 3T1 & 3T2 & Phase 2: Other IP Areas
<b>Study periods</b>	1 Jan-30 Jun'23	1 Jul'23-31 Dec '23	1 Jan '24 – 1 Mar '24	Completed	
Project Plan				Team Selection	
<b>Phase</b>	<b>Start</b>	<b>End</b>	<b>Remarks</b>	Patron: Dr. Elizabeth David	
Define	Jul 2023	Jul 2023	Done	CHAMPION :- Ms. Shina Sajimon & Ms. Simi Vijayan	
Measure	Aug 2023	Oct 2023	Done	SME:- Ms. Binny N Y & Sr. Sinciya Sebastian	
Analyze	Nov 2023	Dec 2023	Done	Project Leader : Ms. K S Nitu	
Improve	Jan 2024	Feb 2024	Done	Team Leads: Ms. Seenamma Augustine & Ms. Julie T John	
Control	Mar 2024	Mar 2024	Done	BB Mentor :- Ms. K S Nitu	
<b>Team Member :-</b> Nursing Team, Medical Admin Team, Service Excellence, Pharmacy					

#### Preventive methods used

#### Pressure Injury Care Pathway:



#### Figures, Graphs & Results:



#### Result:

This QIP resulted in

Improvement in	Pre study	Post Study	% of Improvement
<b>Rate of Pressure Injury</b>	0.66 per 1000 IP Days	0.22 per 1000 IP Days	67% reduction
<b>Documentation Compliance</b>	50%	94%	44% increased
<b>Knowledge of the nurses</b>	60%	96%	36% improved
<b>Impact on patient satisfaction</b>	89%	96%	7% improved

#### Discussion:

The rate of pressure injury reduced by 67% i.e. 0.67 to 0.22 per 1000 IP days, as in other studies it shown that pressure injury prevention bundles of care decreased pressure injury incidents as many as 4.3%-36.2% in developed countries and 4.16%-21% in developing countries. Documentation compliance increased by 44% with reference to other study daily pressure risk assessment using the Braden score was 72%.

#### Conclusion :

This project has illuminated our path forward in improving patient care and preventing pressure injury development among patients admitted to our hospital. The findings have paved the way for targeted interventions, underlining our commitment to raising the standard of care for our critically ill patients. The causes of hospital-acquired pressure injuries are primarily intrinsic and increase morbidity.

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# Intra-hospital transport of patients on Non-invasive ventilators



**Elizabeth Varkey,**  
ANEI Patient Safety Fellow  
2023 – 2025

## Introduction

The intra-hospital transport of critically ill patients is an essential part of healthcare delivery, particularly when diagnostic and therapeutic procedures cannot be performed at the bedside. Despite its necessity, this practice poses significant risks, with complication rates as high as 70 percent and mortality rates around two percent. The use of mechanical ventilation, particularly invasive modalities, has been known to increase the likelihood of transport-related adverse events. However, non-invasive ventilation (NIV) has gained prominence as an effective approach for patients with acute respiratory failure (ARF), reducing the need for invasive ventilation, especially in cases of chronic obstructive pulmonary disease (COPD) and acute cardiogenic pulmonary edema. The role of NIV has expanded beyond initial applications and is now considered effective in managing conditions such as pulmonary contusions, pneumonia, and even near-fatal drowning cases. Moreover, there is an increase in patients with neuromuscular disorders and end-of-life respiratory care requirements who prefer NIV over intubation. This has led to more frequent intra-hospital transfers for patients on NIV as they move between different hospital departments. The availability of advanced ventilators capable of providing NIV during transfers has made it feasible to move patients without altering their ventilatory support. However, safety during these transfers remains a critical concern.

## Background and Importance in Nursing

The safe transfer of patients on NIV is particularly relevant to nursing practice, given the significant role nurses play in maintaining patient safety, ensuring continuity of care, and managing critical equipment during transport. In nursing, competence in handling NIV, coupled with skills in monitoring and response, is essential to prevent adverse events. Nurses need to understand the importance of appropriate planning, effective communication, and the assembly of necessary equipment and trained personnel. Unfortunately, while extensive recommendations exist for patients on conventional ventilation, there is a shortage of specific guidelines for those on NIV. A quality improvement project was initiated to address safety concerns following incidents where patients on NIV experienced desaturation and adverse events during transport due to accidental BiPAP disconnections. The transport of NIV patients within a hospital requires coordinated planning, trained staff, and appropriate equipment to minimize risks. This process demands high levels of nursing expertise, as nurses are critical in overseeing patient safety, maintaining continuity of care, and managing ventilatory support during transfers. By fostering continuous improvement and adherence to guidelines, nurses can significantly enhance patient outcomes during intra-hospital transports on NIV. This project implemented innovative training techniques, such as Moot Court and the Abbreviation for ESCORT checklist, to enhance nursing staff's skills in preventing similar occurrences in the future.

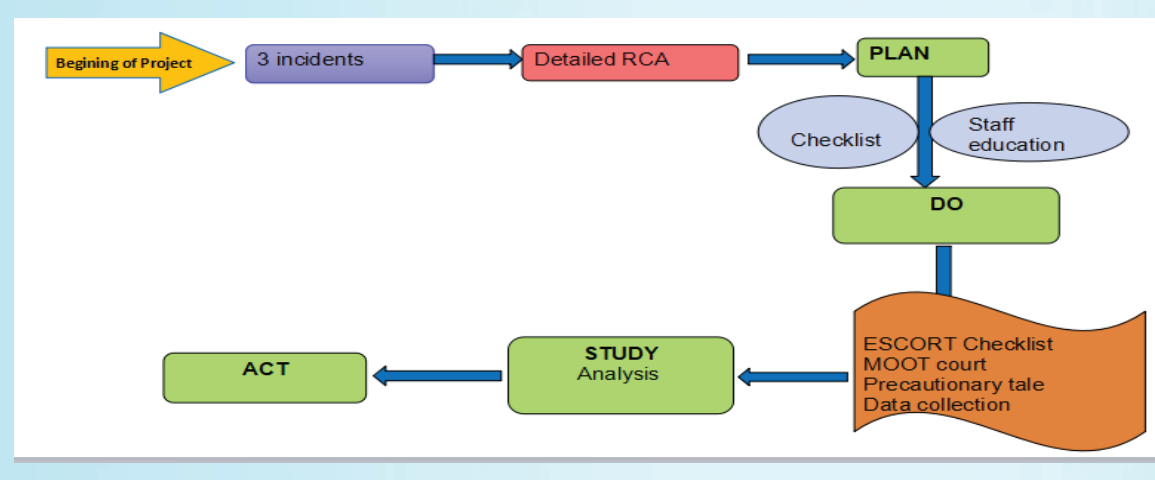
## Review of Intra-Hospital Transport for Patients on NIV

Intra-hospital transport of NIV patients typically occurs from the Emergency Department (ED) to the Intensive Care Unit (ICU), to other wards experienced in NIV care, or between these units and departments such as Radiology or specialized care units. The duration of these transports should ideally be limited to 10-15 minutes, though for certain diagnostic or therapeutic procedures, this time can extend up to 90 minutes. Hospital architecture and the layout of units can contribute to delays and increase the exposure to adverse events, making it essential to establish robust protocols. Proper preparation for patient transfers includes detailed planning and staff training in handling NIV equipment. Patients should be accompanied by a team skilled in airway management and resuscitation, which typically includes a physician, nurse or respiratory therapist, and a technician. Effective communication with the receiving unit is necessary to ensure readiness at the destination. Accompanying equipment must be lightweight, sturdy, and properly secured for easy movement. During transport, close monitoring of the patient's ventilatory pattern, oxygen saturation, and clinical signs is necessary. Potential complications include NIV disconnection, hypoxemia, arrhythmias, and aspiration. A post-transport review of any issues encountered is recommended, along with periodic staff re-training on NIV and transport protocols to improve future outcomes.

## Objectives

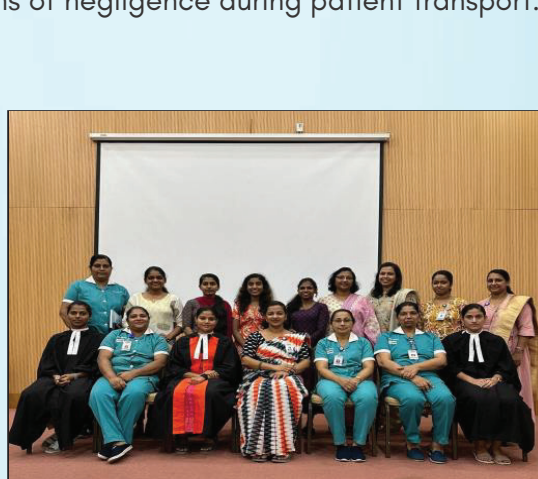
1. To analyze the root cause of untoward events during BiPAP transport.
2. To develop and implement a standardized process to ensure patient safety during transport.
3. To educate nursing staff on the importance of adherence to safety protocols through Moot Court and the novel teaching methodology of a precautionary tale.
4. To evaluate the effectiveness of the intervention in reducing incidents of complications to a benchmark of zero incidents during patient transport.

## Methodology: PDSA



**Figure 1: Flow chart depicting the methodology of the project**

1. **Study Design:** A quality improvement initiative with pre- and post-intervention analysis.
2. **Sample Population:** Nursing staff from MICU, CICU, NICU, and BPOP units where patients are frequently transported with NIV.
3. **Sample size:** 30 patients
4. **Duration of training:** June to August 2023 (3 months)
5. **No. of sessions done:** Six sessions (Three moot court and three precautionary tale)
6. **Intervention:**
  - Moot Court Session:** A scenario based on the past incidents was demonstrated as a case study in a Moot Court format to highlight the legal and ethical implications of negligence during patient transport.



## MOOT Court sessions

**Precautionary Tale Training:** A two-part skit was used to demonstrate the current flawed process and the ideal protocol using the ESCORT checklist.



**ESCORT Checklist Development and Implementation:** A checklist named ESCORT (Ensuring Safety during Critical On-Road Transport) was developed to standardize the process. It also depicts the acronym as E-Equipment, S-Systematic, C-Communication, O-Observation, R-Recent investigations, T-Team.

Modified Intra Hospital Transportation Checklist (ESCORT) - Closed Loop Communication		
<b>E</b>	<b>EQUIPMENT</b>	Patient on ventilatory support devices (if needed) and secure patient on trolley (Slide rails, belt)
		Cardiac monitor connected with all leads/Pulse Oximeter
		Emergency drugs, oxygen and fluids made available
		Ambu bag checked
<b>S</b>	<b>SYSTEMATIC</b>	Check battery status of the ventilatory devices and oxygen level in oxygen cylinder
		Consider spinal immobilization if necessary and secure the unbag, drains, and ICD appropriately
		Identify the patient and confirm their stability to determine suitability for transfer.
		Confirm airway is secured
<b>C</b>	<b>COMMUNICATION</b>	Patent intravenous access points
		Informed patient (if not sedated) and family regarding transfer/Obtain verbal consent
<b>O</b>	<b>OBSERVATION</b>	Confirmed transfer, requirements and Expected time of arrival with receiving unit
		Full set of critical observations recorded
<b>R</b>	<b>RECENT INVESTIGATION</b>	Handover documentation completed
		Recent investigation of critical values and all investigation results, including MRI, CT scans, X-rays, and arterial blood gas, have been confirmed.
<b>T</b>	<b>TEAM</b>	Skill mix of transfer team is appropriate (Closed loop communication)
		Protective clothing to cover patient is available
		Unit is safe to leave? (Starting point and Destination)Announce code according to patient condition .

**Implementation:** The ESCORT checklist was implemented in the identified units, and staff were trained on its use.

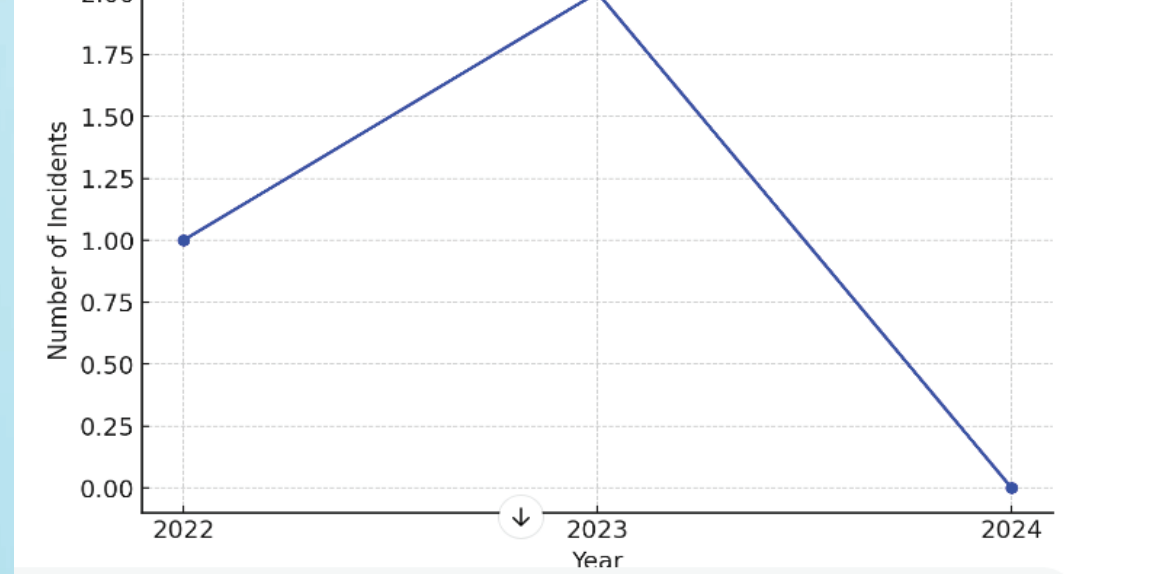
## 7. Data Collection Tools:

- Incident report data before and after the implementation of the ESCORT checklist.
- Staff feedback on the training and the usefulness of the checklist.
- Compliance monitoring of the checklist during patient transport.

## 8. Data Analysis:

- Comparative analysis of patient safety incidents before and after the intervention.
- Qualitative analysis of staff feedback and compliance rates.

## Results



**Figure 2: Line graph depicting the number of incidents over the period from 2022 to 2024**

## 1. Incident Reduction:

- Before the intervention, three incidents of desaturation leading to patient death were reported during BiPAP transport, one in 2022 and two in 2023.
- Post-intervention, no incidents of desaturation or related complications were reported in the units where the ESCORT checklist was implemented.

## 2. Staff Feedback:

- The Moot Court session effectively highlighted the importance of adhering to safety protocols.
- The precautionary tale was well-received, with staff finding it a practical and engaging way to learn the correct process.
- The ESCORT checklist was viewed as a valuable tool for ensuring patient safety during transport.

## 3. Compliance:

- Compliance with the ESCORT checklist was high, with over 95% of staff following the checklist during patient transport.

## Discussion:

The implementation of the ESCORT checklist, combined with innovative training methods such as Moot Court and precautionary tales, significantly improved patient safety during transport. The project's success demonstrates the importance of using creative and practical approaches to education and process standardization in the healthcare settings.

The introduction of a legal perspective through Moot Court underscored the potential consequences of negligence, while the precautionary tale provided a vivid contrast between incorrect and correct procedures. Together, these methods reinforced the critical importance of safety protocols among the nursing staff.

## Conclusion:

The quality improvement project successfully addressed the untoward incident during BiPAP transport by implementing the ESCORT checklist and utilizing innovative teaching methods. The intervention led to a complete elimination of incidents, highlighting the effectiveness of the approach. Continued use and periodic review of the ESCORT checklist are recommended to maintain high safety standards.

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# Hypoglycemia: A silent threat to patient safety



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## Abstract:

### Introduction:

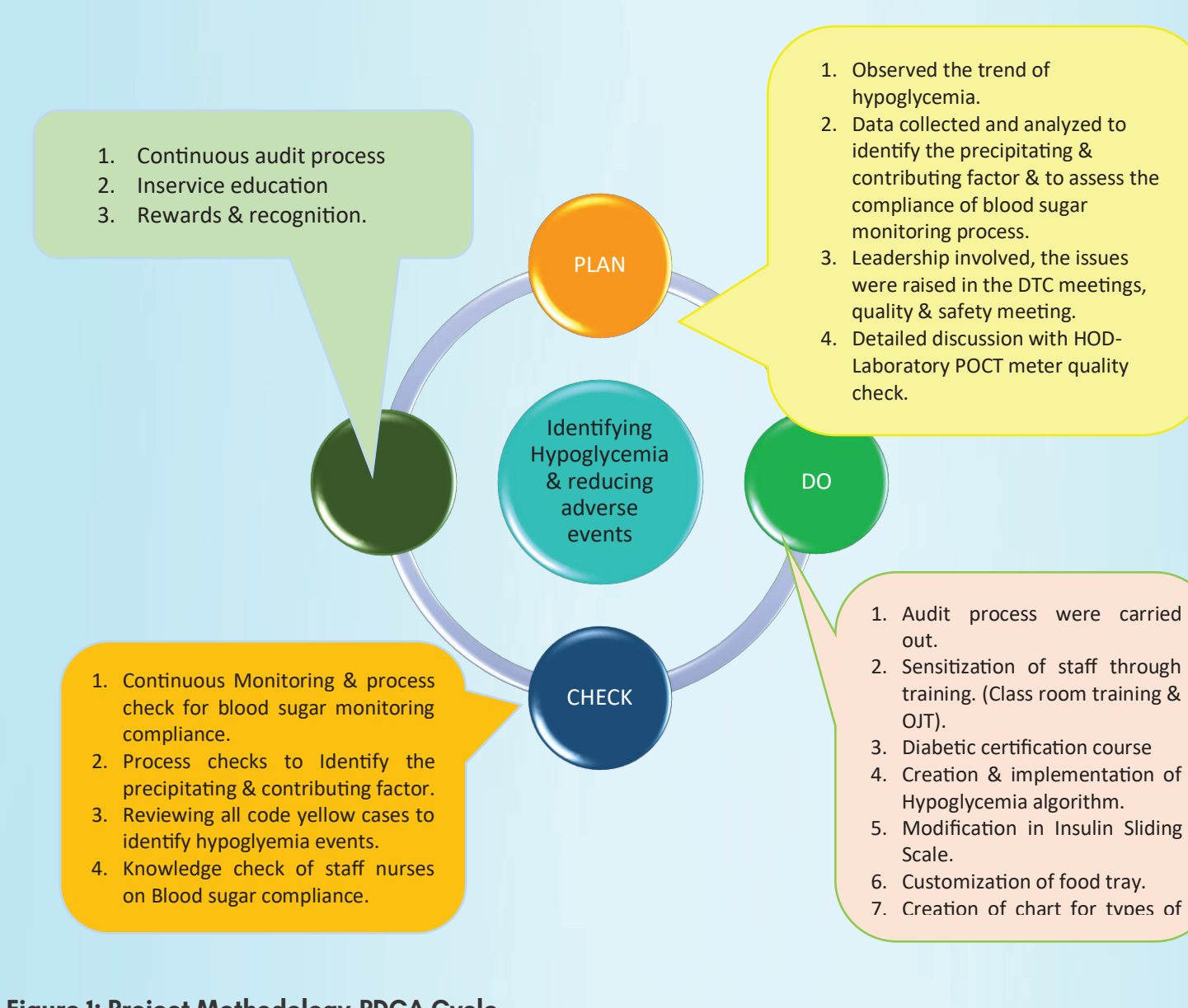
#### Title: A Quality Improvement Project in Identifying Hypoglycemia & Preventing Adverse Events Through a Standardized Protocol.

Hypoglycemia is defined by a plasma glucose concentration below 70 mg/dl; however, signs and symptoms may not be presented until plasma glucose concentrations drop below 55 mg/dl. Hypoglycemia is classified into Mild hypoglycemia (<70mg/dl), Moderate hypoglycemia (<55mg/dl) and Severe hypoglycemia (<40mg/dl). Patients with or without diabetes may experience hypoglycemia and severe hypoglycemia in hospital setting. While hypoglycemia is associated with increased mortality, in many cases it is a marker of underlying disease rather than the cause of fatality. Severe hypoglycemia is a severe consequence of dysregulated metabolism and/or diabetes treatment, where blood sugar drops below 40 mg/dl, requiring assistance of another person to actively administer carbohydrates, glucagon, or take other corrective actions. 2-3 Hypoglycemia events may induce inflammation by stimulating the release of C-reactive protein (CRP), IL-6, and vascular endothelial growth factor (VEGF). Hypoglycemia also increases the activation of platelets and neutrophils. Sympathoadrenal response during hypoglycemia increases adrenaline release and may lead to arrhythmias and increased cardiac workload. Endothelial dysfunction may also contribute to cardiovascular risk.<sup>4</sup>

A study by Kalra identified 6.1 % of women & 7.3% of Male were found to have High Blood Sugar level - high (141-160 mg/dl) while 6.3 % of women & 7.2 % of men were found to have high blood sugar level (>160 mg/dl). Severe hypoglycemia occurred in 35-57.44% of T1 DM patients. Patients with >15 years of diabetes, experienced higher rates (46%) of severe hypoglycemia than those with >5 years of diabetes (46% vs. 22%). Insulin treated type 2 diabetes patients reported at least one episode of severe hypoglycemia in 16.5% of patients with an incidence of 44 episodes/100 patient years. People with T2DM lose on average three productive days, with a mean length of hospital stay between 6.6 and 9.5 days, following a severe hypoglycemia attack.<sup>4-5</sup> Evidence from several studies suggests that severe hypoglycemia occurs in 35-42% of T1 DM patients and the rate of severe hypoglycemia is between 90-130 episodes/100 patient years.<sup>6</sup> Therefore, a hypoglycemia prevention and management protocol should be adopted and implemented by each hospital or hospital system. Hypoglycemia is a serious patient safety concern as it leads to Mortality & Morbidity. Knowledge on prevention & management of hypoglycemia among healthcare providers are utmost important. Lack of in-depth knowledge of nurses on Management of hypoglycemia & various types of Insulin. Nurses face various issues to clinically manage the patient whenever hypoglycemia events occur, with this in view, this project objectives were to assess the compliance of blood sugar monitoring in non-critical care setting, identify the events and precipitating factors, develop and implement a standardized Hypoglycemia prevention & management protocol, assess the number of hypoglycemia events post implementation of Hypoglycemia treatment standardized protocol.

### Methods:

This project was carried out in a selected tertiary care multi-specialty hospital in North Eastern India among patients admitted between October 2023-March 2024. To address the set objectives, the PDCA cycle was adopted as a systematic methodology (Annexure Figure-1). Data collection tool was developed to check the compliance on Blood Sugar Monitoring. Diabetic Certification Course was developed for training the nursing staff.

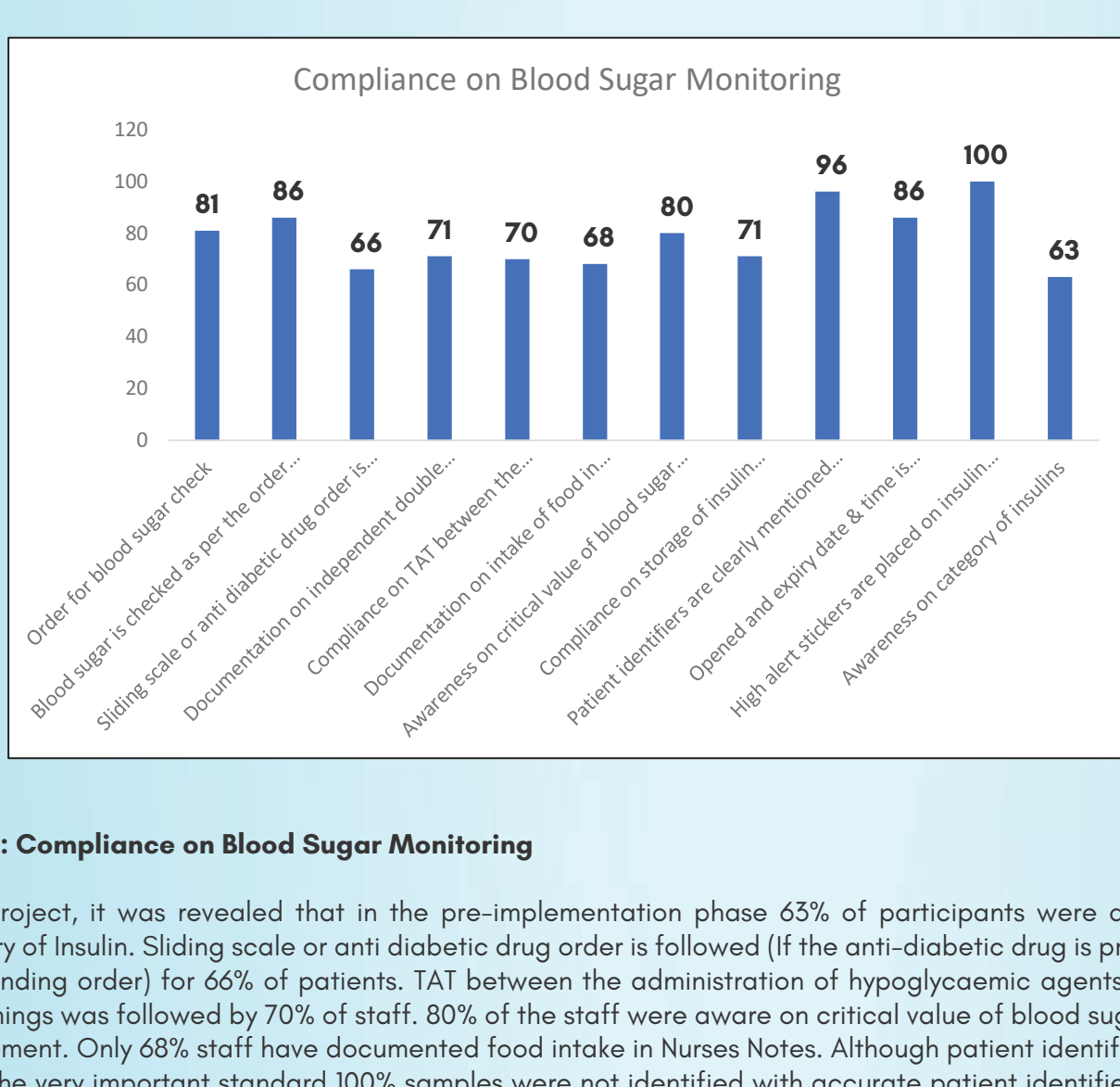


**Figure 1: Project Methodology-PDCA Cycle.**

### Results:

As per the project objectives the data were collected and analysed. The results were presented as-

#### Section 1: Findings related to Compliance on Blood Sugar Monitoring.



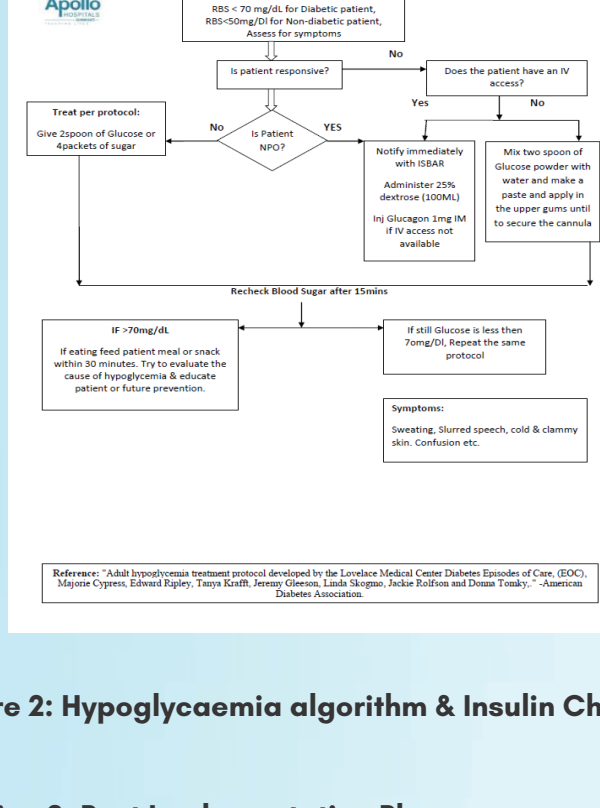
**Graph 1: Compliance on Blood Sugar Monitoring**

In the project, it was revealed that in the pre-implementation phase 63% of participants were aware on Category of Insulin. Sliding scale or anti diabetic drug order is followed (If the anti-diabetic drug is prescribed as a standing order) for 66% of patients. TAT between the administration of hypoglycemic agents and the meal timings was followed by 70% of staff. 80% of the staff were aware on critical value of blood sugar & the management. Only 68% staff have documented food intake in Nurses Notes. Although patient identification is one of the very important standard 100% samples were not identified with accurate patient identifier, in 96% sample it was noted that patient identifiers were mentioned in the insulin. High alert sticker was placed on Insulin for 100% samples (Graph 1).

#### Section 2: Implementation of Standardised Protocol:

After analysing the data from pre-implementation phase, various steps were carried out to develop and implement the protocol.

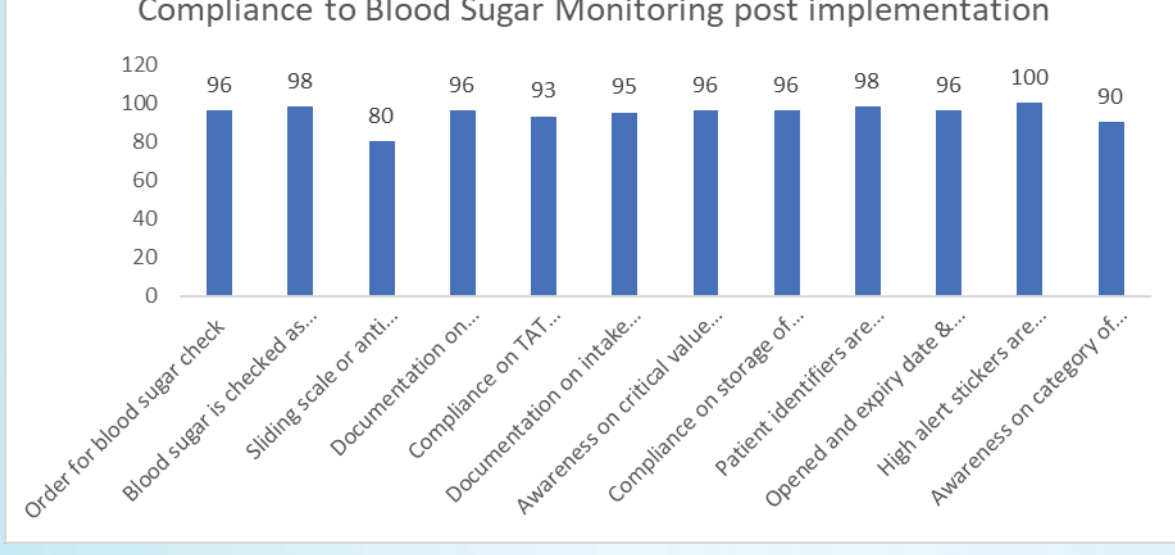
1. In depth training on "Management of Diabetes & Blood Sugar Monitoring Process" was carried out for the nursing staff. Staff were selected from specific units for "Diabetic Certification Course", two batch were selected, each batch was comprising of 15 staff. Two trainers were selected as a coordinator as well as trainer along with doctors from selected speciality. The content was created for diabetic certification course.
2. In this phase the medication inventory was also re-evaluated and as approved from Drug and therapeutic Committee (DTC) Glucon D was added in the inventory of all the units of the hospital.
3. Audit on Compliance on Blood sugar monitoring was added in the "High Risk Process Initiatives".
4. Sliding Scales of Insulin was evaluated & modified by DTC committee chairperson.
5. Insulin chart was created and displayed in all the patient care areas above the fridge.
6. Hypoglycemia algorithm was developed and displayed in all the in-patient areas.
7. Customization of Food Tray (Colour change of food tray) was done with collaboration of Food & Beverage department.
8. Glucometer quality check process was created after discussion with HOD, Laboratory.



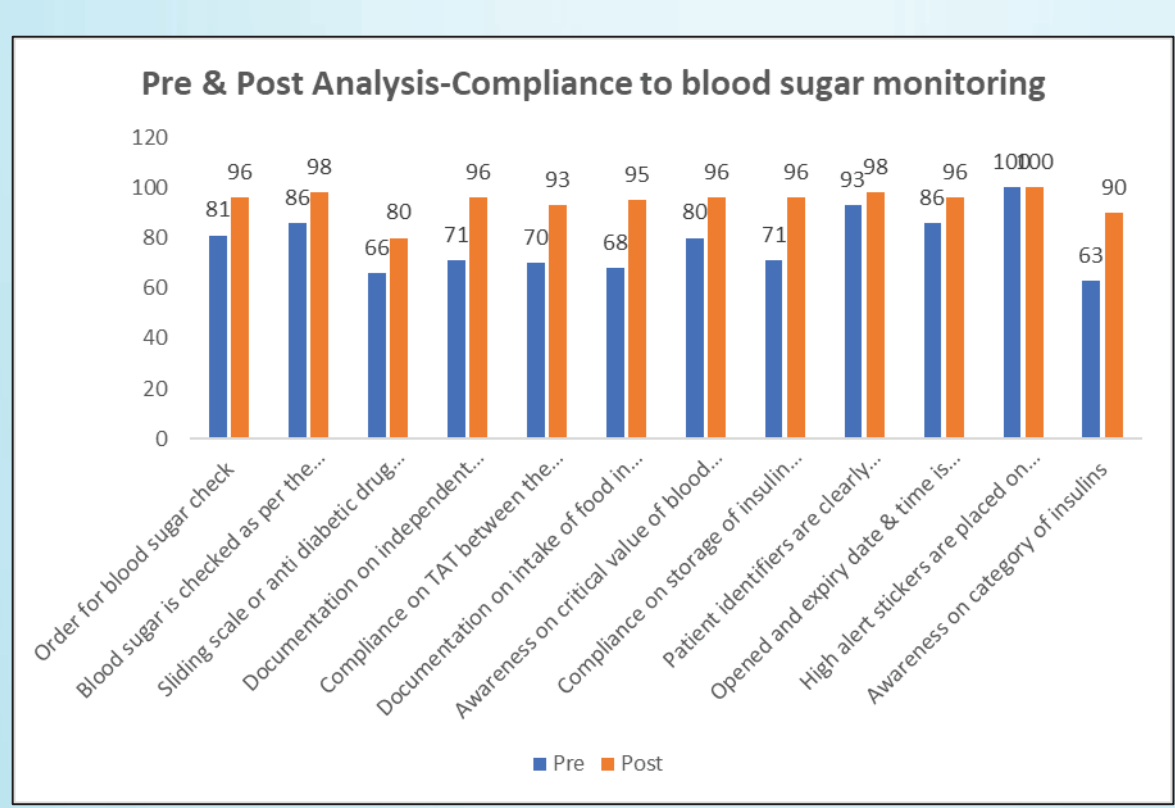
**Figure 2: Hypoglycaemia algorithm & Insulin Chart**

#### Section 3: Post Implementation Phase:

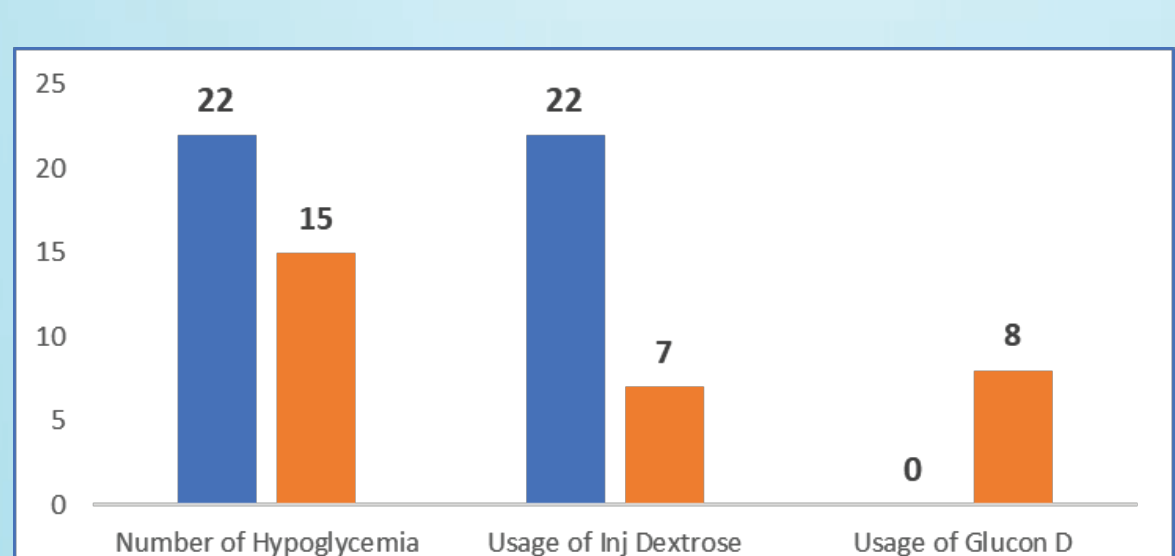
In post implementation phase, it was revealed that 90% of participants became aware on Category of Insulin. Sliding scale or anti diabetic drug order is followed (If the anti-diabetic drug is prescribed as a standing order) for 80% of patients. TAT between the administration of hypoglycemic agents and the meal timings was followed by 93% of staff. 96% of the staff were aware on critical value of blood sugar & the management. Documentation of food intake in Nurses Notes improved to 96%. (Graph 2)



**Graph 2: Compliance on Blood Sugar Monitoring post implementation.**



**Graph 3: Pre-post comparison for Compliance on Blood Sugar Monitoring**



**Graph 4: Hypoglycaemia events & management of events pre & post implementation of standardised protocol.**

### Discussion:

The current project was carried out in order to identify incidences of hypoglycaemia events along with its precipitating factors however the results can not be generalised because of the small sample size. Such kind of projects and researches are now need of the hour to identify more learning opportunity in this field. The project was carried out only among adult patients; neonates & paediatric populations are also vulnerable to this silent threat as a study carried out by Pillai and Fhausiya (2022) highlighted the incidence of hypoglycaemia as maximum in the first hour of life, highlighting the need to start early feeds and to do meticulous monitoring in high risk babies like pre term babies, small for gestational age, large for gestational age and babies of diabetic mothers. It is important to carry out more researches in this field to understand the impact on nursing policy, practices and education.

### Conclusion:

Hypoglycemia in health care settings is very common and it should be considered as one of the "High Risk Process". Continuous training, reinforcement & following standardised protocol will be the help in avoidable patient harm.

### Keywords: Hypoglycemia, Nursing Practices, Patient Safety.

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# Quality Improvement Project on Reduce the Incidence of Pressure Injuries Among Hospitalized Patients and Enhance Patient Safety



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**Abstract:**

**Introduction:**

Pressure injuries (PIs) are an important, often underappreciated patient safety issue, and for the patients themselves, a harrowing event. Furthermore, they represent a substantial financial burden to the organization. It remains an old worldwide public health problem related to patient safety, despite all advances in health care. It affects over 1 in 10 hospitalized adults. They are associated with pain, put the patient at risk for infections and sepsis, and may lead to increases in length of stay and mortality. It affects patients' emotional and physical health and quality of life while being preventable. (Acc. to WHO 2024). In the U.S., 2.5 million people develop pressure injuries annually. (Acc. PSFM). A hospitalized patient with a PI has a mortality rate 2.8 times higher than a patient without a pressure injury. One of the most common preventable complications of hospitalization. It poses a significant threat to patient safety, prolonging hospital stays and contributing to disability and death. In hospitals, 30% increase in pressure injuries over the past 6 months has led to longer stays, poorer outcomes, and patient dissatisfaction.

**Aims of this study:**

This study aims to reduce the incidence of pressure injuries among hospitalized patients and to enhance patient safety through improved prevention strategies and care practices.

**Objectives:**

- The objectives were
- 1. to reduce the incidence of pressure injuries among hospitalized patients.
- 2. to improve the evidence-based practice in pressure injuries prevention
- 3. To adopt preventive strategies for Pressure injuries.

**Background:**

Pressure ulcer is a preventable medical complication of immobility. It has psychological, economic, and social impacts on individuals and families. Its cost of treatment is more than twice of cost of prevention. It is primarily the nurses' responsibility to prevent pressure injuries. Despite being preventable, hospital-acquired pressure injuries (HAPI) still occur impacting patient outcomes and greatly increasing the cost of hospital care. In 2015-2016 the Australian Commission on Safety and Quality in Healthcare (ACSQHC) found almost 4,313 occasions of HAPI, estimated to cost the Australian healthcare system over \$900 million.

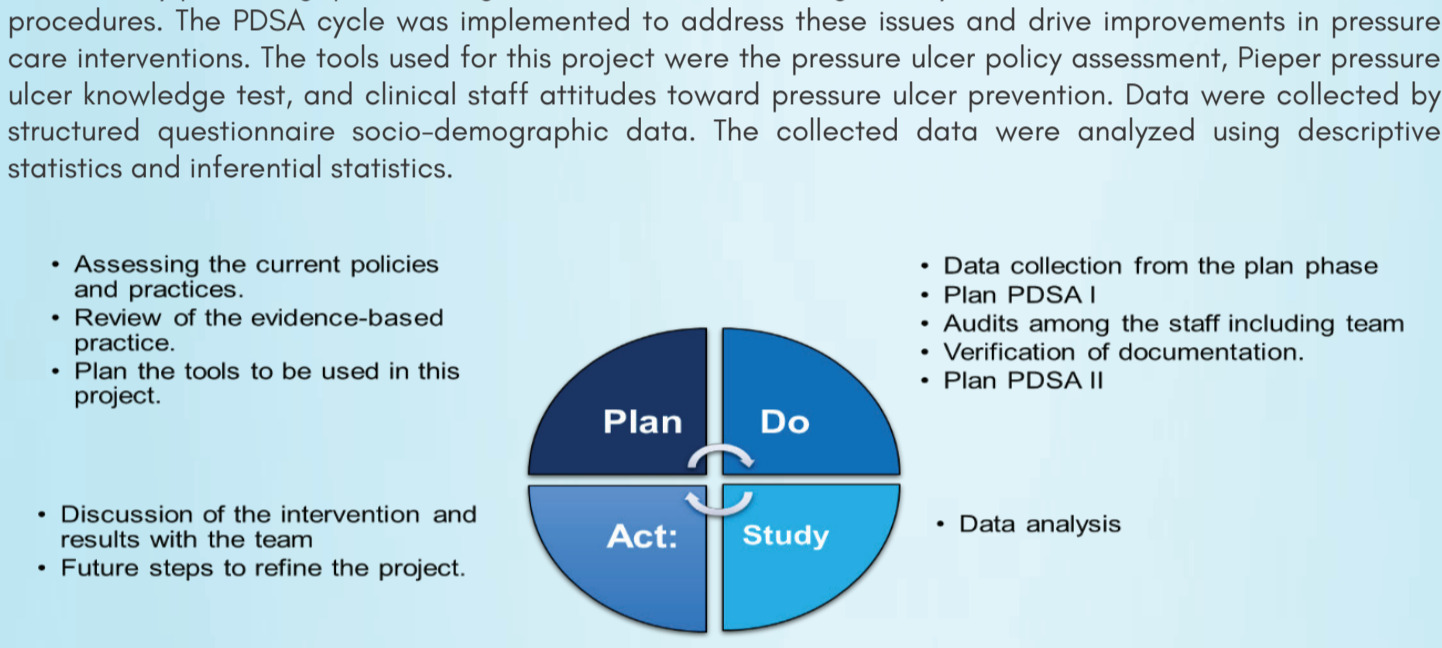
Gupta P, Shiju S, Chacko G, et al conducted a quality improvement program to reduce hospital-acquired pressure injuries. The incidence of HAPI dropped from 6.1/1000 patient days to 1.1/1000 patient days, an 83.5% reduction. The prevalence, based on quarterly survey fell from 9.7/100 patients surveyed to 2.0/100 patients surveyed, a 73.4% decline. The interventions proved to be successful, reducing the incidence of PI by >80%. The outcomes were sustained over 4 years.

A 2020 systematic review and meta-analysis, which included 1,893,593 adults, reported a global pooled hospital-acquired pressure injury (HAPI) rate of 8.4% (95% CI: 7.6-9.3%). This highlights the ongoing substantial burden of HAPIs. The most common injury stages were Stage I (43.5%) and Stage II (28.0%), with the sacrum, heels, and hips being the most frequently affected body sites.

Holbrook et al. implemented a quality improvement initiative to reduce hospital-acquired pressure injuries (HAPI) by enhancing patient education and seating in an acute inpatient setting. Using a before-and-after study design, 105 patients received a targeted pressure care intervention. Key outcomes measured included the Waterlow Risk Assessment (WRA), incidence of pressure injuries, time spent sitting out of bed, and length of stay (LOS). The intervention group experienced a lower HAPI rate (25% vs. 60%, p=0.44), greater comfort (86% vs. 56%, p=0.05), reduced pain (10% vs. 43%, p=0.03), and more time spent out of bed (2.45 vs. 1.63 hours, p=0.02). This intervention demonstrated improvements in comfort, pain management, and patient mobility through enhanced seating and education.

**Materials and Methods:**

The quality improvement project was conducted at East Point Hospital following PDSA (Plan-Do-Study-Act) methods and employed a quantitative research design with retrospective data analysis. Fishbone analysis revealed key practice gaps, including insufficient staff knowledge, delayed assessments, and lack of standard procedures. The PDSA cycle was implemented to address these issues and drive improvements in pressure care interventions. The tools used for this project were the pressure ulcer policy assessment, Pieper pressure ulcer knowledge test, and clinical staff attitudes toward pressure ulcer prevention. Data were collected by structured questionnaire socio-demographic data. The collected data were analyzed using descriptive statistics and inferential statistics.

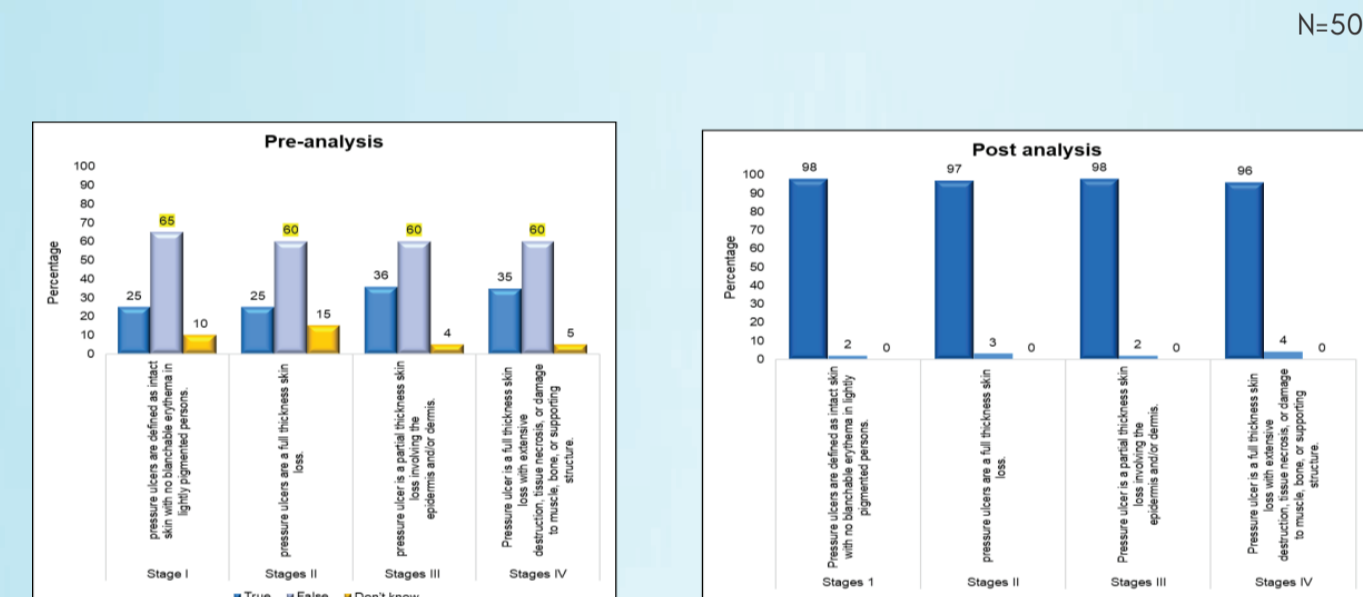


**Fig: 1 PDSA of prevention of pressure injuries**

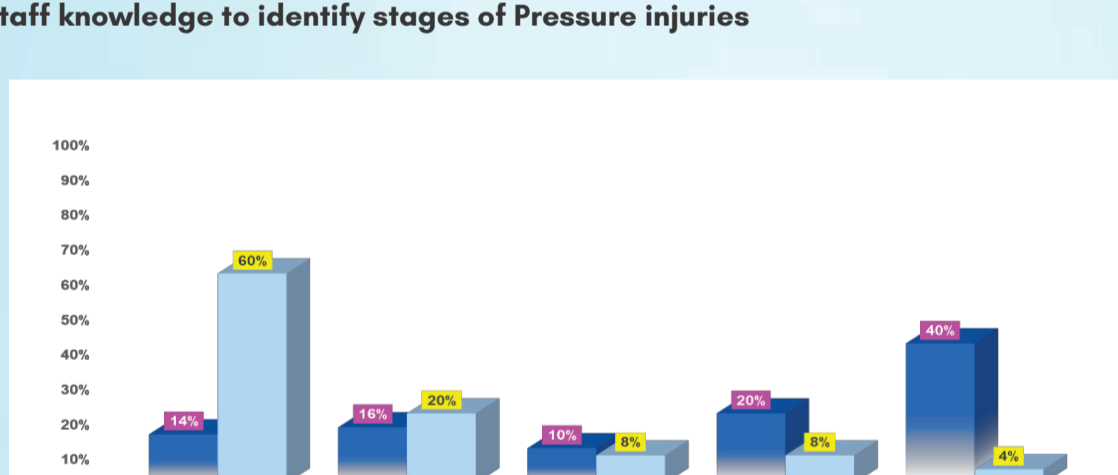
**Results:**

The demographic data revealed that 90% of the participants were female, and 66% were staff nurses. Additionally, 60% of the participants had 3-5 years of experience.

N=50

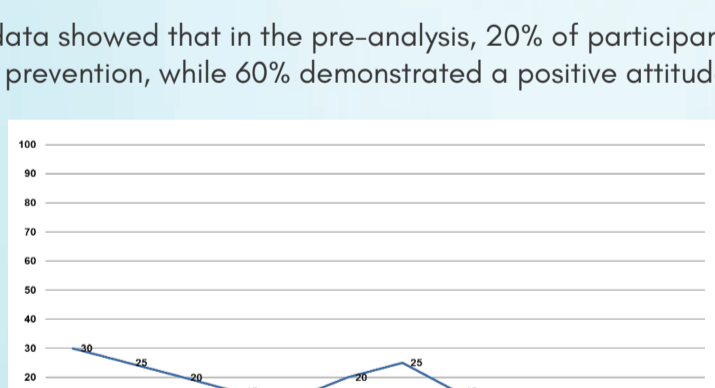


**Fig: 2 Staff knowledge to identify stages of Pressure injuries**



**Fig:3 Clinical Staff Attitudes Toward Pressure Injury Prevention**

The mentioned above data showed that in the pre-analysis, 20% of participants had a positive attitude towards pressure injury prevention, while 60% demonstrated a positive attitude in the post-analysis."



**Fig4: Incidences of Pressure Injuries**

Above mentioned data showed that the incidence rate of pressure injuries reduced successfully from 30% to 3%.

**Conclusion:**

The prevention of pressure injuries represents a marker of quality of care. Through this project, patients were satisfied which reduced hospital stays, and hospital costs, and improved family satisfaction. Healthcare team members became more confident, successful, and satisfied with their care, contributing to improved mental health.

**Keywords: Incidence, Pressure Injuries, Hospitalized Patients, Patient Safety**

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## Improving First-hour Breastfeeding Rate among Healthy Newborns



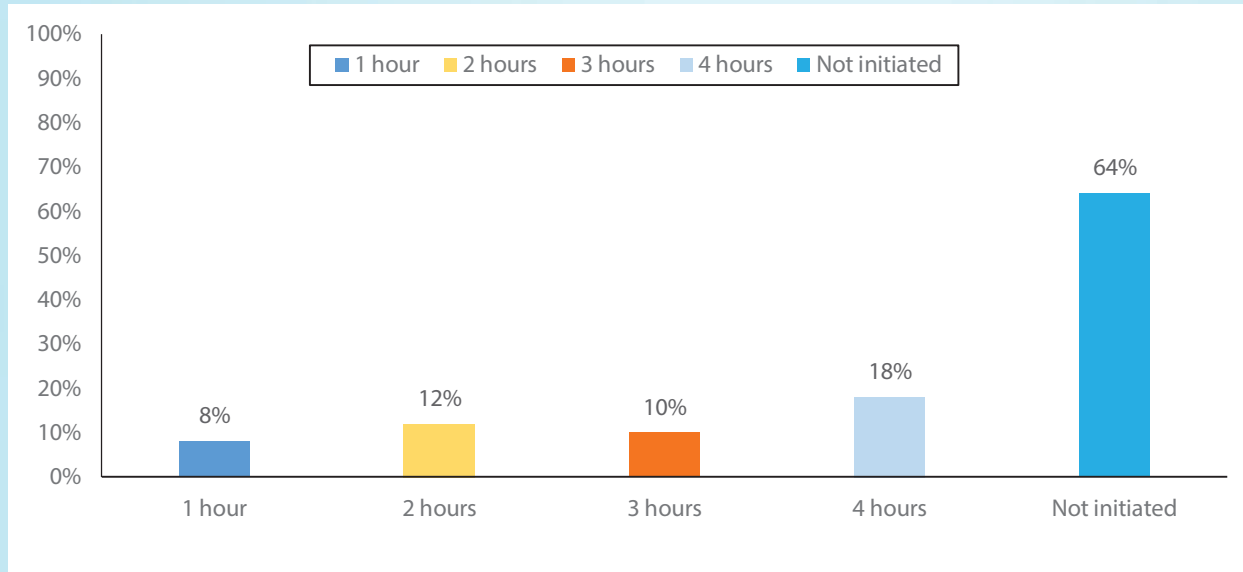
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2023 - 2025

**Keywords:** Breastfeeding, Quality Improvement, Newborn Health, Baby-Friendly Hospital, Early Breastfeeding Initiation.

**Introduction:** India aims to increase the rate of early initiation of breastfeeding to 90% by 2025. Early initiation within the first 30 minutes of birth is critical for newborn health and is a key component of the WHO/UNICEF Baby-Friendly Hospital Initiative (BFHI). Despite its importance, the initiation rate in the project hospital is currently low, prompting a quality improvement (QI) initiative.



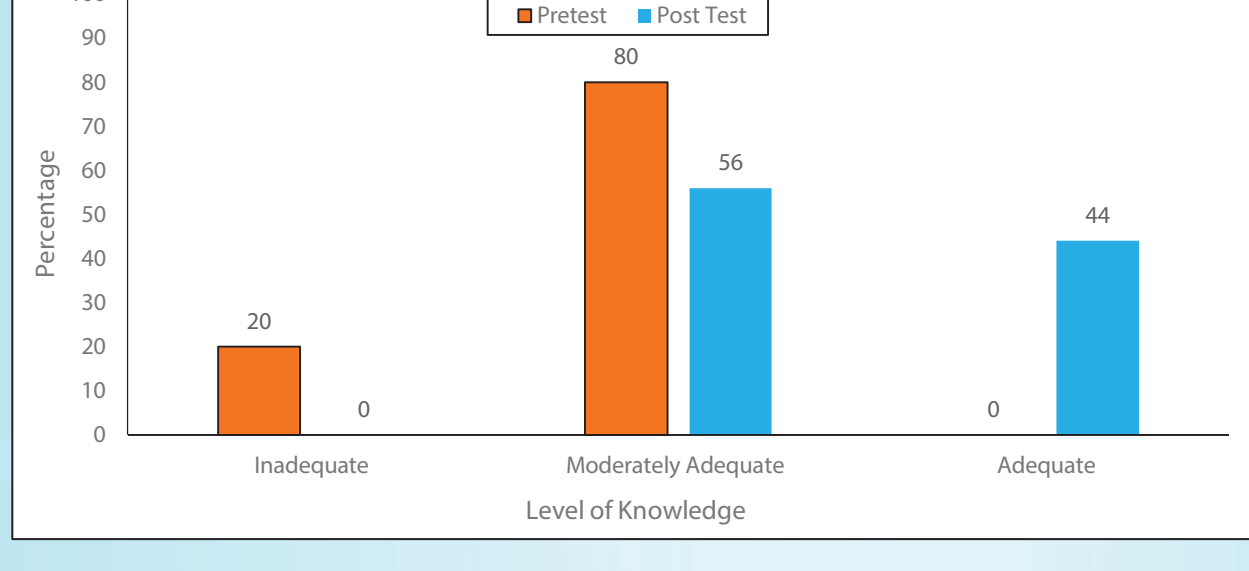
**Methods:** A QI project was implemented at Varsha Hospital, Falakata, involving a multidisciplinary team. The project targeted postpartum mothers with stable newborns (35 weeks gestation or more), born both by normal vaginal and cesarean deliveries. The intervention included staff training, protocol development, and continuous monitoring. Data were collected based on an observational checklist on various parameters, such as: Readiness of Mother and Baby, Environment, Hygiene, Skin to skin contact, Mother Baby Bonding, Positioning, Latch on Technique, Encouragement and Support, Monitoring Baby's Response, Documentation and well-being of mother and baby. Knowledge was assessed through pre- and post-training tests.



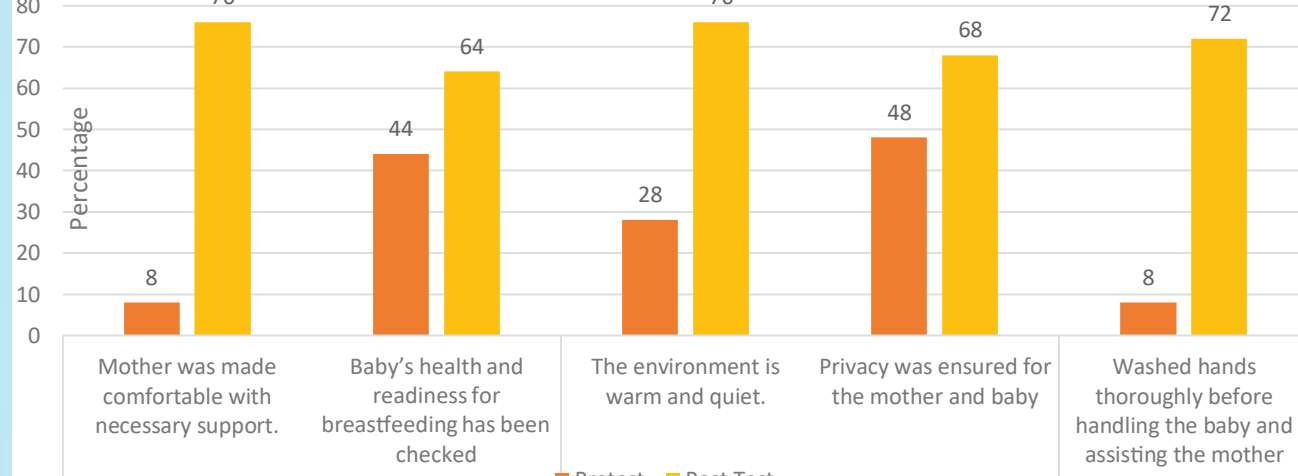
**Fig 1: Bar diagram on the rate of first hour initiation of breast feeding before the QIP**

### Results:

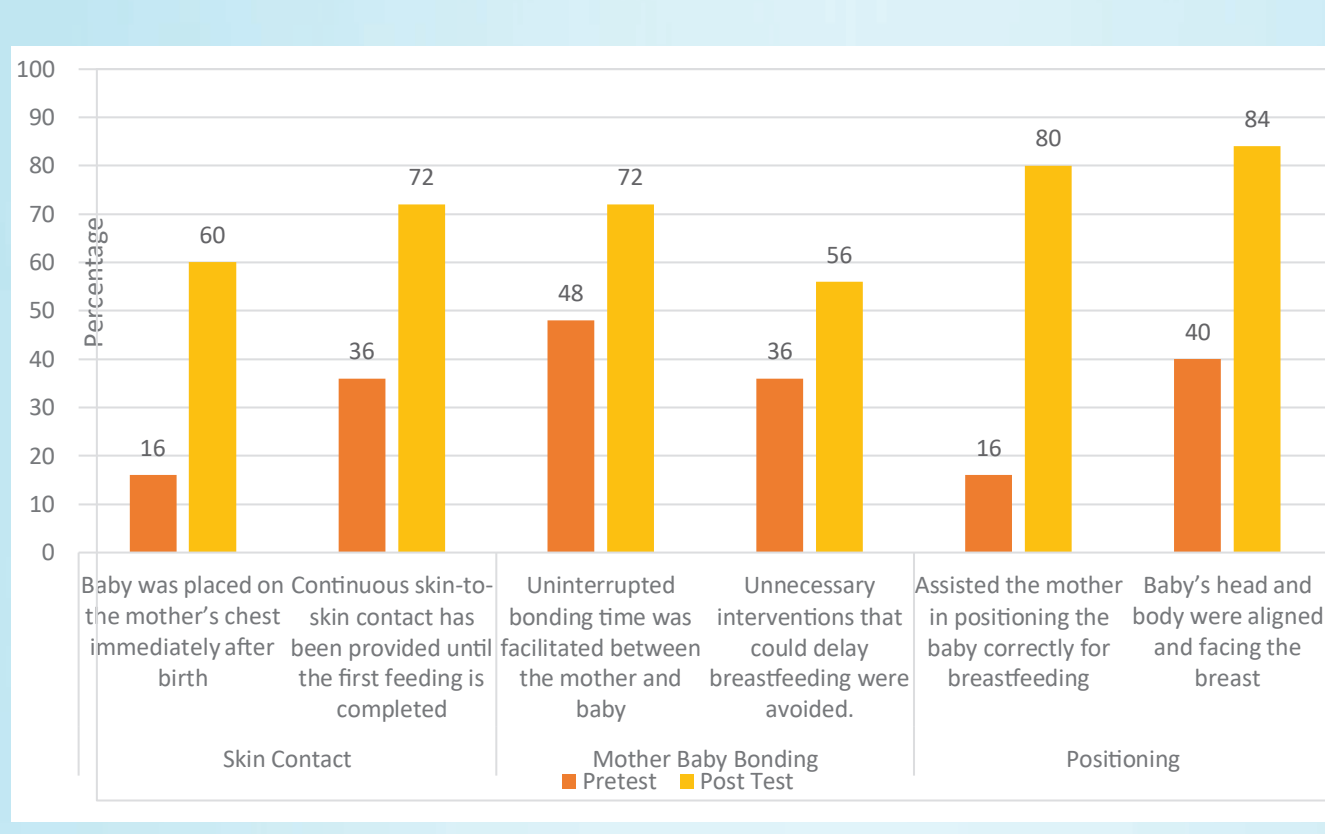
Baseline data showed that only 8% of newborns were breastfed within the first hour. Following the first Plan-Do-Study-Act (PDSA) cycle, this increased to 64%, reaching 76% by the third cycle. Staff knowledge and adherence to best practices improved significantly, with post-intervention tests showing increased competency in key breastfeeding support skills.



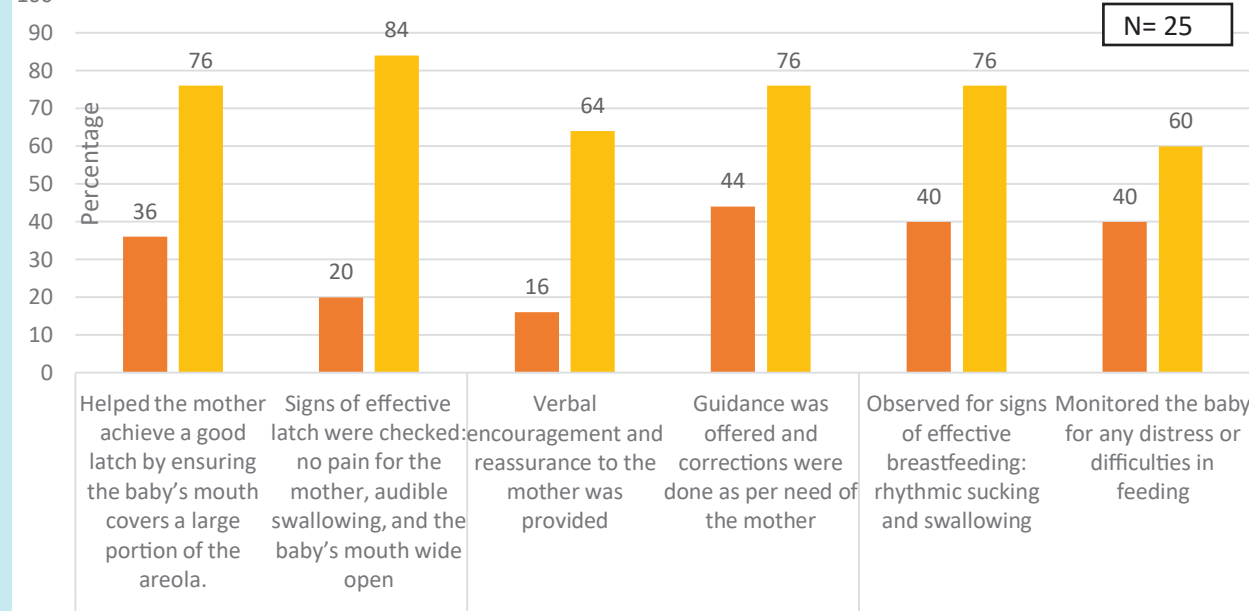
**Fig 2: Bar Diagram regarding the Pre-test and Post-test knowledge regarding first hourly initiation of breast feeding among the staff nurses**



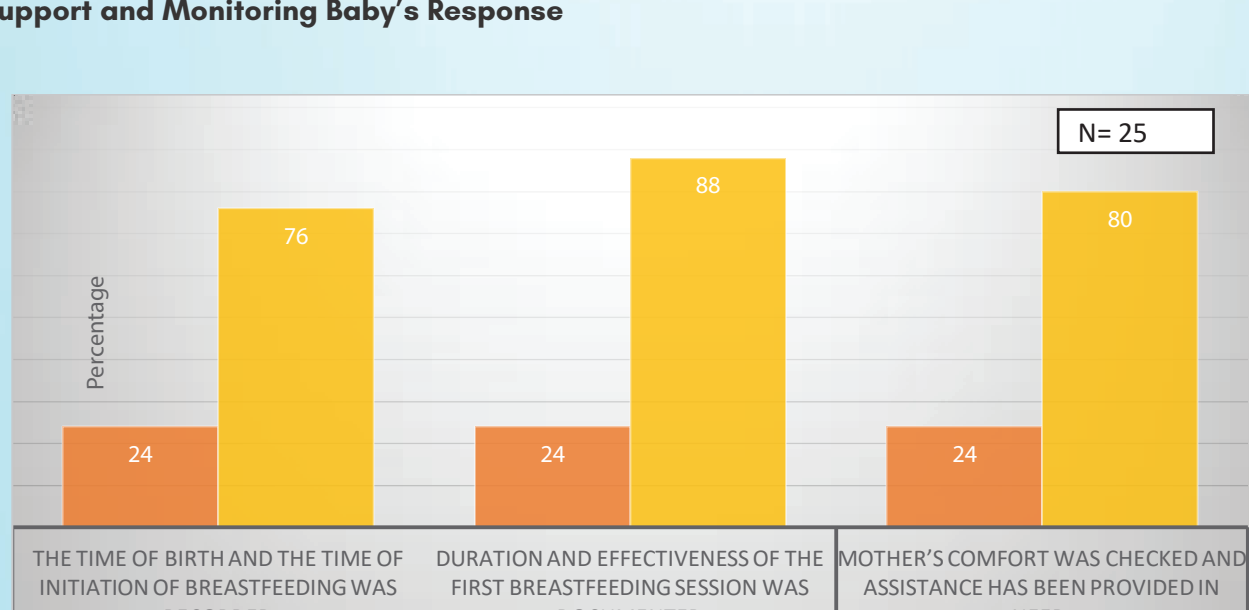
**Fig 3: Bar diagram regarding the Breast-Feeding Practices on Readiness of Mother and Baby, Environment and Hygiene**



**Fig 4: Bar diagram regarding the Breast-Feeding Practices on Skin Contact, Mother Baby Bonding and Positioning**



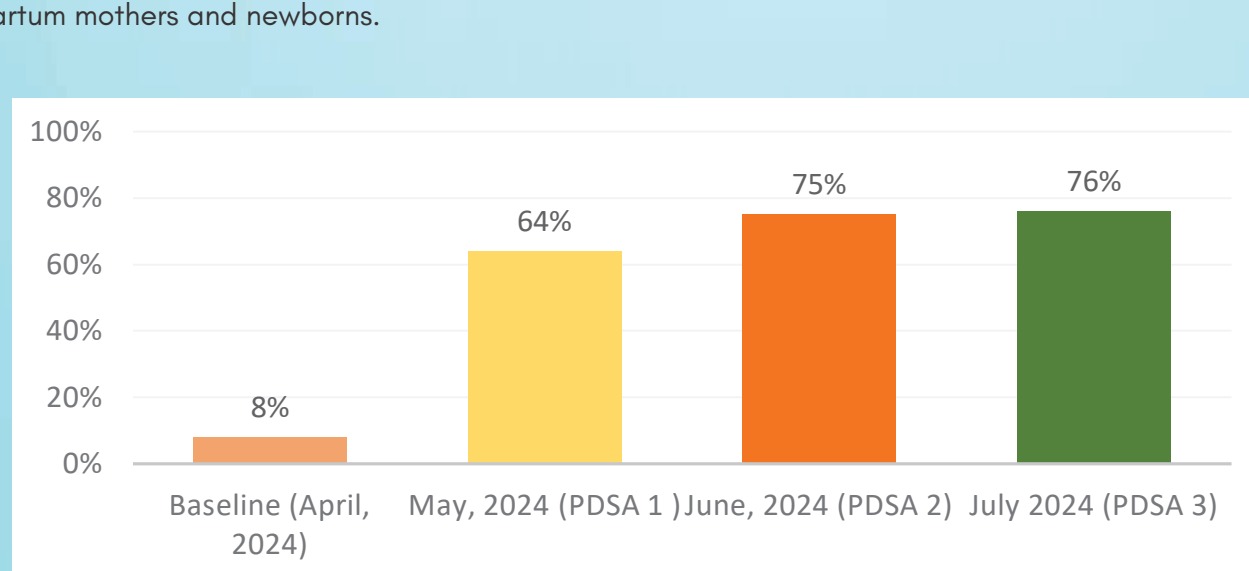
**Fig 5: Bar diagram regarding the Breast-Feeding Practices on Latch on Technique, Encouragement and Support and Monitoring Baby's Response**



**Fig 6: Bar diagram regarding the Breast-Feeding Practices on Documentation and Mother's well-being**

### Discussion:

The interventions resulted in a significant improvement in the rate of early breastfeeding initiation. Continuous staff education and adherence to BFHI guidelines are essential for sustaining these improvements. Further efforts will focus on hospital accreditation through BFHI and maintaining the quality of care provided to postpartum mothers and newborns.



**Fig 7: Bar diagram on Comparison of Base-line data and data obtained after 3 cycles of PDSA regarding first hourly initiation of breast feeding**

### Conclusion:

The QI initiative successfully improved the first-hour breastfeeding rates from 8% to 76%. Sustained efforts in staff training and adherence to established breastfeeding protocols will help India reach its national breastfeeding goals.

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