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ELEVATING PATIENT SAFETY: ENHANCING SURGICAL CHECKLIST COMPLIANCE

General Surgery

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ABSTRACT

The WHO Surgical Safety Checklist a 19-item tool designed to reduce errors, prevent adverse events, and improve communication and teamwork in surgery, with global recognition for its role in reducing morbidity and mortality. This closed-loop audit, conducted at BGS Global Institute of Medical Sciences from June to August 2023, assessed checklist adherence among 200 elective surgery patients, measuring compliance before and after an educational intervention that included feedback, audit review, and simulation exercises. Significant improvements in compliance were observed, notably in "site marking" (72% increase) and "instrument, gauze, and needle count" (60% increase). The main barrier to compliance was a lack of knowledge and training. The study highlights the importance of continuous education and training to enhance the effective use of the checklist and improve patient safety, with interventions like feedback and simulation proving critical in overcoming compliance challenges and promoting teamwork.

KEYWORDS

INTRODUCTION

The WHO Surgical Safety Checklist, introduced by World Health Organization in 2008, is a 19-item protocol aimed at enhancing patient safety by reducing errors, preventing adverse events, and improving communication within surgical teams. It covers key safety measures, including verifying patient identity, surgical site, procedure, anaesthesia safety, and accounting for instruments before anaesthesia, before-incision, and before the patient leaves the operating room. Globally, the checklist has been widely adopted, with studies highlighting its effectiveness. For instance, Haynes et al. (2009)(1) reported a 36% reduction in complications a 47% reduction in mortality after its implementation in eight hospitals, while Bergs et al. (2014)(2) confirmed its positive impact on patient safety outcomes.

However, consistent and correct adherence is essential for the checklist to be effective. Barriers such as lack of knowledge, hierarchical structures, and institutional safety culture hinder its proper use. Strategies like educational interventions, simulation exercises, and case-based learning have been proposed to address these challenges. Conley et al. (2011)(3) emphasized the need for a shared understanding of the checklist's purpose, and Bliss et al. (2012)(4) demonstrated that simulation could enhance compliance. Yet, challenges persist, particularly in complex cases like paediatric surgeries where anaesthesia and surgery occur in different locations. This study examines methods to assess and improve compliance at BGS Global Institute of Medical Sciences, along with the associated challenges and outcomes.

MATERIALS AND METHODS

- Closed loop audit.
- BGS GLOBAL INSTITUTE OF MEDICAL SCIENCES.
- JUN 2023 to AUG 2023.

Aims And Objectives

To assess compliance with the WHO surgical safety checklist and look at the difficulties in implementing the checklist's recommendations in tertiary care hospitals' operating rooms.

Procedure

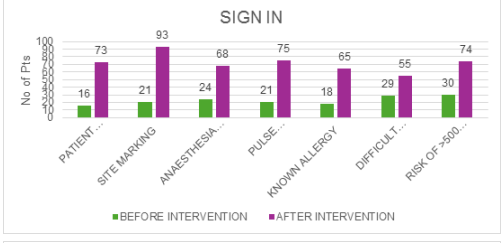
- A total of 200 patients who had elective surgery performed in OT over a three-month period were included in the study.
- Before and after the educational intervention (feedback and audit results review, simulation exercises), adherence to the surgical safety checklist was noted.
- The operating room staff was questioned regarding the obstacles to following the surgical safety checklist once the clinical audit was finished.

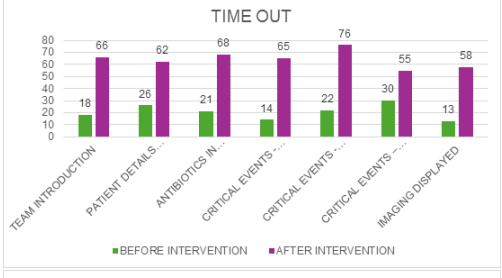
RESULTS

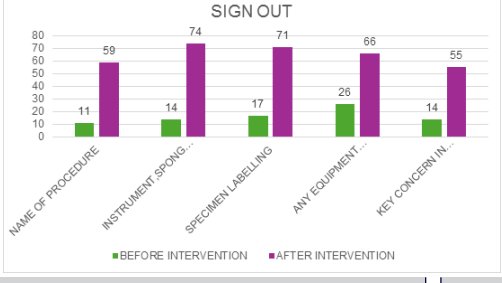
Improvement in Compliance: Following the educational intervention, compliance with the WHO Surgical Safety Checklist significantly improved. The "site marking" step in the "Sign-in" phase saw a 72% increase in adherence, and the "instrument, gauze, and needle count" step improved by 60%, indicating enhanced awareness of these safety measures.

Barriers To Compliance: The primary barrier was a lack of knowledge and training, underscoring the need for continuous education. Resistance to change and hierarchical communication issues also contributed to suboptimal compliance, consistent with findings from Gillespie et al.(5) and Russ et al.

Specific Challenges: Paediatric surgeries posed unique difficulties, particularly when anaesthesia was administered outside the main OR, complicating checklist adherence. Addressing this requires tailored training and potential protocol adjustments.







Summary of Results

Checklist Step	Compliance Before Intervention	Compliance After Intervention	Improvement (%)	P Value
Sign-in				
Patient Identity Verification	80%	90%	10%	<0.001
Site Marking	50%	86%	72%	<0.001
Anaesthesia Safety Check	60%	75%	25%	<0.001
Time-out				
Team Introduction	70%	85%	21%	<0.001
Procedure Confirmation	75%	88%	17%	<0.001
Instrument, Gauze, and Needle Count	40%	64%	60%	<0.001
Sign-out				
Specimen Labelling	65%	78%	20%	<0.001
Post-operative Plan Communication	70%	83%	19%	<0.001
Equipment Condition Check	55%	70%	27%	<0.001

DISCUSSION

The implementation of the WHO Surgical Safety Checklist is crucial for enhancing patient safety in surgery. This study highlights the benefits and challenges of checklist compliance at the BGS Global Institute of Medical Sciences, emphasizing the role of educational interventions. Post-intervention, compliance significantly improved, with notable increases in "site marking" (72%) and "instrument, gauze, and needle count" (60%). These results demonstrate the effectiveness of structured training and simulation, consistent with findings from Bliss et al. (2012)(4) and Urbach et al. (2014)(6).

Despite these improvements, barriers such as inadequate knowledge and hierarchical communication persisted. A lack of training, as noted by Gillespie et al. (2010)(5) and Russ et al. (2013)(7), often hinders effective implementation. Hierarchical dynamics can further obstruct open communication, as observed by Conley et al. (2011)(3), making it critical to foster a culture where all team members feel empowered to voice safety concerns.

Paediatric surgeries present additional challenges, particularly when anaesthesia is administered outside the OR, complicating checklist adherence. Modifying the checklist for such cases is necessary to ensure comprehensive safety checks. Sustainability of compliance also requires continuous education, regular audits, and integration of the checklist into the institution's culture, as supported by Haynes et al. (2009)(1).

Recommendations include regular training and simulation, addressing hierarchical barriers, customizing checklists for specific patient groups, and continuous monitoring with feedback mechanisms to maintain high compliance and improve patient outcomes.

CONCLUSION

The WHO Surgical Safety Checklist is a proven tool for reducing surgical complications and enhancing patient safety. This study demonstrates that educational interventions can significantly improve compliance, particularly in critical areas like site marking and instrument counting. However, maintaining these improvements requires continuous education, addressing hierarchical barriers, and adapting the checklist to specific challenges, such as paediatric surgeries. By implementing these strategies and fostering a culture of safety, healthcare institutions can ensure the long-term effectiveness of the checklist, ultimately leading to improved patient outcomes.

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