Original research article

Survey on Patient Safety Practices in The Operating Theatre – A Multicentric Study.

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Abstract:

Patient safety in the operating theatre is a critical component of healthcare quality, directly impacting surgical outcomes and patient well-being. This multicentric study aims to assess the current patient safety practices across various healthcare institutions by conducting a comprehensive survey of operating theatre protocols, staff adherence, and challenges faced in maintaining safety standards. **Materials and methodology:** This online survey was conducted using google forms. All type of specialists who work in operation theatre were involved in this study and should be of more than 100 bedded hospitals. This survey consisted a questioner, which covered checklist, communication, infection control aspects and emergency preparedness. **Results:** A total 226 responses were collected, of which 39 were anaesthesiologists, 58 were general surgeons, 25 were orthopedicians and 48 were obstetrcians, 30 were ENT specialist, 26 were ophthalmologists. **Conclusion:** This study underscores the critical importance of patient safety practices in the operating theatre. Regular audits play a vital role in maintaining safety standards. Each institution should establish and implement its own standard operating protocols to ensure patient safety is consistently prioritized.

Key words: patient safety, operation theatre, guidelines, audit, multicentric

Introduction:

Patient safety in the operating theatre is a cornerstone of healthcare quality and is crucial for ensuring positive surgical outcomes and patient well-being. Operating theatres are high-risk environments where the complexity of procedures and the involvement of multidisciplinary teams increase the likelihood of adverse events if proper safety measures are not strictly followed. These events can range from surgical errors and infections to anesthesia-related complications, all of which can severely impact patient health. As healthcare institutions strive to enhance the quality of care, patient safety practices in the operating theatre have emerged as a top priority for reducing surgical risks and improving outcomes. Globally, there is an

increasing emphasis on developing and implementing safety protocols in the operating theatre, such as surgical safety checklists, infection control measures, effective communication systems, and emergency preparedness protocols. These strategies have been shown to significantly reduce the rate of complications and improve the overall quality of surgical care. However, despite their proven effectiveness, variability in adherence to these safety protocols remains a major challenge across healthcare institutions. Ensuring that these practices are consistently followed by the entire surgical team, from surgeons to anesthesiologists, nurses, and support staff, is essential to minimizing risks.

This multicentric study seeks to evaluate the current patient safety practices across a variety of healthcare institutions, focusing on hospitals with more than 100 beds. By conducting a comprehensive online survey targeting specialists from different disciplines, including general surgeons, anesthesiologists, obstetricians, orthopedicians, ENT specialists, and ophthalmologists, the study aims to assess key areas such as the use of safety checklists, communication effectiveness within surgical teams, infection control measures, and readiness for emergencies. The findings of this study will provide valuable insights into the existing challenges in maintaining safety standards and will highlight opportunities for improvement in surgical environments. Ultimately, this research aims to contribute to the development of more effective and uniform safety protocols that can enhance patient outcomes and reduce complications in operating theatres across diverse healthcare settings.

Materials and Methodology:

This multicentric study was conducted using Google Forms as the survey platform. The study included a range of specialists, namely anesthesiologists, general surgeons, ENT surgeons, orthopedicians, obstetricians, and ophthalmologists. Both male and female doctors with more than one year of experience working in hospitals with over 100 beds were eligible for participation. Superspecialists were excluded from the study, as the focus was on general practices at the foundational level, and it was presumed that stringent guidelines are already in place for superspecialty surgeries across various hospitals. The survey consisted of 10 questions specifically related to patient safety, along with a section for demographic information, as outlined in Table 1. Data collection was completed within a 15-day period, with any responses submitted after this timeframe being automatically rejected.

S.N	QUESTION	OPTIONS
1	Does your operating theatre consistently follow a surgical safety checklist (e.g., WHO Surgical Safety Checklist) before and after every procedure?	Yes No
2	How would you rate the effectiveness of communication between the surgical team members during procedures (surgeons, anesthesiologists, nurses, etc.)?	Very effective Satisfactory Not effective
3	How often are infection control measures (e.g., hand hygiene, sterilization of instruments) strictly followed in your operating theatre?	Always Whenever required Never
4	Is there a designated staff member responsible for ensuring compliance with patient safety protocols in the operating theatre (e.g., safety officer or nurse supervisor)?	Yes No
5	How frequently are patient identification checks (e.g., name, medical records, procedure confirmation) conducted before surgery begins?	Always Rarely Not at all
6	What is the level of training provided to operating theatre staff in emergency preparedness (e.g., handling complications, managing surgical fires)?	Extensive training Some training No training
7	Have you encountered any barriers or challenges in adhering to patient safety protocols during surgeries?	Time constraints Lack of man power No challenges
8	How frequently do surgical teams conduct a debriefing session after surgery to review what went well and areas for improvement?	Always Sometimes Not at all
9	In your experience, how well is the operating theatre prepared to handle unexpected common complications or emergencies during surgery?	Well prepared Moderate level Not prepared at all
10	Do you feel that the current patient safety practices in your operating theatre are sufficient to prevent avoidable complications?	Strongly agree Improvement is needed Strongly disagree

Table 1: The questioner for the patient safety survey

Results: A total 226 responses were collected, of which 39 (17.3%) were anaesthesiologists, 58(25.7%) were general surgeons, 25(11.1%) were orthopedicians and 48(21.2%) were obstetrcians, 30 (13.3%) were ENT specialist, 26 (11.5%) were ophthalmologists (Fig 1). Majority of respondents were between the age group of 36-50 years, with male predominance (65.5%) (Fig 2 and 3). 31(13.7%) of consultants agreed that they follow the surgical safety checklist however 195(86.3%) of the consultants denied of such checklist for every procedure. The communication between the specialist was found to be very effective in 38(16.7%) people, satisfactory in 103 (45.3%) people and not effective in 85(37.4%) people. The infection control measure was seen always in 176 (77.4%) always and in 5 (2.2%) whenever it is required. 186

(81.8%) specialists agreed that the designated staff member is responsible for ensuring compliance with patient safety protocol in operation theatre, however 40 (17.6%) people denied the same. 48(21.1%) specialists agreed the practice of patient identification checks conducted before surgery begins, 59 (26%) specialists notified that they rarely practice and remaining participants denied any such act. 201(88.4%) consultants strongly believe that time constraint is the main culprit for the patient safety check, 16 (7%) believe that, due to lack of man power the safety checklist is not practiced. 119 (52.4%) specialists agree that surgical teams conduct a debriefing session after surgery to review what went well and areas for improvement, while 5 (2.2%) feel it is done sometimes and 2(0.88%) specialists report it is not done at all. 116 (51.04%) specialists feel the operation theatre is well prepared for the common emergencies if at all encountered, 8 (3.52%) people feel it is moderately prepared and remaining specialist feel it is not prepared at all. 52 (22.8%) specialists strongly agree, 39 (17.16%) specialists believe there is a need in improvement and remaining 135 (59.4%) specialists strongly disagree that the current patient safety practices in your operating theatre are sufficient to prevent avoidable complications

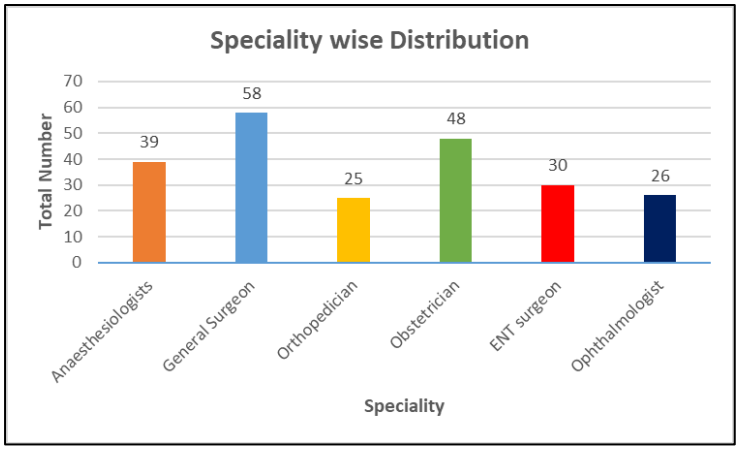

Fig 1: The speciality wise distribution of the respondents

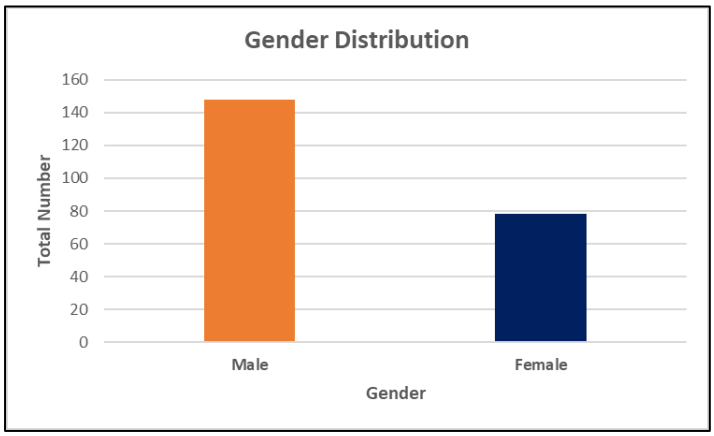

Fig 2: The gender distribution of respondents

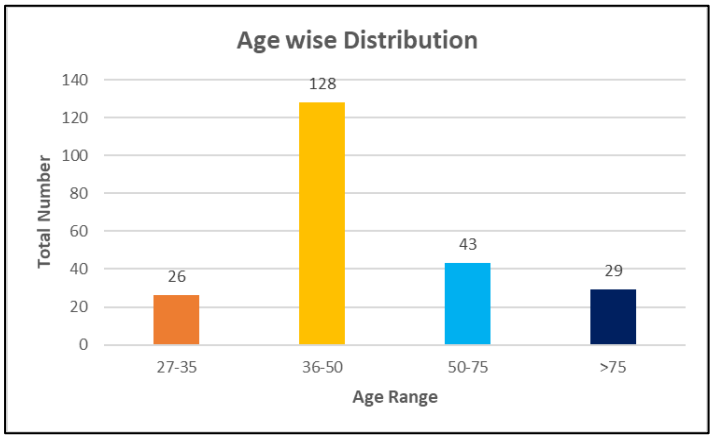

Fig 3: The age distribution of respondents

Discussion:

This multicentric survey highlights key aspects of patient safety practices in operating theatres across various healthcare institutions, revealing both strengths and areas for improvement. The responses collected from 226 participants, predominantly within the 36-50 age group and with a male predominance (65.5%), provide a comprehensive view of current practices across different specialties, including anesthesiologists, surgeons, orthopedicians, obstetricians, ENT specialists, and ophthalmologists.

One of the most concerning findings is the low adherence to the use of surgical safety checklists. Only 13.7% of respondents confirmed consistent use of checklists, while a striking 86.3% denied utilizing this essential tool for every procedure. This highlights a significant gap in the application of basic safety protocols that are known to reduce surgical errors and improve outcomes. The underutilization of checklists, a widely recommended practice by organizations like the WHO, reflects the need for better enforcement and awareness of its importance in enhancing patient safety during surgery.

Communication among operating theatre staff was also found to be suboptimal, with only 16.7% rating it as very effective, while the majority (45.3%) found it satisfactory and 37.4% deemed it ineffective. Effective communication is crucial in high-pressure environments like the operating theatre, and these findings suggest that miscommunication may still be contributing to preventable errors or delays in care. This area needs further attention, with potential interventions such as team-building exercises or simulation-based communication training. Infection control measures were generally well adhered to, with 77.4% of specialists reporting consistent practices. However, a small percentage of respondents (2.2%) indicated that these measures are only applied when required, pointing to a possible lapse in strict adherence. Given the critical importance of infection control in preventing post-surgical complications, this variation suggests a need for continuous monitoring and reinforcement of these practices.

Interestingly, 81.8% of participants acknowledged the presence of a designated staff member responsible for ensuring compliance with patient safety protocols. While this is a positive finding, the 17.6% who denied such oversight suggests a lack of standardized protocols across

institutions. Designating staff for this role can enhance accountability and ensure that safety measures are uniformly implemented. Patient identification checks, another critical safety step, were only consistently followed by 21.1% of the respondents, with 26% rarely practicing it and the remaining specialists not performing such checks at all. This is an alarming finding, as proper patient identification is fundamental in preventing wrong-site, wrong-procedure, or wrong-patient surgeries. Greater emphasis must be placed on this simple yet vital step in the pre-surgical workflow.

The survey also revealed that 88.4% of specialists cited time constraints as the primary barrier to implementing safety checks, highlighting the pressure surgeons face in high-volume settings. Another 7% attributed non-compliance to a lack of manpower, indicating that staffing issues may also compromise patient safety. These findings point to systemic issues within the healthcare environment that need to be addressed through better resource allocation and workflow optimization.

Debriefing sessions, which are essential for evaluating surgical performance and identifying areas for improvement, were conducted regularly by 52.4% of specialists. However, the fact that a small percentage (2.2%) reported these sessions as occasional, and some (0.88%) claimed they were never held, underscores the need for routine debriefing to become a standard practice. Regular debriefings foster a culture of learning and continuous improvement, which is critical for enhancing patient safety.

Regarding emergency preparedness, just over half (51.04%) of respondents felt their operating theatre was well-prepared for emergencies, while others reported moderate or poor preparedness. Given the unpredictability of surgical complications, ensuring that operating theatres are equipped and staff are trained to handle emergencies is paramount. This finding suggests that more emphasis needs to be placed on regular drills and equipment checks to enhance readiness.

Finally, there is a lack of consensus regarding the sufficiency of current patient safety practices. While 22.8% of specialists strongly agreed that existing practices were adequate, 17.16% believed improvements were needed, and a significant 59.4% disagreed that the safety measures were sufficient to prevent avoidable complications. This demonstrates widespread recognition that, despite the implementation of certain safety protocols, there is still considerable room for improvement in enhancing patient safety across operating theatres.

Limitations of the study:

This study has several limitations that should be considered when interpreting the results. First, the data were collected through an online survey, which may introduce response bias, as participants who are more engaged with patient safety practices may have been more likely to respond. Additionally, the study relied on self-reported data, which can lead to inaccuracies or overestimations in the adherence to safety protocols. The exclusion of superspecialists limits the generalizability of the findings, as patient safety practices in more complex surgical procedures were not explored. The study was also limited to hospitals with over 100 beds, which may not reflect the practices in smaller healthcare settings. Lastly, the relatively short

data collection period of 15 days may have restricted the number of responses, potentially missing broader trends in patient safety practices.

Conclusion:

This multicentric study highlights significant gaps in patient safety practices across operating theatres in various healthcare institutions. Adherence to essential protocols like surgical safety checklists and patient identification checks is low, while communication among surgical teams remains suboptimal, with many specialists reporting ineffective exchanges. Though infection control measures are generally well followed, time constraints and staffing shortages are key barriers to consistent safety protocol implementation. The study also points to the lack of regular debriefing sessions and inconsistent emergency preparedness, both of which are crucial for improving outcomes. Addressing these challenges will require stronger enforcement of safety standards, better resource allocation, and enhanced staff training. Ultimately, a more consistent and collaborative approach is necessary to ensure safer surgical environments and reduce avoidable complications.

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