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On-Floor Challenges of Implementing the Who Surgical Safety Checklist in Tertiary Care Facilities: A Qualitative Analysis

Vipin Raj[1]*, Nitin Tiwari[2], Nisha Chaudhary[3], Sarina Agarwal[4]

[1]Associate Professor, Department of General Surgery, Autonomous State Medical College, Firozabad, UP
[2]Associate Professor, Department of Community Medicine, Autonomous State Medical College, Firozabad, UP
[3]Associate Professor, Department of Microbiology, Autonomous State Medical College, Firozabad, UP
[4]Professor & Head, Department of General Surgery, Autonomous State Medical College, Firozabad, UP

Corresponding Author:
Dr. Vipin Raj

Associate Professor, Department of General Surgery, Autonomous State Medical College, Firozabad, UP

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ABSTRACT

Introduction: WHO introduced surgical safety checklist as an integral necessity of surgical care with aims of minimizing mortality, mortality and improving quality of surgical care. Numerous studies have depicted that surgical safety checklist has not only benefitted patient surgical outcomes irrespective of variable surgical expertise but also maximizes interpersonal communication between surgical teams compromising nurses, anesthetist, surgeons and other staff, promoted professionalism leading to standardized surgical care. Due to its widespread benefits its has provided with tagline "safe surgery saves live" highlighting its core objective's. surgical safety list is composed of their main elements sign in, time out and sign out in each team's members are supposed to discuss avoidable and anticipated items like blood loss, number of instruments, mob used and other components. With hope to address the bottom level challenges and practical on floor difficulties at our institute this study revolves around the level of acceptance, its in-depth knowledge and familiarity of surgical team so that appropriate and needful corrective reforms should be planned as accordingly. **Methodology:** we have adhered to qualitative mixed method approach for our study, open ended semi structured interviews are undertaken of staff nurses, surgeons, anesthesiologists to taken to obtain maximum and widespread possible responses. Thematic analysis approach was used to analyzed the subjective and mixed data and findings are synthesized. **Results:** we have observed four main bullets observations after that data saturation and convergence of data portrayed. Our main observations findings leading to hindrance in proper implementation of surgical safety checklist were, patients increased workload, deficiency in training and knowledge gap, casual and monotonous attitude, tick box mentality and organizational formality and others. **Conclusion:** our research findings have re-emphasized the relevance of WHO surgical safety checklist, for proper execution and mixed method approach needed to be periodically devised. Periodic brushing of knowledge its importance and behavioral adaptation is a needed intervention to maximized surgical safety list proper acceptability and execution.

Keywords*: World Health Organization Surgical Safety Checklist, Surgical Patient Safety, Operating Room Communication, Checklist Compliance, Qualitative Thematic Analysis*

INTRODUCTION:

WHO put forward Surgical Safety Checklist which set eyes on to minimize mortality and morbidity among surgical patients and was proposed to effectuate an uneventful surgical care, this not only lowers the avoidable complications among surgical patients but also promotes professionalism, interpersonal communications among health care workers and foremost

standardized care among patients, as formulated that causation of any disease or any health hazard revolves around three prime elements that's agent, host and environment so the very same goes with surgical complications[i]. WHO safety surgical checklist works on all three dimensions simultaneously that why it has been shown to drastically lowers surgical hazards irrespective of shifting demographic variability and floating surgical care worldwide. To promote quality of surgical care it has been labeled with slogan "safe surgery saves lives" which abridge the core meaning of whole intervention. Surgical centers abided by WHO surgical safety checklist guidelines as necessary and core element in surgical care has shown remarkable differences in overall patient mortality, morbidity, lowering postoperative complications and better inter personal surgical teams' communications when compared to non-complaint institutes, contrasting lower objective and subjective variability in surgical care have been reported in non-adherent centers as reported studies.[ii]-[iii]-[iv]

As Surgical care is a team effort that reflects the collaborative efforts of surgeons, anesthetist, nursing staff and supporting staff so the in-depth familiarity along with day-to-day hands-on implementation and ground level execution of WHO surgical safety checklist is the essence and necessity of any surgical procedure. Surgical team at almost all tertiary care Centre is quite a dynamic pool with periodic change of members and so is the level of delivery of services. Although the core training of all team members remains the very same but individual level precision, interest, learning capacity and attitude are deciding factors in ground delivery of services. The actual backbone of any intervention lies in its familiarity and acceptance among team and ground level delivery. So, it's crucial to have periodic assessments and brush-up of all teams' members regarding's WHO surgical safety checklist dynamics.

Even there is progressive and daily advancements and refinement of surgical procedures shifting from open surgery to minimally invasive to robotics surgeries, but even if all the headway and refinements the very basics of surgical care remain static.

Surgical complications ranging from near miss events to fatality mostly goes undocumented of which most of are preventable and avoidable, if checklist is properly taken in practice there has been drop of mortality rates from 1.2 to 0.9% length of hospital stay lowers down to 4.7 to 5.2 as per statistics[v]. A lot of avertible sequalae in surgical care like operating on wrong site, mislabeling specimen, site and patient, inordinate blood loss in peri and post operative period, lost instruments and items etc. can be prevented if surgical safety protocols are well established and followed properly as studies suggest that lack of protocols culminates in wide range of adverse events[vi]-[vii].

Surgical Safety checklist comprises three main elements which are sign in, time out and sign out, during this period the whole team is supposed to be actively involved , should be clear about their roles to promote accountability, identifying the patient, and labelling the surgical site, any anticipated complications, health hazards, counting the numbers of mobs, estimated blood loss and the rest of checklist are pre-requisite of any procedure contrary to tick- box exercise and formality. In spite of documented necessity, the ground reality is quite surprising due to multiple factors which can be sum up as pandora box that leads to failure of compliance and completeness.

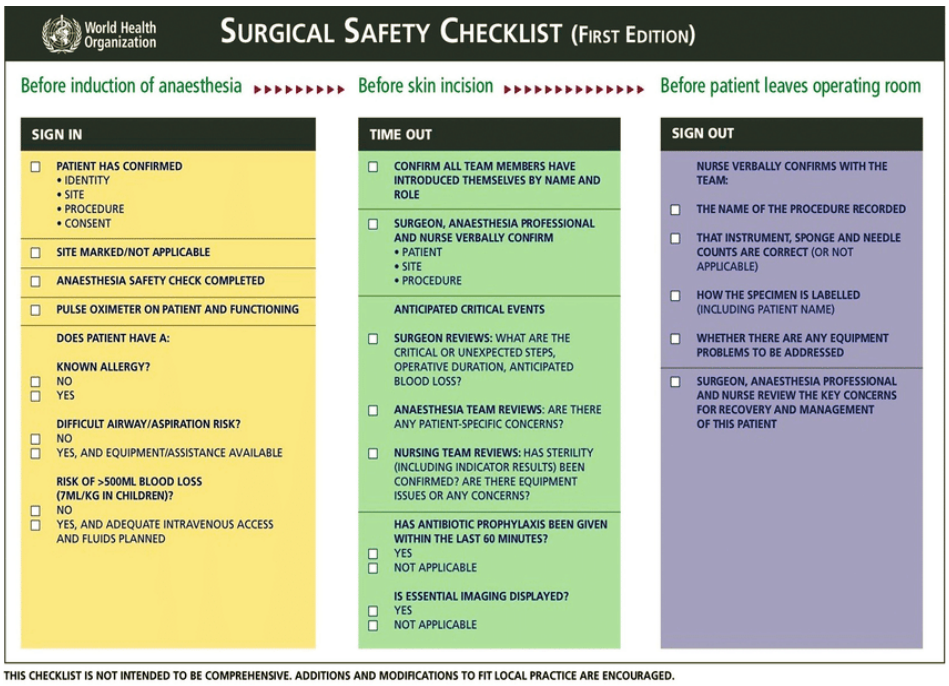

Figure1: WHO Surgical Safety Checklist

With hope to address the bottom level challenges and practical on floor difficulties at our institute this study revolves around the level of acceptance, its in-depth knowledge and familiarity of surgical team so that appropriate and needful corrective reforms should be planned as accordingly. With this project we tried to dig deep in the detailed practical hurdles at all level of surgical care and what avoidable factors that we can omit and also, we tried to do analysis of complex interplay of

behavioral factors, academic level of competences, patients related factors that comes in pictures which hurdles effective prosecution of surgical safety checklist.

MATERIALS & METHODS:

Study Design: We adopted a qualitative approach for our study as the topic revolves around real life day to day experiences and subjective variable perception of self and other health care delivery practices. Detailed interviews of nursing staff, anesthetist and surgeons at all level of hierarchy position is conducted, anonymous data collection is performed and analyzed as accordingly.

Study Area: This study is conducted at Government Medical College Firozabad, Uttar Pradesh, which is tertiary care apex medical institution.

Study Duration: Eight (08) months spent in taking interviews, organizing and analyzing transcripts.
Study population: A total of 54 participants were interviewed, it's a dynamic pool with mixed health personals with surgeons, anesthesiologists and supporting staff.

Methodology: we interviewed with all health care professionals nursing staff, surgeons, anesthetist which are currently employed in our institute. Face to face in person interview with prior appointment is done, but for few senior personal, telephonic interviews were also adopted. Newly appointed personals are purposely omitted and only those having 2 years or more of prior experiences are considered for study participation.

Data collection: Data is collected by author, trained health personals with at least medical graduate level of academic typical bachelor of medicine degree or above with specific set of pre-approved protocol and questions. For richer data, rapport building, and versatility of experiences we adopted mixed methods approach with open ended questions with semi structured interview methodology were implemented. In person face to face interview is first priority but for few personals telephonic modes of communication are also used.

Data analysis: To promote confidentiality and better data build anonymous data is collected with only designation, years of experience and specialty taken in consideration and documented.

RESULTS & OBSERVATIONS

Insights gained:
As we tried to get involved all health personal who are involved in active surgical care that are surgeons, anesthetist, nursing staff and supporting health members. Thematic analysis approach for analysis for qualitative and subjective data was used, categorization of subjective findings into broader visualized subgroups was tried. We attained six major results after that overlap of issues got from most of the study participants so we can safely presume issues that which are presented as below:

1: Deadline-driven environment:

Quite often almost all tertiary care institute are overbooked with pending cases, time constraints to polish off all listed cases is one major appreciable issue sensed by all teams. As elective cases need to be finished on time for timely sign out of all members, repeating same check list procedure gets a little impractical sometimes, got to choose sometimes in between either to finish all cases or to follow surgical safety checklist procedure and limit last cases as per list. This gets further aggravated if any per-op difficulty arises from anesthesia, surgeon side or any technical factors with any instruments, maintaining a neutral attitude from team in subsequent cases gets impractical in next cases and team or team members are more concerned about particular issue which hurdles previous case completion uneventfully.

2: Rote Completion:

Chronic repetition gets monotonous in very short span of time, few perceived surgical safety checklists as mere organizational formality or checklist that needs to fulfilled. The check-box attitude is at psychological level issues that can't be handled with putting more pressure or putting constraints which actually worsens the sole narrative and leads to falsified and fabricated data. On surgical floor work is an art in motion where multiple teams members works simultaneously with coordination to achieve uneventful surgical outcome with ongoing teaching activities of undergraduate's and post-graduates.so we have observed and say with safe confidence margins that it would be best to have a dynamic assessments of teams and post work-load as accordingly as we have observed that as work pressure increases in case of emergency cases, or due to sudden gush of work of any kinds ,efficiency of team and members dramatically fallout and surgical safety checklist get merely reduced to peace of paper rather than being viewed as integral part of surgical care.

3: Dilettante knowledge and skills:

Being a dynamic pool of new and old professionals, few instance portrayed the need of academic brush-up and retraining of surgical safety list framework. We adopted brief teaching sessions in operation theaters itself as and when time permits. We adopted Inquiry-Based Learning and Experiential Learning teachings modus operandi to achieve our intended objectives. these approaches have shown to be students centric, promotes curiosity, provides deep exploration in its finer details and all

together ongoing hands-on training on real life scenarios.

4: Pragmatic Inconsistency:
Most of instances surgical safety list is delivered on floor by subordinates and junior most team members sometimes its due to hierarchical decorum which in due courses of time gets into somehow religious compulsion. We also observed variable engagement by senior team members. Best way to adapt to any new practice is role modeling and accountability for non-compliance but these approach needs strong organizational support and mentoring which we observed a fluctuating variable in our study. With different teams there is difference in opinion that who will initiate the checklist and different subsections will be supervised by whom? i.e. Staff nurse, surgeons or anesthetist along with designation and seniority, we felt that that senior personal of any team is hesitant to act and perform safety list on floor. There is clear cut role ambiguity among imitating and mentoring the checklist. Poor interpersonal communication in some teams with language barrier and lack of professionalism appeared as significant stumbling block in safety list proper execution and completion. Surgical Safety list also needs real time adaptions according to local on floor needs as per team and patients' needs a well framed audit can fulfill both its quality and proper effectiveness.

DISCUSSIONS:
Our study findings parallel with previous studies where participants have core belief that implementing WHO surgical safety list have beneficial effects with regards to patients' safety, better interpersonal communication between team members, reduction in incidence of adverse events and overall improved patient surgical care. Study done by Domingo L and other reported that 64.3% surgeons believed that surgical safety list have beneficial effects[viii]. Similarly research project done at China also reported that use of surgical list reported in reducing chances of surgical errors[ix].

As we found in our study that some health personals view checklist as monotonous organizational formality which soon is met by direct and indirect resistance to its compliance and acceptability quite often by all level of hierarchical personals at different context, the very same is depicted by work of Russ SJ[x] and others which shows quite often senior surgeons or anesthesiologists are the biggest hurdle in checklist implementation, other study other the checklist implementation is perceived as increased burden to existing structure by health personals[xi].

As apparent by other studies poor interpersonal communication[xii] due to difference in opinion between team members is significant avoidable and modifiable variant in surgical safety checklist effectuation this goes as accordingly our study findings, team exercises, sensitization about surgical safety list importance, role modelling by seniors can overcome this issue We do have observed that there is significant and subjective variation in academic competences of different health personals that why periodic assessment is a much-needed intervention for proper polishing of knowledge and skills and proper implementation same was observed findings by the work of Borchard A[xiii], Ambulkar R[xiv] in which they have highlighted the need of retraining and periodic mentoring with latest modes of teaching and tutoring.

CONCLUSION:
Although WHO Surgical safety list needed almost nil resources and a transient training but we found an oscillating level of involvement and in the fullness of time even with same personals in different subset of situations. This shows that even with adequate comprehension its religious implementation needed a behavioral reform, in Words of Bloom's Taxonomy of Learning Domains we suggest that more emphasis should be made on Psychomotor Domain rather than on academic brushing.

Study constraints: Despite following diligent methodological approach for our research, we acknowledge the appearance of inadvertent publication bias, limited number of participants culminating in context-dependent validity, study participant's varying and subjective set of experiences. Even after reassuring anonymity, as its person-to-person interview participants may hide their lacuna and their actual commitment towards surgical safety checklist for giving better professional impression. Ethical approval: This study was approved by Institutional Ethical Committee and Review Board.

Conflicts of interest: None to announce.
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