Vol. 3 No. 2 (2024): Journal of Rashid Latif Medical College

Original Article

Patient Safety Culture in Operation Theatres of Peripheral Teaching Hospitals

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Received: 9th July, 2024

Revised: 3rd September, 2024

Accepted: 14th November, 2024

DOI: 10.69545/a4ke6y21

Abstract

Objective: to learn how postgraduate surgical and allied trainees at Arif Memorial Teaching Hospital (AMTH), Pakistan, feel about non-technical abilities in the operating room.

Methodology: A cross-sectional survey was conducted at the AMTH theaters, thirty postgraduate trainees filled the Operating Room Management Attitudes Questionnaire (ORMAQ).

Results: Except for procedural compliance and error disclosure, which point to differences in implementation and awareness, postgraduate trainees have good opinions about every aspect of the ORMAQ survey.

Conclusion: The findings mostly match those of earlier ORMAQ surveys of surgical teams conducted in other nations. Due to shady systematic working practices and cultural norms, the disparities highlight the possible hazard to patient safety. The results validate the use of human factor training and team interventions to apply protocols and guidelines. This survey also aids in gathering information for a hospital's quality assurance program.

Keywords: Non-technical skills, ORMAQ, patient safety, surgery, human factors

Introduction:

In the operation theatre surgeon needs technical as well as non-technical set of surgical skills for safe surgical outcome. A technical skill is any psychomotor action with related mental knowledge. The technical skills e.g. good hand-eye coordination, manual dexterity, is required for good surgical outcome (Agha, Fowler, & Sevdalis, 2015). Moreover, these skills tend to improve with experience. These are the main focus of standardized training and assessment (Geraghty, Reid, & McIlhenny, 2014; Kim et al., 2015) Non-technical skills (also called human factors) are not related directly to use of drugs, equipment or medical expertise (Agha et al., 2015). The Royal College of Surgeons, Edinburgh describes non-technical skills as a collective term for teamwork, communication, situational awareness, decision

making and leadership. Non-technical skills are also defined along three dimensions; (Agha et al., 2015; Arias et al., 2014; Flin, Yule, McKenzie, Paterson-Brown, & Maran, 2006) The interpersonal skills (e.g. communication, teamwork), cognitive skills (e.g. situational awareness, decision making) and personal resource skills (e.g. managing stress, fatigue & workload). WHO has declared safe surgical practice as a public health priority(Lives). The prioritization of patient safety is also desperately needed across all hospitals in Pakistan. In industrialized countries 3-16% surgical adverse events occur in hospital based surgical procedures that cause permanent disability or death in 0.4- 0.8% cases. About 45% of medical errors involve surgical patients and 35 – 66% of these occur in operation theatre. Operation theatres are highly complex areas in a hospital because different people with different learning aims and level of expertise come together as a team. Hence there is frequent chances of errors (Ugur, Kara, Yildirim, & Akbal, 2016) attitudes of healthcare professionals in case of errors and educational needs of professionals.

Methods:

The descriptive study was conducted at a university hospital in Turkey from January 25 to February 14, 2023, and comprised operating room staff, including physicians, nurses, anaesthesia technicians and perfusion technicians. Data was obtained using a questionnaire.

Results:

Response rate was 100%. Original item numbers are shown to indicate the order they were set in the questionnaire. Results are shown in Figures 1, 2.1 to 2.8, 3 and 4.

Discussion:

Areas of concern and attitude variance concerning non-technical skills in the operating rooms of AMTH included stress and fatigue management, tailored monitoring, compliance with procedural standards, and error declaration.

These opinions find support in the organizational structure and local culture of AMTH. The survey by Geraghty et al. (2014) was carried out in the United Kingdom. Culture norms and health care practices had already been developed at the time of this research. The participants for the research included urology residents, consulting surgeons, and nurses.

The study by (Flin et al., 2006) was done in same settings but the residents were from General surgery. Our study was conducted in a recently constructed tertiary care hospital that is part of the healthcare system of a developing nation. Although only residents were included in the sample, they came from a variety of surgical specialties. The ORMAQ survey was conducted in Italy for the study by Pratt and Pietrantoni (2014), however only nurses and consultant surgeons were included in the sample. In another study, the

ORMAQ survey was utilized in acute care settings. Reaction to the leadership structure is decidedly favorable. Clearly positive and in keeping with previous findings, an organizational structure of lines of power and communication is acceptable. On the other hand, in parts of operating room administration Q42, Q50 (37%), and 47, the subjects are not clear about what they are supposed to do in those areas. The extent of responsibility is very clearly defined in other studies including Q50, where a significant 78% do not agree (Geraghty et al., 2014) and 77% do not agree (Flin et al., 2006).

It suggests a much better comprehension of role differentiation. There is an apparent miscommunication at AMTH over attitudes towards clearer job specifications and command and control. Although the positive trend toward assertion of confidence is reassuring, it must be regarded as somewhat overestimated since the trainees are unwilling and vague to respond to confusing situations Q32, Q36) and also fear asking seniors for questions Q38, Q60). This finding requires further research and also goes against the studies mentioned above. Like the studies above, the perceived benefit of information sharing is very positive, with special emphasis on briefing/debriefing as in aviation (Flin et al., 2006; Geraghty et al., 2014). Since this rarely happens in our OT, the positive response may have been because of trainees' confusion as to what impact it may leave on the safety of patients. The study points towards the fact that there must be proper preoperative discussions and the discussion about surgeries. Cooperation is mostly received positively by the trainees. They are very categorical regarding involvement, cooperation, and resolution of conflicts to achieve a positive outcome. There is dispute in the response to the value of interprofessional education, the value of individual personality in teamwork, and the value of constructive criticism (Q17, 18, 56). (Geraghty et al., 2014; Flin et al., 2006). Formal education and training in teamwork need to be focused on awareness. There is positive attitude towards work values (such as acknowledgment as a future consultant, dependability and acceptability). Response to (Q7) is split equally and shows that trainee's learning curve and style is different and hence need of individual supervision. In (Q 40) there is a split response in our study because delay in start of OT lists is a common cause of personal disputes. This finding highlight lack of punctuality may generate negative attitudes in smooth working of operation theaters. Trainees do perceive that Stress and fatigue due to work over load and personal problems reduce efficiency (Q21, Q39, and Q45). But they are not clearly accepted that stress can affect decision making (Q11, Q8). The trainees don't feel sharing stress with team members should be an obligation (Q51). There is a need to educate trainees about psychological dimensions of stress including the coping strategies and its relation to surgical errors. In the error/procedural compliance sections the trainees agree that errors are inevitable and are not a sign of incompetence (Q53, Q29), but at the same time they perceive it as a degrading act (Q33). This attitude can be detrimental and may result in cover up of mistakes. The trainees identified attitude towards procedural compliance (Q37) and guidelines (Q59) is somewhat casual at the team level as well as at the individual level. Moreover, majority thinks that mistakes are not appropriately handled (Q41). There is a need to look into the validity of existing protocols, checklists and the efficiency of surveillance system in AMTH operation theatres. The attitude towards organizational climate is positive as for as job satisfaction (Q30, Q47, Q57). The dissemination of information by administration (Q2) is assessed as good which is similar to (Geraghty et al., 2014) There is less positive attitude towards concerns about trainees queries (Q30) at departmental level as well as amount of on job training (Q58). This finding emphasizes more attention and care towards trainee's personal problems and training needs. The attitude towards error reporting system and discussion to reduce recurrence is very positive as in (Flin et al., 2006; Geraghty et al., 2014). Trainees show reluctance to accept errors (Q69) and consider it unnecessary to report if no harm done (Q68) andarenot sure (Q67) in assessment of nontechnical cause of any witnessed error. This finding identifies lack of open environment and education about error disclosure in AMTH operation theatre. The trainees find that the quality of

team work is highest with immediate senior. The quality drops to just adequate with OT. These findings demonstrate that seniors' tight supervision improves students' perceptions of the quality of their education.

Conclusion:

Non-technical skills in surgery can only be ensured formally and thus in operating room avoid errors if patients and operating room workers get formally educated. Formal, or organizational and local culture provides success to a program in hand. Any organization without using procedures or guidelines must consider formal training for these non-technical skills while preparing the use of working systems in any operating rooms of AMTH hospitals. The main areas, based on these concerns regarding the study performed here are procedural compliance, which have discrepancy in the reporting area of errors. This diagnostic assessment will help us to construct or update strategies for dealing with these areas of weakness specifically, and with non-technical skills education in general. The study is not generalizable and is only restricted to a single teaching hospital. The sample size and scope got affected due to the absence of nurses, consultant surgeons, and other employees in the survey. Since ORMAQ themes are arbitrarily set and not validated up to date (Kim et al., 2015), individual items were discussed separately. Direct observation and interview will be required to thoroughly understand the current culture and attitudes. Work needs to be done in non-surgical skills training and assessment as part of surgical and related training programs.

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