



## LETTER to EDITOR

## The need for non-technical skills education in Iranian operating room practitioners: A letter to the editor

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**Dear editor,**

The operating room (OR) is a high-risk environment where practitioners from various disciplines collaborate (1). The operating rooms are the most common settings in healthcare where adverse events occur (2), and recent efforts have focused on enhancing safety and ensuring patient well-being (3). Analysis of OR adverse events highlights the significant role of deficiencies in non-technical skills (NTS) (4), with approximately 86% of such events in open surgeries linked to NTS shortcomings (5). NTS include social and cognitive abilities such as teamwork, leadership, communication, and situational awareness, which complement practitioners' technical expertise (6). Applying NTS effectively can help reduce interruptions, miscommunication, and errors in the OR (7).

In recent years, the study of NTS among Iranian OR practitioners has gained increasing attention. Research has focused on both OR teams and individual practitioners. The psychometric properties of Persian versions of several NTS assessment tools have been validated (8-11), and a new behavioral marker system for evaluating circulating nurses' NTS has been developed (12). A study on teamwork among Iranian orthopedic OR staff found moderate levels of teamwork, with nursing sub-teams scoring higher than anesthesia and surgery sub-teams. The surgery sub-team scored lower in situational awareness, while anesthesia and nursing sub-teams showed weaker performance in leadership (8). Another study revealed higher scores in leadership and management but lower scores in decision-making and problem-solving (11). Communication failures and lower scores in this skill have been reported in two additional studies (13, 14). Research involving 22 orthopedic surgeons indicated an overall adequate level of NTS, though lower scores were observed in areas such as supporting others, reviewing and implementing decisions, and

understanding information (10). Studies on Iranian OR circulating nurses highlighted low scores in leadership behavior but better performance in situational awareness (15, 16). Anesthetist technicians performed well in planning and preparation but lacked sufficient authority and assertiveness (9). Similarly, nurse anesthetists demonstrated high scores in teamwork and task management but scored lowest in decision-making (17, 18).

Previous research has highlighted both strengths and weaknesses in the NTS of Iranian OR practitioners. Overall, the findings reveal notable gaps in NTS among both individual practitioners and teams. Enhancing these skills is essential for ensuring patient safety. Unfortunately, Iran's medical education system currently lacks standardized and structured NTS training programs, even though educational interventions have demonstrated significant positive effects in improving these skills (15, 17, 18). Since the areas needing improvement are well-documented, it is crucial to develop a specialized, structured NTS curriculum for OR practitioners during their academic training. This curriculum should cover teamwork, communication, situational awareness, decision-making, problem-solving, task management, coping with pressure, and leadership. Additionally, regular training and refresher courses are necessary for OR staff. Universities and hospitals should implement educational programs aimed at strengthening NTS among OR personnel to promote surgical safety.

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