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Assessment of risks in operation theatre staff: healthcare failure mode and effect analysis

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Background: OT staff are at risk for injury in the operating room daily. Estimates of 400,000 sharp injuries happen every year in the US, with around a quarter of these being sustained by surgeons. In 2011/12, an estimated 1.1 million people in UK suffered from an illness that was caused by their work. Over the last decade, there have been five million lost working days from self-reported work-related injuries and illnesses in the health and social care sector within the UK. The present study was conducted to evaluate the selected risk processes of Operation Theatre department of a Tertiary care teaching hospital in India by using analysis method of the conditions and failure effects in health care.

Methods: A mixed method approach of qualitative action research, quantitative cross-sectional and the HFMEA of the care processes involved in the surgical care pathways of the patients in operation theatre was done to identify and analyze the failure modes and their effects on staff safety. The identified modes and causes are classified according to the Eindhoven Model and the strategies for improvement are determined by the creative problem-solving technique.

Results: In five selected processes by voting method using rating, 23 steps, 61 sub-processes and 217 potential failure modes were identified by HFMEA. A total of 25 (11.5%) major failure modes and 54 (31%) potential causes that are quantitatively measured as high risk are transferred to the decision tree. Training and Retraining, Communication Skills, Standardization, Monitoring and Control were the solutions generated for enhancing the employee safety.

Conclusion: Using HFMEA to identify the possible errors in care processes, causes of each failure mode, and strategies of improvement is highly effective, and prospective risk analysis in healthcare sector is proposed to transmit an organizational culture from the type of reaction to the type of error prevention.

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