Igiene e Sanità Pubblica 2025; 98 (5)

The Error Room as an andragogical methodology for Patient Safety. An Italian experience.

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Keywords: *patient safety, error room, simulation learning, TS and NTS*

Abstract

Simulation courses develop both technical and non-technical skills. The latter are the most important skills for preventing errors resulting from communication or awareness.

The error room methodology involves setting up spaces that match the work environments of the professionals being trained, within which training programs are offered that adhere to the most effective andragogical techniques.

This training project involved 280 nurses with an average age of 39.7 years. A total of 1,560 hours of simulation training were provided in the error room.

This paper demonstrated that the Error Room certainly represents an opportunity for technical and non-technical skills, but above all, it allows multidisciplinary teams to practice innovative organizational models together.

Background

Literature demonstrates that training healthcare personnel in risk management and quality assurance is more effective when conducted through simulation methodology.

Simulation courses enhance both technical and non-technical skills. The latter is the most important skill in preventing errors due to miscommunication, workplace errors, or awareness.

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The error room methodology involves setting up spaces that match the work environments of the professionals being trained, within which training programs are offered that adhere to the most effective andragogical techniques.

In particular, staff can be trained to carry out sequential activities and sub-activities whose correct execution ensures the effectiveness and safety of care, or they can practice/train in the use of healthcare technologies and/or devices. Finally, they can practice effective communication between teams or between operators and patients, including through role-play activities. This paper presents the training experience in an Italian Local Health Authorithy and the related outcome measurement.

The reorganization of community care in Italy following the COVID-19 pandemic has led to the emergence of community hospitals. These facilities are inpatient wards for patients with stable subacute conditions who require only nursing care and occasional medical checkups. Medical care is provided for only 4.5 hours per day, except in the case of unexpected emergencies.

The community hospital is located outside the confines of an acute care hospital and therefore lacks a 24-hour laboratory and emergency diagnostic imaging. Therefore, safe care planning must include specific training for staff and the development of safe care scenarios and management of the unexpected.

Project Objectives

Train staff in the new care setting through role-play and simulation activities based on proposed scenarios derived from the community hospital care model, the technical and non-technical skills needed to manage the unexpected in the new care context, test patient intake and assessment models, and verify the effectiveness of communication between teams and care providers.

Materials and Methods

The reproduction of community hospital care spaces and the simulation of clinical care activities that take into account the risk variables associated with the types of services provided, the proper assessment of patients to be admitted, the proper management of devices and technologies, and effective communication with staff and stakeholders represent a training ground that allows for the measurement of individual and team performance based on the training received, as well as the post-training performance of the department, resulting from the measurement of unexpected/adverse/sentinel events that occurred post-training.

In addition to the treatment scenarios and potential failure modes of the community hospital organizational model, non-technical skills (NTS) measurement tools were implemented using the NOTECHS observational methodology. Finally, participants were trained in the Reason Three-Bucket Model methodology for managing debriefings in complex situations.

280 nurses participated, 64% women and 36% men. The average age was 39.7 years, with women's average age being 43.2 years and men's average age being 36.5 years.

Eighty-five percent of the sample had a Bachelor's degree, while the remaining fifteen percent

had a Master's degree in Nursing.

Sixty-two physicians also participated, 56% women and 44% men, with an average age of 43.6 years.

A total of 1,560 hours of simulation were provided in the Error Room.

Results

The technical and non-technical skills assessment forms, both at the start of the training and at the end of the training, showed an improvement in individual skills of between 15 and 25%, and a 33% improvement in group skills.

The student satisfaction questionnaires documented very high satisfaction, with an average score of 4.7% on a scale of 1 to 5.

All participants completed the course, and there were no absences.

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The analysis of the TS and NTS six months after the training measured the maintenance of acquired skills and, in 65% of cases, a 15% increase in skills previously acquired during the training course, likely acquired in the field.

Conclusions

The error room certainly represents an opportunity for technical and non-technical skills, but above all, it allows multidisciplinary teams to practice innovative organizational models together.

It also allows training in the use of technologies and equipment, enabling operators to acquire the manual skills and confidence to safely perform daily tasks.

Finally, the error room allows professionals to experiment with team building and team working models.

Last but not least, the error room model appears to be in line with andragogic training techniques in terms of training effectiveness and behavior modification of professionals even with many years of experience.

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