




Andrea Cortegiani
Vincenzo Russotto
Cesare Gregoretti
Antonino Giarratano 
Massimo Antonelli

Medical simulation for ICU staff: does it influence safety of care?

Accepted: 18 December 2015
Published online: 13 January 2016
© Springer-Verlag Berlin Heidelberg and ESICM 2016

Dear Editor,

We read with great interest the article by Garrouste-Orgeas et al. entitled “Understanding medical errors and adverse events in ICU patients” [1]. In particular, two sentences caught our attention: “medical errors are the consequence of multiple actions of a whole chain of organizational and humans interaction...” and “leadership, trust, respect, open communication, non-punitive actions and coordination of behavior are essential for a multidisciplinary ICU team to provide safe care”. In a team-working setting like the ICU, shared

knowledge and non-technical skills are pivotal to deliver a high quality of care and to reduce medical errors. Medical simulation has been demonstrated to improve knowledge, self-confidence, non-technical skills and team performance in various settings like emergency care, trauma and anaesthesia [2, 3]. Accepting that medical error is frequent, complex and not related to a single individual behaviour, the widespread use of simulation-based learning during the last 20 years may be seen as an attempt to prevent and reduce it [4]. Targeted practice of medical simulation, based on learning-by-doing theory [5], may improve many of the factors influencing safety of care, namely ICU leadership, team work, work organization, caregiver well-being and awareness of error as described by the authors [1]. To know what to do, to learn and implement methods to interact with other members of the team and to deal with critical events in a safe setting are pivotal goals to achieve safer care in the ICU. However, in light of an effort to reach the goal of prevention of medical errors and adverse events in ICU, we believe that we should start to consider simulation as a core part of ICU staff training.

Compliance with ethical standards

Conflicts of interest All authors declare no conflict of interests.

References

1. Garrouste-Orgeas M, Flaatten H, Moreno R (2016) Understanding medical errors and adverse events in ICU patients. *Intensive Care Med* 42:107–109. doi: [10.1007/s00134-015-3968-x](https://doi.org/10.1007/s00134-015-3968-x)
2. Mundell WC, Kennedy CC, Szostek JH, Cook DA (2013) Simulation technology for resuscitation training: a systematic review and meta-analysis. *Resuscitation* 84:1174–1183
3. Cortegiani A, Russotto V, Montalto F, Iozzo P, Palmeri C, Raineri S, Giarratano A (2014) Effect of high-fidelity simulation on medical students’ knowledge about advanced life support: a randomized study. *PLoS ONE* 10:e0125685–e0125685
4. Kohn LT, Corrigan JM, Donaldson MS (2000) *To err is human: building a safer health system*. National Academies Press, Washington
5. Kolb DA (1984) *Experiential learning: experience as the source of learning and development*. Prentice-Hall, Englewood Cliffs

A. Cortegiani · V. Russotto · C. Gregoretti · A. Giarratano (✉)
Department of Biopathology and Medical Biotechnologies (DIBIMED), Section of Anesthesia, Analgesia, Intensive Care and Emergency, Policlinico P. Giaccone, University of Palermo, Palermo, Italy
e-mail: andrea.cortegiani@unipa.it
Tel.: +390916552730

M. Antonelli
Department of Anesthesiology and Intensive Care, A. Gemelli University Hospital, Catholic University of the Sacred Heart, Rome, Italy