

Endotracheal Intubation Self-Confidence: Report of a Realistic Simulation Training

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Abstract : Introduction: Endotracheal Intubation (ETI) is a procedure for clinical management of patients with severe clinical presentation of COVID-19 disease. Realistic simulation (RS) is an active learning methodology utilized for clinical skill's improvement. To improve ETI skills of public health network's physicians from Recôncavo da Bahia region in Brazil, during COVID-19 outbreak, RS training was planned and carried out. Training scenario included the Nasco Lifeform realistic simulator, and three actions were simulated: ETI procedure, sedative drugs management, and bougie guide utilization. Training intervention occurred between May and June 2020, as an interinstitutional cooperation between the Health's Department of Bahia State and the Federal University from Recôncavo da Bahia. Objective: The main objective is to report the effects on participants' self-confidence perception for ETI procedure after RS based training. Methods: This is a descriptive study, with secondary data extracted from questionnaires applied throughout RS training. Priority workplace, time from last intubation, and knowledge about bougie were reported on a preparticipation questionnaire. Additionally, participants completed pre- and post-training qualitative self-assessment (10-point Likert scale) regarding self-confidence perception in performing each of simulated actions. Distribution analysis for qualitative data was performed with Wilcoxon Signed Rank Test, and self-confidence increase analysis in frequency contingency tables with Fisher's Exact Test. Results: 36 physicians participated of training, 25 (69%) from primary care setting, 25 (69%) performed ETI over a year ago, and only 4 (11%) had previous knowledge about the bougie guide utilization. There was an increase in self-confidence medians for all three simulated actions. Medians (variation) for self-confidence before and after training, for each simulated action were as follows: ETI [5 (1-9) vs. 8 (6-10) ($p < 0.0001$)]; Sedative drug management [5 (1-9) vs. 8 (4-10) ($p < 0.0001$)]; Bougie guide utilization [2.5 (1-7) vs. 8 (4-10) ($p < 0.0001$)]. Among those who performed ETI over a year ago ($n = 25$), an increase in self-confidence greater than 3 points for ETI was reported by 23 vs. 2 physicians ($p = 0.0002$), and by 21 vs. 4 ($p = 0.03$) for sedative drugs management. Conclusions: RS training contributed to self-confidence increase in performing ETI. Among participants who performed ETI over a year, there was a significant association between RS training and increase of more than 3 points in self-confidence, both for ETI and sedative drug management. Training with RS methodology is suitable for ETI confidence enhancement during COVID-19 outbreak.

Keywords : confidence, COVID-19, endotracheal intubation, realistic simulation

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