Lung sliding and B-pattern recognition by nurses: impact of a short focused theoretical training

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Argomento: Altro

Background: Lung ultrasound significantly improves the differential diagnosis of acute respiratory failure and in particular allows ruling in or out pneumothorax by the analysis of lung sliding and distinguishing acute pulmonary edema from COPD decompensation by B-pattern visualization[1]. Critical care nurses frequently assess patients with respiratory distress independently, for example, in extra-hospital setting where they are asked to communicate by phone auscultation findings to emergency doctors. So far nurses only use auscultation but may improve their assessment with ultrasound, after having received a proper training[2].

Aims and objectives: to test the possibility to improve lung sliding and B-pattern recognition by nurses with a short focused theoretical training.

Methods: Interpretation of a 25-clip slot for sliding (presence of lung sliding, lung pulse, lung point or no pleural movement) and 25-clip for B-pattern before and after a 3-hour focused training for nurses attending a first-level university master in critical care.

Results: 22 nurse trainees were involved (males 4, age 26.0 [24.0-28.0] year-old, previous ultrasound training 1, previous lung ultrasound training 0). From before to after the training, the median number of correct answers changed from 0.5 [0.0-2.0] to 8.5 [6.0-12.0] (p<0.0001) for sliding interpretation and from 3.5 [0.0-13.0] to 22.0 [19.0-23.0] (p<0.0001) for B-pattern recognition. After the training, the mean percentage of correct answer was 37.1±15.3% for lung sliding and 84.2±10.3% for B-pattern.

Conclusions: A short theoretical training significantly improved lung sliding interpretation and B-pattern recognition by nurses. The percentage of exact answers after the training remained too low to allow clinical use, mainly for sliding interpretation, but suggests a longer training may be useful. The study only focused on image interpretation; the training required for image acquisition was not tested.

References:1.Laursen CB. Lancet Respir Med.2014;2:638-46; 2.Noble VE. BMC Medical Education.2009;9:3