

Evaluation of an allocation of supervision levels to checklist assessment in undergraduate emergency simulation training

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Background

Entrustable professional activities (EPA) represent units of professional work to be carried out in the workplace under a supervision level reflecting the trainee's level of competence^[1]. Core EPAs for undergraduate medical training have recently been defined, one being the recognition of and initiation of emergency treatment in critically ill patients^[2,3].

Objectives

EPA have since been evaluated in the clinical context and with simulated patients but not in full-scale simulation. The purpose of this project was to develop, introduce and evaluate the rating via supervision levels for an EPA on emergency care and resuscitation for basic undergraduate providers in a simulated emergency course.

Research questions:

- How do self and examiner ratings regarding supervision / autonomy levels relate?
- How does the feedback via supervision levels relate to the feedback by traditional checklists?
- How is the feedback via supervision levels perceived by medical students and examiners?

Methods

Setting:

- Emergency medicine course, formative assessment
- Undergraduate medical education, 10th semester, prior to clerkships
- Small group, medium-fidelity simulation training

Instruments:

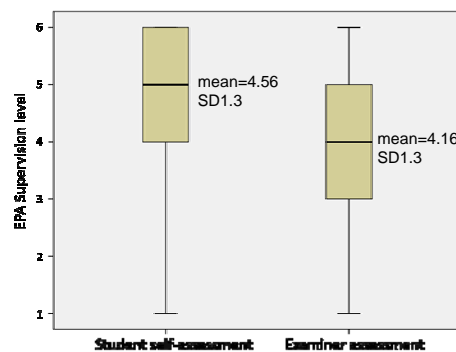
- Traditional checklists plus EPA supervision level (self- and examiner) ratings
- Questionnaire on feasibility and acceptability (Likert scale 1-5)

Statistical analysis:

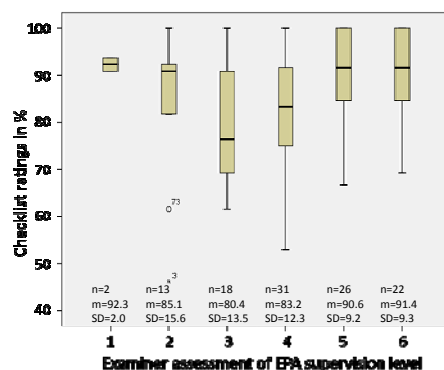
- Explorative and descriptive analyses, comparison of instruments, t-test via SPSS 23 and 24

EPA levels were attributed scores from 1 = level 2a to 6 = level 4a for statistical analysis.

Results



Comparison of self- and examiner EPA level ratings



Comparison of examiner EPA level ratings with checklist rating

Student feedback (questionnaire) in means:

Due to EPA supervision level based feedback I feel proficient to perform emergency procedures (as stated in the EPA description) on patients.	3.9
The assessment with EPA supervision levels gives feedback on individual performance.	4.0
The assessment with the checklist rates overall team performance.	3.9
Overall EPA level assessment is a valuable addition to checklist-based feedback.	4

Instructor feedback (questionnaire) in means:

The assessment with EPA supervision levels gives feedback on individual performance.	3.2
The assessment with the checklist rates overall team performance.	3.3
The use of EPA supervision levels as feedback tool is not time-consuming.	3.9
Overall EPA level assessment is a valuable addition to checklist-based feedback.	3.9
Overall impression can be summarized with supervision level allocation.	3.6

- Self- and examiner ratings on the estimated EPA supervision levels differ significantly with respect to trusted student autonomy / required supervision ($p=0.016$).
- Examiner attributed EPA levels show only a low correlation with checklist ratings. ($r=0.241$, $p=0.011$).
- Students and examiners rated EPA supervision levels as valuable addition to checklist-based feedback.

Conclusions

Feedback on supervision levels regarding the performance in emergency care and life support seems to be feasible and not time-consuming. Students and teachers valued the additional feedback information as it yields a more realistic view of overall performance. Checklists are still important to address single items for further student learning.

Take-home message

Evaluation of supervision level needed to carry out a professional activity in emergency care and life support is an easily integrated tool that enables students to get a more realistic view of their overall abilities.

References

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