

Peer-to-Peer Simulation-Based Education for Non-Invasive Ventilation; Bridging the Knowledge Gap

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Background

- **Peer-to-peer** learning is an **educational concept** where colleagues of similar professional levels can teach and learn complex topics.
- It provides a less intimidating learning environment and facilitates a **collaborative approach** to learning.
- Junior doctors feel **inadequately prepared** to deliver safe effective NIV, despite current guidelines recommending that all staff involved in NIV delivery **must have achieved defined competencies**.
- Simulation-based learning has been proven to **improve** trainee confidence in delivering NIV, however there is little evidence evaluating the impact of peer-to-peer simulation-based education for NIV teaching and training.

Aim

- To evaluate the **impact** of peer-to-peer simulation-based teaching in NIV based competencies
- To improve trainees **confidence** with NIV
- To improve **patient safety**
- To promote peer-to-peer learning as a way of facilitating **further learning opportunities**

Table 1: Summary of Likert-scale mean values pre vs post peer-to-peer simulation-based training course

Likert scale domain	Pre (mean)	Post (mean)
I feel comfortable talking to patients and their families about NIV management	3.0	4.7
I find it easy to talk to other team members about NIV management	1.3	2.7
I know how to manage interface problems	3.3	3.7
I am about to construct, carry out and amend an NIV weaning plan	3.7	3.7
I am able to assess the effectiveness of NIV that a patient is receiving	4.3	4.7
I feel able to recognise a deterioration in a patient receiving NIV	4.0	5.0
I know how to manage ventilator alarms	3.3	4.7
I know how to adjust the ventilator settings to optimise the NIV that a patient is receiving	4.0	4.3
I feel comfortable teaching others about NIV care and management	2.3	4.3

Methods



- GIM medical registrars undertaking respiratory medicine out-of-hours shifts were invited to take part in the course (n=3).
- Participants completed 4 scenarios formulated by respiratory specialist trainees addressing ventilator set up and interface problems, and communication/ethical dilemmas surrounding NIV.

Results

- Participants completed **pre and post course questionnaires** to obtain related ordinal non-parametric data via numerical analogue 'Likert'-scale rating 1-5 (Table 1).
- **Confidence in communication** surrounding NIV **increased** for all participants, both with patients and their families and other healthcare professionals.
- Participants felt more able to recognise a deteriorating patient on NIV, **promoting patient safety**.
- 100% participants would **recommend** peer-to-peer teaching on NIV implementation and practical deliver and all participants felt **able to teach other health-care professionals** about NIV care and management.

Conclusions and Future Work

- Peer-to-peer simulation-based training in NIV is well received, improving trainee confidence and facilitates practical skill learning through a hands on approach.
- Peer-to-peer teaching and training addresses training gaps due to reduced faculty available to teach, potentially inspiring further peer-to-peer learning opportunities.
- Given small sample size, further sessions are planned extending to GIM trainees who look after patients receiving NIV out of hours.
- Course will be extended to Emergency Medicine and Intensive-Care Trainees.

References

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