Paediatric Educators’ Special Interest Group

LOW-FIDELITY SIMULATION FOR NEONATAL LIFE SUPPORT TRAINING TO MEMBERS OF THE OBSTETRIC TEAM

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10.1136/archdischild-2021-rcpch.570

Background Simulation teaching is a popular method of training clinical staff in the management of neonatal emergencies. It is an engaging and interactive way of improving clinical skills and confidence in following the neonatal life support (NLS) algorithm. Obstetric team members are often the first to attend neonatal resuscitations therefore it is important that they are trained to manage common neonatal emergencies.

Objectives The objective of this study is to evaluate the effectiveness of low-fidelity simulation to teach neonatal life support to members of the obstetric team.

Methods Four low-fidelity neonatal simulation sessions each lasting 40 minutes were run in February and March 2021. 21 candidates participated including 15 midwives, 2 doctors and 4 maternity support workers. All candidates worked within the maternity services, 20 in hospital and 1 in the community.

The simulation was carried out by an NLS trained neonatal doctor. Each session began with a 10-minute explanation of setting up the resuscitaire and an interactive scenario-based demonstration following the NLS algorithm. This was followed by 30-minutes of low-fidelity simulation in which each candidate was observed and supported to run through a realistic scenario using a low-fidelity neonatal mannequin. All the candidates completed post-course feedback evaluating the effectiveness of the training and their confidence in their clinical skills.

Results All candidates demonstrated to the trainer both the ability to follow the NLS algorithm in the low-fidelity simulation environment and to deliver effective inflation and ventilation breaths on a mannequin. In the feedback, candidates were asked to rate their answers to statements on a scale of 1 (strongly disagree) to 5 (strongly agree). Following the simulation, 100% of candidates strongly agreed (5/5) that the topics covered were relevant. 90% scored 5/5 for feeling more confident in following the NLS algorithm and 10% scored 4/5. 86% rated 5/5 for feeling more confident in setting up the resuscitaire and 14% scored 4/5. Candidates were asked to rate the following statements, ‘I feel more confident in neonatal airway management and delivery of inflation and ventilation breaths’ and ‘I feel more confident in when and how to deliver CPR’. For both statements 95% rated 5/5 and 5% rated 4/5. 16 of 21 candidates answered the question ‘Simulated scenario teaching is a valuable way of learning NLS’ as this was not asked to the first group. Of those who answered this question 94% rated 5/5 and 6% rated 4/5.

Conclusions Low-fidelity simulation teaching is a valuable and effective way of training members of the obstetric team in NLS. All candidates agreed that they were more confident in both following the NLS algorithm and the practical skills required for NLS following the simulation training. The main limitations of this study are, firstly, that it assesses the self-efficacy of the skills learnt immediately after the training rather than providing an objective measure of performance and, secondly, it doesn’t assess the long-term retention of the skills learnt. Additionally, to fully evaluate the impact of low-fidelity NLS simulation training on patient care, further studies using immediate and long-term clinical outcome measures are required.