

Abstract

Simulation-based training can improve on-call physiotherapists' clinical reasoning abilities and self-reported competency

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Relevance: This project focused on supporting the on-call practice, clinical reasoning and competencies of qualified physiotherapists through the educational means of simulation-based training.

Purpose: All qualified physiotherapists are expected to participate in respiratory on-call provision even if respiratory is not their chosen specialty. This project was designed to evaluate the effectiveness of simulation-based training with regards to clinical reasoning and on-call competency.

Approach/evaluation: A pre-post design was used to evaluate the impact of targeted on-call stimulation-based training on clinical reasoning, self-efficacy, self-confidence and competency, with an intended six month follow up.

Participants attended a day of respiratory on-call simulation-based training, where they assessed and treated adult patients in a simulation context. The participants' self-reported clinical reasoning and on-call competency was measured using the Critical Thinking in Respiratory Care (CTRC) and the ACPRC on-call competency questionnaire pre and post training. The perceived effect of simulation-based training on competence was measured post simulation using the Satisfaction with Simulation Experience Scale (SSES).

Data analysis: Percentages are used to report demographic data. Wilcoxon signed rank test was used for pre and post intervention median data for clinical reasoning and competency, which is presented as median difference and *P*-value (MD, *P*-value). SSES data are presented as median values.

Outcomes: Forty-three qualified physiotherapists volunteered to participate, of which 81% were female. Sixty-seven percent worked within respiratory, with 72% of those working in inpatients. Of those working outside of respiratory, 54% had treated a respiratory patient within the last 3-years. Significant improvements were observed in all areas of the ACPRC on-call competency questionnaire following simulation-based training: assessment (-1.5; 0.020); treatment (-2; <0.0005); competence (-2.5; 0.020) managing (-1; 0.002); confidence (-1; 0.043). Significant improvements were observed in five of the seven sections of CTRC questionnaire post-simulation: anticipating (1; 0.015); trouble-shooting (2; 0.001); negotiating (1; 0.031); decision-making (1; 0.032); reflecting (1; 0.004). No significant changes were seen in questionnaire scores for prioritising (0; 0.110) and communicating (0; 0.918).

Discussion and conclusions: This data suggests that simulation-based training can improve qualified physiotherapists' clinical reasoning and self-reported competency in the ability to manage adult on-call situations. However, it also suggests that the current training may not improve communication or prioritisation skills in the simulation context, as reflected in the CTRC scores. Overall the SSES suggests that simulation-based training has a good satisfaction rate as a medium for delivering respiratory on-call training.

Impact and implications: Future annual training will include adult and paediatric scenarios and competency evaluation. This will form 50% of the required training stated in the Trust on-call policy. Further evaluation includes repeating the CTRC and the ACPRC on-call questionnaire, 6-months following simulation-based training to assess clinical reasoning abilities and competency retention. Future research will explore the impact of simulation-based training on clinical reasoning and on-call competency in the practice setting.

Funding acknowledgement: Higher Education Innovation Fund, University of Southampton.