



## Gauging the impact of Pediatric education on Paramedics' knowledge

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### ABSTRACT

**Background:** A high level of emergency medical care is now expected from paramedics dealing with the sick and injured, including pediatric patients.<sup>1,2</sup> Very little is known of the paramedics' perception of competency and of pediatric prehospital education and training, which is so critical to improve a paramedics' knowledge and performance of important skills.<sup>2,3</sup> The purpose of this study was to determine if pediatric training resulted in a change in knowledge among paramedics from Hamad Medical Corporation Ambulance Service (HMCAS).

**Methods:** A mixed-methods research approach was adopted to explore diverse perspectives. A comparison of all pre and post-test results for a pediatric Continuing Professional Development (CPD) course was conducted during the study period to determine whether knowledge was gained by paramedics. A survey was also used to conduct a retrospective analysis of the paramedics' perception of pediatric training and to review their perceived level of competency.

**Results:** The pediatric CPD course (Table 1) was conducted 33 times between January and November 2019. The average score difference between the pre and post-test indicates a gain in knowledge post-training across the participants (n = 51). The survey results (n = 33) revealed that there was an overall positive perception of the CPD course by paramedics and the impact it had on their learning and learning styles. Active learning strategies and hands-on practice were the recommended modalities by participants. The key findings are presented in Figure 1.

**Conclusion:** HMCAS paramedics provided positive feedback on their pediatric training opportunities. Evaluating the effectiveness of all training provides valuable insight towards the improvement of the activity. Educators should have a fair knowledge and understanding of adult learning principles and the application of effective teaching and learning strategies when developing any CPD activity. Lastly, continual advances in patient care need to be reflected in all training programs.

**Keywords:** Paediatric care, Paediatric Training, knowledge/skills/attitudes, Perception, CPD

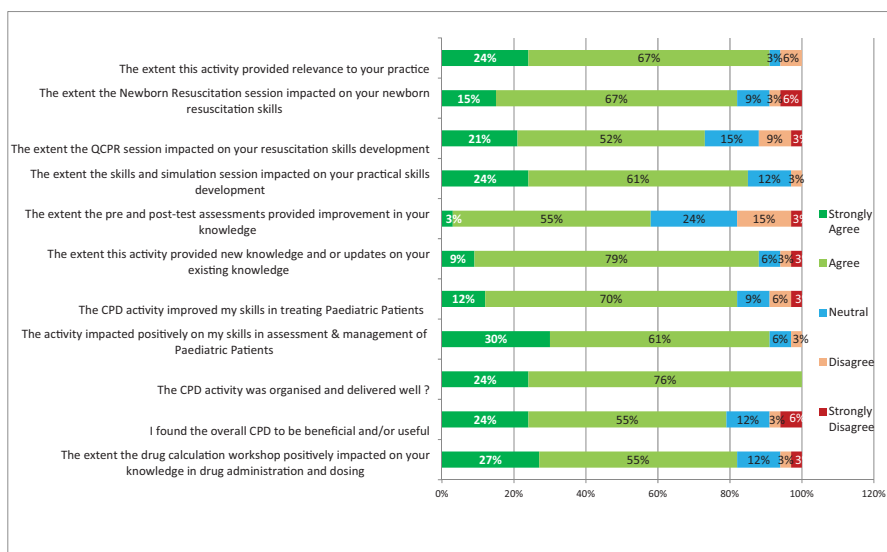
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**Table 1. Overview of the one-day pediatric continuing professional development course.**

Instructional Format	Topic
Pre-test	Knowledge assessment
Didactic Presentation	Clinical Practise guidelines and pre-hospital emergency paediatric care
Skills workshop (Hands-on)	Neonatal resuscitation; Paediatric Airway skills and QCPR
Full-scale Simulation (Hands-on)	Management of medical and trauma emergencies in Paediatric patients
Post-test	Knowledge assessment
Activity Summary	Feedback Questions and Answers and activity evaluation



**Figure 1. Paramedics' perception of their pediatric knowledge, skills, and the CPD activity.**

**Ethical approval:** This study was reviewed and approved by the ethics committees of Birmingham City University (Naidoo/4869/R(A)/2020/Jun/HELS-FAEC) and Hamad Medical Corporation, Medical Research Centre (MRC-02-20-107)

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