IN PRACTICE

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HIGH FIDELITY SIMULATION TO IMPROVE MEDICAL STUDENTS' CONFIDENCE IN MANAGING PAEDIATRIC EMERGENCIES

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Introduction: There is a growing demand for undergraduate student simulation nationally to improve preparedness for practice. Simulation can provide equitable access for students to different paediatric emergencies that can be missed during increasingly short placements and allow students to engage with scenarios in a more purposeful way than can be safely accessed on the ward. We aimed to introduce a simulation programme to improve medical student confidence in GMC focused outcomes for graduates [1] to better prepare these students for graduation.

Methods: Students rotating through West Middlesex University Hospital for a paediatric rotation were timetabled one half-day simulation session in the penultimate week of a 6-week placement between November 2023 and March 2024. This session comprised of an introductory lecture into human factors and crisis resource management before completing three simulation scenarios including one communication skills focused station. Students were invited to complete a questionnaire at the start of the day and after the final simulation session to assess key learning outcomes outlined by the university curriculum, as well as exposure to eleven common paediatric emergencies. Debriefing was led by trained facilitators at varied stages of postgraduate training using the debrief diamond model [2]. Statistical significance was assessed using the student's T-test.

Results: Eighteen students took part in the simulation day, seventeen completed both pre- and post- session feedback. During their placement students only had been exposed to an average of 4 (range 3-6) of 11 common paediatric emergencies as identified by the Imperial medical curriculum. Students' average confidence significantly improved in recognising a deteriorating child ($p = 0.0013$), taking a leadership role ($p < 0.0001$), initiating management for a deteriorating child ($p = 0.0198$), working together in a team in a clinical setting ($p = 0.015$) and completing an "iSBAR" handover ($p < 0.0001$). There was no significant improvement in students' confidence escalating an unwell child to a senior ($p = 0.1004$) or requesting help from other colleagues ($p = 0.0573$). All seventeen students would recommend the session to a friend. Instructors felt the course benefited from the heterogeneity of experience amongst faculty.

Discussion: Simulation was successful in improving student confidence in most major domains. In those domains that did not demonstrate a statistically significant improvement, this could perhaps be attributed to higher starting confidences. Through placement alone students do not garner sufficient exposure to a range of paediatric emergencies.

Ethics statement: Authors confirm that all relevant ethical standards for research conduct and dissemination have been met. The submitting author confirms that relevant ethical approval was granted, if applicable.

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