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Extending simulation 'outside the lines':
Outcomes of a randomised educational trial of extended immersive simulation for senior medical students

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Background: Many junior doctors worldwide feel ill-prepared to deal with their new responsibilities, particularly prescribing, but the use of extended multi-method simulation to emulate the junior doctor experience has rarely been reported.

Summary of work: Participants were randomised either to undertake two, week-long, extended simulations, several months apart (Intervention), or included workshops and seminars alone (Control) and assessed in relation to a range of outcome measures.

Summary of results: 84 third year students were randomised, of whom 82 completed the study. At the end of the first week, Intervention students scored a mean of 75% on a prescribing test, compared with 70% for Control students (P = 0.024) and Intervention teams initiated cardiac compressions a mean of 29.1 seconds into a resuscitation test scenario, compared with 70.1 seconds for Control teams (P<0.0001), but no significant difference was seen in tests of knowledge or clinical reasoning. At the beginning of the second week, about nine months later, a significant difference was still seen between the arms in relation to the prescribing test (78% vs 70%, P = 0.0004). At the end of the second week, significant Intervention vs Control differences were seen on knowledge (mean score 15.0/25 vs 13.3/25 [P=0.005]), reasoning (mean score 18.5/30 vs 17.3/30 [P=0.020]), a further prescribing test (71% vs 63% [P<0.0001]) and a paediatric resuscitation scenario test (252.0 seconds to initiation of fluid resuscitation vs 339.2 seconds [P=0.049]).

Conclusions: The study has demonstrated a definite educational impact from contextualising learning activities through extended multi-method simulation, with persistence of the benefit on prescribing skills for at least nine months.

Take-home messages: Extended immersive simulation enhances medical student learning from related workshops and seminars.