Near-peer Foundation Doctor-led Virtual Simulation Improves confidence of Final-Year Medical Students in Managing Acutely Deteriorating Patients and Promotes Attainment of Foundation Training Curriculum Outcomes.

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Background

The GMC **requires** final year medical students (FYMs) to demonstrate competence in domains of **'assessment', 'investigation', 'management', and 'senior escalation'** of acute presentations [1].

We **previously demonstrated** that 'near-peer' foundation doctor (FD)-led virtual simulation **improves student confidence** in these domains amongst volunteer FYMs[2].

There is a paucity of evidence for the efficacy of 'near-peer' led virtual simulation sessions in **non-volunteer cohorts.**

Aims

To validate the efficacy of near-peer-led simulation in a **non-volunteer cohort,** at:
1. Increasing FYM confidence in 'assessment', 'investigation', 'management', and 'escalation' of acute cases as an FD.
2. Improving FD knowledge of the management of common acute presentations, confidence in delivering virtual simulation teaching and constructive feedback, and ability to achieve foundation curriculum outcomes.

Methods

162 FYMs were allocated to 54 FD facilitators. FDs delivered **three 90-minute interactive sessions (figure 1)** within which each student practiced acute case assessment, investigation, management, and escalation. FYMs and FDs ranked confidence in GMC and UKFPO learning domains respectively via **pre- and post-session surveys**, comprising 1-5 Likert scales. FYMs rated confidence in assessing, investigating, managing, and escalating acute presentations, and FDs rated confidence in knowledge of the acute presentation, and ability to deliver virtual simulation scenarios and lead constructive feedback sessions. Paired responses were analysed using Wilcoxon Signed-Rank Testing.
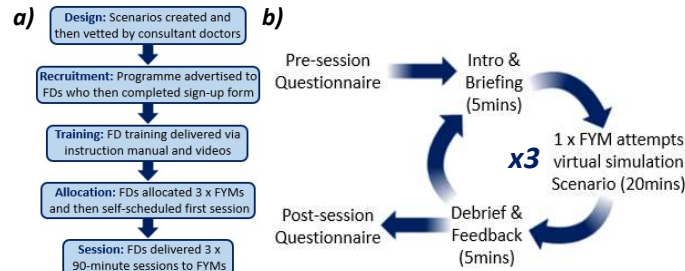

Figure 1: a) Design, implementation and data collection timeline of the programme b) MedViS teaching session structure

Results – Final Year Medical Students

32 FDs delivered 50 sessions to 85 students. Average session rating was 4.5/5. Sessions significantly increased student confidence in all domains **(figure 2)**. 77% of FYMs preferred having a near-peer rather than a senior teacher. Thematic analysis of free text feedback showed phrases such as '**useful / helpful / relevant**', '**good feedback**', and '**good explanations**' were common (in 50%, 22% and 33% of feedback respectively).
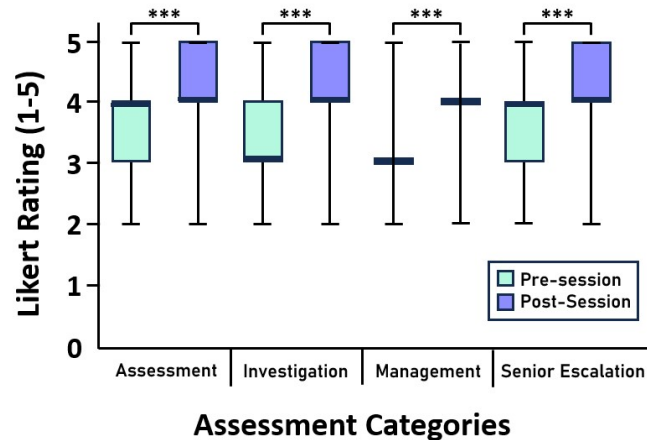

Figure 2: A box and whisker plot demonstrating that student self-rated confidence in all four domains of practice (via 1-5 Likert scale) improved following FD-led MedViS Sessions. *** = p<0.001

Results – Foundation Doctor Facilitators

67% of FDs described their teaching activities to be limited by **lack of opportunities**. 100% of FDs found sessions **useful** and wanted to deliver **further sessions**. FD confidence in clinical knowledge, simulation delivery, and giving constructive feedback significantly increased **(figure 3)**. 6 FDs arranged for teaching to be observed by a consultant who gave feedback and signed 'developing the clinical teacher' **portfolio tickets**.
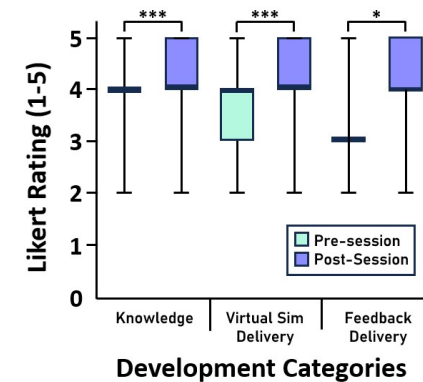

Figure 3: A box and whisker plot demonstrating that FD facilitator self-rated confidence in all three domains of virtual simulation delivery (via 1-5 Likert scale) improved following MedViS Sessions. *** = p<0.001, * = p=0.029

Key Messages

1. Near-peer-led virtual simulation is an effective tool for **improving FYM's confidence** in assessing, investigating, managing, and escalating acute medical/surgical presentations.

2. Delivering virtual simulation sessions enables FDs to develop confidence in leading simulation teaching and constructive feedback-giving as well as managing the scenarios themselves.

3. Delivering MedViS sessions enables FDs to **meet foundation curriculum objectives** and evidence teaching development on their portfolios, thereby contributing to their ARCP outcomes.

References:
1. General Medical Council Outcomes for graduates, 2018
2. Doshi et al, A pilot study investigating the value of virtual simulation led by foundation doctors, 2022

Credit to Biorender for illustrations.

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