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Assessing the effect of simulation training on medical students' competence

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Background: coronavirus disease 2019 (COVID-19) has impacted all non-emergent hospital activities, including on-site medical student education. In response, we implemented an on-site simulation programme to supplement our existing curriculum to ensure that our students' clinical learning experience is optimised.

Methods: Over the course of a 12-week period, all students enrolled in the surgery module received biweekly surgical tutor-led simulated patient sessions using a remote observation audio-visual system (SMOTSTM) in the decommissioned original operating theatres of the Mater Misericordiae University Hospital respecting hospital protocols. To assess usefulness, independent clinical teams scored student clinical competence [using twelve components of the Surgical Ward Assessment Tool (SWAT)] in representative groups completing surgical rotations who had simulation training versus those completing same duration medicine rotations without. Differences between groups were evaluated using Mann-Whitney U testing.

Results: A total of 220 students underwent simulation training this semester over 96 hours of scheduled, direct teaching. For the study, 66 students (38 females, 29 graduate entry) were formally assessed by non-academic clinical staff from ten specialties at two clinical sites. Students who received simulation training (n=35) were significantly better

at history taking (P=0.004) and appropriate laboratory (P=0.001) and radiological investigation (P=0.01) ordering. There was no significant difference between the groups otherwise including clinical examination, assessing the patient's drug chart assessment and differential diagnosis formulation.

Conclusions: This study shows the rapid implementation of a simulation programme for undergraduate medical students to adapt to the pandemic restrictions. In doing this, we have reduced the burden on our clinical site whilst also improving our students' competence.

Keywords: Simulation-based medical education; undergraduate surgical education; competence assessment

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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