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VIRTUAL: Virtual InteRacTive sUrgicAl skiLls classroom – A Randomized Controlled Trial Proposal

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Introduction: High costs and inaccessibility are significant barriers to face-to-face basic surgical skills (BSS) training. Virtual classrooms enable the combination of computer-based learning with interactive expert instruction and feedback. They may optimise resources and increase accessibility, facilitating larger-scale training whilst producing a similar educational benefit. We aim to evaluate the efficacy of virtual BSS classroom training compared to both non-interactive video and face-to-face teaching.

Method: 72 medical students will be randomly assigned to three equal intervention groups based on year group and surgical skill confidence. Interventions will be implemented following an instructional video. Group A will practice independently, Group B will receive face-to-face training, and Group C will receive virtual classroom training. The assessed task will be to place three interrupted sutures with hand tied knots. Pre- and post-intervention Objective Structured Assessment of Technical Skills (OSATS) will be blind marked by two experts. Change in confidence, time to completion and a granular performance score will be measured. Feasibility and accessibility will also be assessed.

Results: Significant improvement in OSATS within groups will be indicative of intervention quality. Difference in improvement between groups will determine relative performance.

Conclusion: To our knowledge, this will be the largest randomised control trial investigating virtual BSS classroom training. It will serve as a comprehensive appraisal of the suitability of virtual BSS classroom training as an alternative to face-to-face training. The findings will assist the development and implementation of further resource-efficient virtual BSS training programs during the COVID-19 pandemic and in the future.