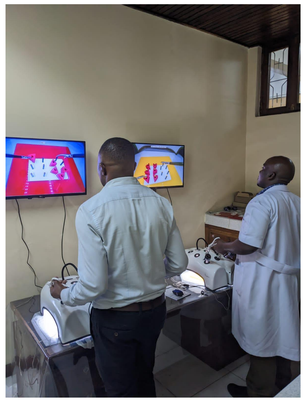
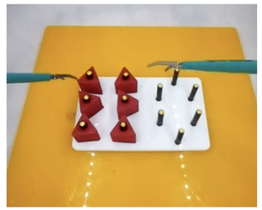
CREATION OF A SUSTAINABLE, ASYNCHRONOUS AND DECENTRALIZED LAPAROSCOPIC SIMULATION LABORATORY IN DAR ES SALAAM, TANZANIA

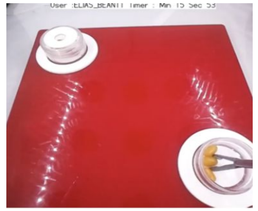
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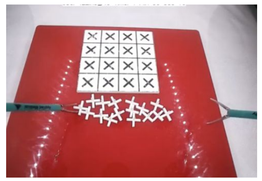
INTRODUCTION: Laparoscopy has transformed surgical care in high-income countries; however, limitations in physical and human resources have hindered access to laparoscopy in many low-income countries. In Tanzania, a barrier to a broader adoption of laparoscopy is access to simulation-based training opportunities.

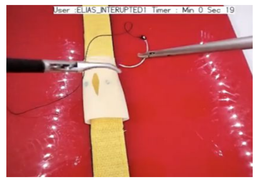
METHODS AND PROCEDURES: We established a laparoscopic simulation program at Muhimbili University (MUHAS) based on a three-pillar framework; hardware, training curriculum, and teacher network. To assess the implementation, we gathered training data (trainees, hours of training, feedback inputs) and compared pre- and post-training OSATS scores and task completion times for all course graduates.



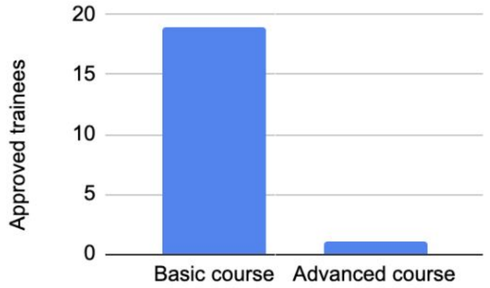








RESULTS: Since November 2022, a simulation lab has been implemented with 4 endotrainers and coordinated by a lab manager. The training curriculum and feedback has been provided via a mobile-based platform by a local trainer. To date, 39 physicians have conducted 1,421 hours of training and been provided with 3,369 individual pieces of feedback. Thus far, 20 students have graduated from the course and it has been integrated into the surgical residency at MUHAS. Task completion time significantly improved in all trained exercises. Median OSATS score for a simple intracorporeal suture went from 14 during the pre- assessment to 22 after graduation (P value <0.001).



Task	Pre-assessment Median (IQR)	Post-assessment Median (IQR)	P value
Bean drop	107 (67, 142)	23 (20, 24)	<0.001
Running the chord	75 (29, 125)	24 (22,26)	<0.001
Block move	79 (51, 105)	14 (13, 16)	<0.001
Transfer of objects	334 (263, 418)	53 (52, 54)	<0.001
Cutting of Gauze	221 (190, 271)	78 (73, 83)	<0.001
Inturrupted suture	190 (127, 274)	78 (72, 85)	<0.001
Continous suture	729 (554, 1,091)	249 (229, 260)	<0.001

Pre and post-assessment task time among graduates of the simulation course

CONCLUSIONS: We describe the successful and sustainable implementation of an asynchronous decentralized laparoscopic simulation laboratory in Dar es Salaam, Tanzania.