

Promoting and Evaluating Surgical Skills Training in Resource Poor Settings

The ASiT 'Foundation Skills in Surgery' Course in Rwanda

J.E.F. Fitzgerald, A.J. Beamish, V.J. Gokani, A. Bhangu, W.R. Muirhead, R. Harries

On behalf of the Association of Surgeons in Training

Background

Surgery remains neglected in global health priorities. Healthcare worker shortages combined with under-developed surgical training programs have compounded this in many low-income settings.

Rwanda, a land-locked sovereign state in central and east Africa, is located within the African Great Lake Region. It has an estimated population of 11.78 million. In 1994, the country was left devastated after the genocide, where over 1 million ethnic Tutsis were tragically killed - approximately 20% of the population at the time. Despite having the lowest life expectancy of any country in the world as recently as 1997, life expectancy at birth has more than doubled. Nonetheless, Rwanda still has profound areas of need with many unable to access even the most basic of healthcare requirements

We describe the lessons learnt and trainee evaluations from the first international deployment of the ASiT 'Foundation Skills in Surgery' (FSS) course in Kigali, Rwanda, East Africa.

Methods

The ASiT FSS course was developed over 5-years ago, and includes the principles of safe surgical technique, sterility and infection control, and practical sessions for basic surgical skills. The course structure was adapted for a low-income setting, and accompanying learning needs assessments and evaluation materials developed.

The course was run with the Central University Teaching Hospital in Kigali. Teaching was provided by 6 UK multi-specialty surgical trainees with support from 2 local student organisers and the Chief of Surgery.

Funding to support the course was received from the Royal College of Physicians and Surgeons of Glasgow, Royal College of Surgeons of England, Lifebox Foundation, and donations from ASiT members.



Results

Over the 2-day course, 55 final year medical students were trained (40 male; mean age 24.6). Overall, student satisfaction with training received on the course was rated 9.25/10. Qualitative feedback was universally positive, with themes including a desire for longer and repeated training. Faculty emphasized the importance of course adaptation following specific assessment of local learning needs, and the more basic surgical knowledge and skills encountered which required more practical training time.

Fig 1: ASiT FSS course programme outline

09.00-09.30	Welcome
09.30-09.40	Course overview and introduction of faculty
09.40-10.25	Medical record keeping and operative notes
10.25-11.10	Sutures, drains and instruments
11.10-13.00	Clinical Skills Session 1 <ul style="list-style-type: none">Gowning and glovingCorrect safe instrument handlingKnot tyingExcision of skin lesion
13.00-13.30	Lunch
13.30-15.15	Clinical skills session 2 <ul style="list-style-type: none">Excision of skin lesionSuturing: interrupted, mattress and subcuticular
15.15-15.45	Lifebox Surgical safety <ul style="list-style-type: none">WHO checklistPulse oximetry 
15.45-16.15	Principles of audit and research
16.15-16.30	Closing and feedback

Qualitative Feedback from Delegates

"Thanks indeed for your good commitment, you are contributing to Rwandan community future"
"Our heartfelt thanks for your efforts and time you invested in this training. We learnt much from it"
"I liked the course, thank you for making us love surgery!"
"It is inspiring and encouraging, thank you so much"
"I thank you for your kindness to come and teach us, I find the course really important"
"This course is very very interesting, we thank you very much, please make it regular"

Discussion

Few examples of sustainable undergraduate surgical training initiatives have been described in the literature, despite an urgent need. The ASiT FSS course received universally positive evaluation in this setting. As this is repeated in future, progressively increasing use of local faculty will ensure transfer of delivery locally. Further funding is additionally required to ensure sustainability.