

Simulation-based education amid conflict: The Sudanese American Medical Association experience in Sudan

Mohamed Almahal, Mohamed Ahmed, Omer Gomaa, Salaheldin Abusin, Ihab Abdalrahman

Sudanese American Medical Association,
Fairfax, VA, USA and
Port Sudan, Sudan and
Juba, South Sudan.

Correspondence:

Mohamed Almahal
mohamed.almahal@sama-sd.org

Dear Editor,

We extend our best wishes for a happy and prosperous New Year 2025. In this communication, we aim to reflect upon, and update you on, an innovative learning initiative undertaken in Sudan by the Sudanese American Medical Association in 2024. The conflict in Sudan, which commenced on 15 April 2023, has posed considerable challenges to medical and clinical education. The significant displacement of senior medical professionals, the destruction of hospitals and educational facilities, and the limited access to training materials and the Internet have severely hindered the training opportunities available to junior doctors.^[1] These circumstances have necessitated the prompt development of innovative solutions to address the challenges imposed by the ongoing conflict.

The Sudanese American Medical Association^[2] (SAMA) is a non-profit organisation with offices established in the United States in 2008 and in Sudan in 2017. It has now become operational in South Sudan since 2024. This organisation has been actively involved in humanitarian, medical, and educational relief initiatives before the conflict. The mission of SAMA is to enhance the health and well-being of Sudanese communities through providing services, capacity building, educational and

research programmes. In 2024, SAMA integrated all its knowledge, training, and research functions into a single entity, the SAMA Institute of Health (SAMA-IH).^[3] This institute focuses on training local healthcare professionals in Sudan, South Sudan, and Sub-Saharan Africa while promoting innovation to address challenges in conflict and resource-limited regions. SAMA-IH operates two centres, one in Port Sudan, Sudan, and another in Juba, South Sudan.

In August 2024, the SAMA-IH, in collaboration with Shabaka,^[4] a diaspora-led organization dedicated to strengthening the capacity of communities affected by conflict and displacement, introduced a simulation-based education course in Port Sudan, Sudan. This course employs the Full Code platform,^[5] which is an immersive, 3D medical simulation tool that enables learners to engage with over 200 cases that reflect real-world medical scenarios across a range of clinical specialties, including emergency medicine, internal medicine, paediatrics, obstetrics, and gynaecology. The platform guides learners through each case, allowing them to make decisions regarding diagnosis investigations and management, supplemented by AI-powered prompts. After each case, the platform offers insights and additional reading resources to enhance the learning experience.

The course comprised 20 junior doctors, predominantly female (13, 65%). Among the participants, the majority were medical officers (12, 60%), while the remaining were house officers (8, 40%). They were employed across various departments, including internal medicine (8, 40%), surgery (8, 40%), and critical care (4, 20%) at Port Sudan Teaching Hospital (12, 60%) and Osman Digna Hospital (8, 40%).

SAMA recruited learners through a web form disseminated within local doctors' WhatsApp groups. Selected individuals registered on the Full Code platform and received training on its functionalities. The course was conducted from 21 August to 15 October 2024. During this period, learners were required to complete weekly assignments consisting of five cases each. By the end of the course, each participant had completed an average of 84 cases, dedicating an average of 12 hours to the platform.

SAMA distributed an end-of-course feedback form to gather learners' input on their course experience. Sixteen learners (80% of the total participants) completed the form. The feedback covered various aspects, including ratings for the overall experience, the Full Code platform, and the perceived improvement in knowledge and skills. All questions utilised a Likert scale ranging from 1 (poor) to 5 (excellent).

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In conclusion, simulation-based education has the potential to address some of the challenges faced by healthcare professionals in conflict regions. By leveraging the Fullcode platform, the junior doctors in Sudan could engage with diverse, simulated clinical scenarios, improving their knowledge and decision-making skills despite the disruption of medical education. This highlighted the importance of the adaptability of the learning methods, ensuring the continuity of education during the crisis.

References

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