



VITAL ANAESTHESIA SIMULATION TRAINING

VAST Course report - Kibagabaga, Rwanda

23 to 25 June 2021

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Executive summary

Situation

The Vital Anaesthesia Simulation Training (VAST) Course was conducted successfully at Kibagabaga Hospital, Rwanda. The participant group of 14 comprised 1 non-physician anesthetists, 8 midwives, 1 generalphysician, and 4 nursing students.

Background

VAST is an immersive three-day simulation-based course focusing on essential clinical practices andnon-technical skills. This course at Kibagabaga Hospital was planned and led by an experienced contingent of local facilitators.

Assessment

Feedback given by participant group was overwhelmingly positive. Simulation-based training was new to several participants. This course demonstrated the growing capability of Rwandan facilitators to organize and deliver VAST. There is a strong appetite among district level hospital clinicians for this type of training. Expansion of the course will require a larger pool of well-trainedlocal facilitators.

Recommendation

- ✓ Continue to conduct the VAST course in district level hospitals.
- ✓ Advocate for funding to make VAST courses more frequent and widespread.

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Acknowledgements

The course directors gratefully acknowledge support by:

- ✓ Rwandan Society of Anesthesiologists (RSA)
- ✓ Ministry of Health, Rwanda
- ✓ Canadian Anesthesiologists' Society International Education Foundation (CASIEF)

Background

In a collaboration between Dalhousie University and the University of Rwanda Departments of Anesthesiology, VAST was developed to teach and reinforce essential clinical skills and non-technical skills for surgical teams including surgeons, anesthesia providers and nurses. The course content is based on common challenging situations found in the low resource district hospital.

To make it happen, VAST utilizes active teaching methodologies including group discussion and low-cost simulation. The clinical focus is on safe anesthesia, pain management and resuscitation in scenarios spanning obstetrics, pediatrics, trauma, pre- and post-operative care.

VAST is adapted to the local context of resource limited healthcare. Participants are encouraged to use teamwork and decision making to solve problems using the typical resources found in district hospitals.

This course in Kibagabaga was the 11th in Rwanda, building on a foundation of three pilot courses at Rwanda Military Hospital in January 2018. Further courses followed at Nyagatare in August 2018, then Rwanda military hospital, Huye (twice), Rwamagana and Kabutare. There is a growing faculty of committed local facilitators and international facilitators.

Faculty and attendees

| Faculty | | |
|--------------|------------|------------------------|
| Last Name | First Name | Role |
| Dr Mukwesi | Christian | Course Director |
| Dr MVUKIYEHE | Jean Paul | Local Facilitator |
| Dr Celestin | Seneza | Local Facilitator |
| Dr Alain | Irakoze | Local Facilitator |
| Ms Mizero | Laurence | Simulation Coordinator |

| Participants | | | |
|--------------|-----------------------------|---------------|-------------------|
| NO | NAMES | FONCTION | SERVICE |
| 1 | Samuel HABINSHUTI | Anesthetist | Theater |
| 2 | Lydie MUKAMAZERA | Midwife | Maternity |
| 3 | Aimable Divine UMUKOBWA | Student nurse | Internal Medicine |
| 4 | Esther UZAYISENGA | Midwife | Maternity |
| 5 | Eduleda NKUNDAMAHORO | Student Nurse | Internal Medicine |
| 6 | Fausta GISA | Student nurse | Internal Medicine |
| 7 | Belise MUKAYIRANGA | Student nurse | Surgery |
| 8 | Marie Chantal UWINGABIYE | Midwife | Maternity |
| 9 | Beatrice MUSOMANDERA | Midwife | Maternity |
| 10 | Monica NYAGATOMA MUHORAKEYE | Midwife | Maternity |
| 11 | Olive NZITUKUZE | Midwife | Maternity |
| 12 | Daniel NGENDAKUMANA | Midwife | Maternity |
| 13 | Immaculee KANTENGWA | Midwife | Maternity |
| 14 | Theodosie MUSABWAYIRE | Doctor | Maternity |

Venue and equipment

The course was held in the new building of Kibagabaga District Hospital which is usually used by the laboratory and administration staff. We used three different areas including a meeting room, adjacent corridor and a very nice outdoor veranda with an excellent view from the second floor.

The meeting room was equipped with 60-inch screen which helped us for teaching. The hospital leaders were very supportive by providing additional materials including two stretchers, sheets and HDMI adapter.

Course materials were the property of “VAST kit” which has been previously donated by the Canadian Anesthesiologist’s Society International Education Foundation and Dalhousie University. This includes mannequins, iPads, simulation equipment, and scenario documentation. The VAST kit is currently stored in the simulation center of Rwanda Military Hospital under the stewardship of Dr Mukwesi.

The high quality of lunches and tea breaks during the course has contributed to participant satisfaction. As usual, Laurence Mizero did a great job as simulation coordinator.

Course conduct

Generally, the course was well conducted, however we faced some challenges such as a delayed start time on the first day, clinical duty impacting staff and participant availability, Covi-19 situations, a language barrier for sessions delivered in English and the novel concept of simulation to the participants.

After identification of those challenges, we instituted some strategies to help our participants understand the VAST course:

- ✓ The majority of the course was conducted in Kinyarwanda with slides verbally translated from English
- ✓ The participants were asking questions and expressing themselves in different languages (Kinyarwanda, French and English), this was contributed to their satisfaction.
- ✓ We increased the preparation time and explanation for each role playing participant before starting each scenario.
- ✓ We required extra time for debriefing to answer many of the questions participants raised about clinical decision making.

Summary of participant evaluations

- ✓ VAST course has been appreciated and participants' experience was positive for almost all. (Appendix 1)
- ✓ Suggestions to organize more VAST training and to involve others health professionals from the perioperative environment were among the recommendations given by participants.
- ✓ The pain management discussion was well-received and some have committed to start working on a pain management protocol in the recovery room.

Future directions

- ✓ Organizing a VAST facilitator course to increase the number of local facilitators, including non-physician anesthetists that performed strongly as course participants
- ✓ Continue to conduct VAST course in other district hospital settings
- ✓ Consider a mentorship model for new facilitators to receive the ongoing support which is needed for excellent VAST course delivery

Appendix I – Participant evaluations

| Most things liked by participants | |
|-----------------------------------|---|
| Organization and preparation | <ul style="list-style-type: none"> ✓ Breakfast and lunch x 3 ✓ Organization was good x 6 |
| Course content | <ul style="list-style-type: none"> ✓ SBAR x 8 ✓ AMPLE history x 4 ✓ Management of burnout x 6 ✓ Management of PPH 2 ✓ Systematic approach ABCDE x 5 ✓ Neonatal resuscitation x 3 ✓ Pain management 5 ✓ Trauma management 4 ✓ Sepsis management 3 ✓ Non-technical skills x 2 |
| Simulation-based learning | <ul style="list-style-type: none"> ✓ Interactive session x 4 ✓ Debriefing x 5 ✓ Simulation x 9 |
| Facilitators | <ul style="list-style-type: none"> ✓ Facilitators were very knowledgeable x 6 ✓ Facilitators very active and committed x 3 |
| General comment | Learn about Prioritization in emergency situation |

| Suggestions for improvement | |
|-----------------------------|--|
| More VAST course | <ul style="list-style-type: none"> • Regular training • Increase the duration of the course (more days) • Include other health provider • More time for practice |
| Money | <ul style="list-style-type: none"> • Motivation of the participants x 1 |

| Take home message | |
|----------------------|---|
| Technical skills | <ul style="list-style-type: none"> ✓ Fluid therapy in burn patients x 2 ✓ Left lateral tilt for pregnant women x 3 |
| | <ul style="list-style-type: none"> ✓ Airway management x 7 ✓ Sepsis management x 4 |
| Non-technical skills | <ul style="list-style-type: none"> ✓ Close loop communication x 4 ✓ Decision making x 3 ✓ Situation awareness x 4 ✓ Team working x 3 ✓ Systematic approach ABCDE ✓ SBAR |

Appendix II – Course photos



