



VITAL ANAESTHESIA SIMULATION TRAINING



VAST Course and VAST FC Course

Conakry, Guinea, 13-17 November 2023

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Executive summary

Situation

At the request of Dr Oumar KANE (Head of Anesthesia at FANN Hospital and Simulation Center Coordinator), Dr Joseph Donamou (Prof of anesthesia, University Gamal Abdel Nasser Conakry) and Erin Muyres (Medical Capacity Building Projects Director at Mercy Ships) the Vital Anesthesia Simulation Training (VAST) Course and Wellbeing course (VAST WB) were introduced in Conakry, Guinea.

Background

The VAST Course was developed to teach and reinforce essential clinical practices and non-technical skills for both anaesthesia providers and perioperative teams. VAST was first piloted in 2018 in Rwanda. Since then, VAST has expanded to encompass a range of courses that have been offered many times to participants from several countries on different continent. The language of teaching has always been English, with occasional concurrent translation to local languages during courses. This is the third time the course was translated into French through a mix of professional translation and translation by VAST volunteers and Mercy Ships. This allowed the VAST Course to be delivered almost entirely in French to a multidisciplinary group of healthcare practitioners who work in Guinea Conakry. As materials' translation process is still ongoing, there were sometimes some materials requiring edition and updates on site during course delivery by faculty and participants.

Assessment

All courses were received with great enthusiasm and a desire for more training and practice. This one was special as Mercy ships as it is currently building a simulation center at the Gamal Abdel Nasser university as a donation to the university along with dental surgery department rehabilitation. Mercy ships is also sponsoring the residency program of dental surgery in Guinea Conakry. There is still significant learning from the experience of delivering the training in a language other than English. This knowledge will inform future course delivery and translation efforts in other languages.

Recommendations

1. Completion of Version 3 of the French translation of all VAST Courses and VAST Wellbeing materials and cognitive aids with the assistance of all French speaking group of VAST FC graduates.
2. Specifically editing or redesigning the cognitive aids for the difficult airway algorithm to be in line with MAPAR recommendations and 2022 protocols. Consider involving MAPAR in the design or determining if they could provide any to hospitals. <https://www.mapar.org/>
3. Encourage the involvement of the new simulation coordinators trained during the course week in as many simulation training sessions as possible with the perioperative team

there as they begin to use the simulation centre regularly so they can continue to refine skills and familiarize with equipment

4. Consider the creation of a subset of scenarios targeted to more advanced course groups where further scenarios on trauma especially gunshot and post-operative complications were requested. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website
5. Consider adapting scenarios to participant speciality so that there is a subgroup of scenarios used for example when midwives are participating in training and there are not nurses participating. These should be added onto VAST's Scenario Bank and will be accessible through VAST's website
6. Apply lessons learned from this experience to the delivery of upcoming courses in more other countries in West Africa where familiarity with simulation and crisis resource management may be minimal.
7. Repeat the VAST FC course for the facilitator course graduates to familiarize with how to prepare VAST Course and specifically how to conduct a good debrief. That's the reason the HoD Prof Joseph requested if possible, to prepare another VAST FC for them to get familiar with VAST concepts.

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Acknowledgements

We gratefully acknowledge financial support from the:

1. Mercy Ships
2. VAST team of faculty
3. The faculty of medicine at Abdel Nasser University of Conakry

Attendees

VAST Course			
Name	Professional role	Course role	Workplace
Jackson Kwizera Ndekezi	Anesthesiologist	Course director	Rwanda
Prof Oumar Kane	Anesthesiologist	Course co-director	Senegal
Celestin Seneza	Anesthesiologist	Facilitator	Rwanda
Papa Ibrahima Ndiaye	Anesthesiologist	Facilitator	Senegal
Laurence Mizero	Lab technician	Simulation coordinator	Canada
Prof Joseph Donamou	Anesthesiologist	Participant	Guinea
Amadou Yalla Camara	Anesthesiologist	Participant	Guinea
Almamy Bangoura	Anesthesiologist	Participant	Guinea
Boubakar Atigou Drame	Anesthesiologist	Participant	Guinea
M'mah Lamine Camara	Anesthesiologist	Participant	Guinea
Thierno Sadou Diallo	Anesthesiologist	Participant	Guinea
Abdourahamane Diallo	Nurse anesthetist	Participant	Guinea
Boubacar Mansare	Nurse anesthetist	Participant	Guinea
Christelle Toni	Nurse anesthetist	Participant	Guinea
Daouda Camara	Nurse anesthetist	Simulation coordinator trainee	Guinea
Fatoumata Binta Barry	Nurse anesthetist	Simulation coordinator trainee	Guinea
Hadiatou WANN	Nurse anesthetist	Participant	Guinea
Ibrahima Sory Keita	Nurse anesthetist	Participant	Guinea
Kadiatou Oumou BAH	Nurse anesthetist	Participant	Guinea
Kaba Millimono	Nurse anesthetist	Participant	Guinea
Mariama Diallo	Nurse anesthetist	Participant	Guinea
Mohamed Kaba	Nurse anesthetist	Participant	Guinea
Mahmoud Konate	Anesthesia resident	Participant	Guinea
Aly Fofana	Anesthesia resident	Participant	Guinea
Abou Kourouma	Anesthesia resident	Participant	Guinea
Seny Angeline Dore	Anesthesia resident	Participant	Guinea

VAST FC Course			
Name	Professional role	Course role	Workplace
Jackson Kwizera Ndekezi	Anesthesiologist	Course director	Rwanda
Oumar Kane	Anesthesiologist	Co-course director	Senegal
Seneza Celestin	Anesthesiologist	Facilitator	Rwanda
Papa Ibrahima Ndiaye	Anesthesiologist	Facilitator	Senegal
Laurence Mizero	Lab Technician	Simulation coordinator	Rwanda

Prof Joseph Donamou	Anesthesiologist	Participant	Guinea
Amadou Yalla Camara	Anesthesiologist	Participant	Guinea
Almamy Bangoura	Anesthesiologist	Participant	Guinea
Boubakar Atigou DRAME	Anesthesiologist	Participant	Guinea
M'mah Lamine Camara	Anesthesiologist	Participant	Guinea
Thierno Sadou Diallo	Anesthesiologist	Participant	Guinea

Venue and equipment

Venue

The Simulation Center, Gamal Abdel Nasser Conakry University, Guinea

Equipment

The ID badges, equipment identification, and posters and cognitive aids were brought by the VAST team and Mercy Ships. Mercy ships also provided the printing of the translated course materials and the office supplies during the week.

Materials were checked and put into place by the VAST team along with Mercy ships team. We didn't miss anything in regards to materials.

VAST Course

The VAST Course was offered in French to 21 multidisciplinary participants who work in different health facilities in Conakry, Guinea. These healthcare practitioners work together regularly and were able to discuss common challenges and solutions. Recurring themes were: the need of re-implementing and using Checklists in Guinea; the lack of certain medications and blood products; and the need to increase the use and availability of cognitive aids in French not only in the operating rooms but also into every critical settings of the hospitals. The participants appreciated the rich discussion on non-technical skills and the sharing of experiences between surgeons, internists, nurses, anesthesiologists, and midwives to learn from the perspectives of their colleagues.

The skills sessions (difficult airway management, neonatal resuscitation, and primary trauma survey) were all conducted as PowerPoint presentations with concurrent demonstration of skills using mannikins (difficult airway management, neonatal resuscitation) or simulated patients (primary trauma survey). We also had skills set up where during breaks everyone had to pass by and learn how to do ventilation, and CPR. The iPads were used along with these demonstrations to show simulated vital signs.

VAST Facilitator Course

Preparation:

This was the first time the course was delivered in Guinea with VAST faculty and Mercy ships team. Coordination of the process was under VAST administration. Same as in Senegal, at some point, where required, materials were edited and updated onsite during the course delivery by Facilitators.

Facilitation and debriefing practice

Novel concept to some of the team of trainees. The practice of the 4 elements of VAST scenario facilitation: Briefing, iPads/prompts, debriefing and co-facilitation was pivotal to the delivery and success of the course. Participants were divided into two groups to ease the simulation practice

and shared chances to rotate onto roles during facilitation between the groups. Meta-debriefing was done at every step for the 4 elements of facilitation to make sure they get the maximum out of the course.

Scenario design:

Participants worked into 4 sub-groups to design new scenarios using the VAST scenario template. Each group presented its scenario to the rest of the group. We didn't have time for them to go through the scenario and try playing them due to time constraints.

Application during VAST Course.

The VAST FC was an immense opportunity for the VAST FC graduates to start practicing the VAST principles in facilitation and debriefing of majority of the VAST Courses scenarios. Graduates had time to prepare the scenario, do briefing, facilitate the scenario sequence and put up the debrief. As course instructors, we helped with PowerPoint presentations and mega-debriefs during every step of scenario facilitation. The double-sided cognitive aids from Honduras VAST was also used during these two courses.

Simulation coordinator training

Laurence MIZERO trained Camara and Fatoumata as simulation coordinators. Camara and Fatoumata caught on quickly on how to set up and take down a room. They have limited interaction with the medical environment so the visual aids were extremely useful to help them identify the various equipment required for the scenarios. It would be of value to have the Simulation center engage them more in future simulation training to build up their familiarity with the simulation environment and get more comfortable with the medical training environment.

Social life

All VAST course instructors and the simulation coordinator stayed at the same hotel organized by Mercy Ships therefore frequent socialization and course planning took place during meals and down time. Mercy Ships supported food and needed expenses during the stay and also arranged for the evening outing. The team experienced a shared diner and enjoyed a favela, the special meet from Brazilian cuisine. Due to busy schedules, the team didn't have much time to hung out and visit some places.

Course evaluations and informal feedback

Combined feedback from online evaluation and paper evaluation compiled by Jessica Howe and translated by Dr Jackson Kwizera Ndekezi.

VAST Facilitator Course feedback

What went well

- The structured way of debriefing
- start realizing how debriefing is paramount
- timing, and role-tasking to participants
- Teamwork and caring
- The engagement of all the participants, Encouragement from Facilitators
- Thanks. We are very satisfied with the training. And it is very practical and interactive
- very good PowerPoint presentations with summarized information
- Thank you so much! What a great team.
- The facilitators are so encouraging. They make the participants feel safe to learn and even when they are giving us points to improve, they do it in an encouraging and supportive manner. It is very cool to watch
- I like the mantra...we are all smart and capable. It redirects us to learning and our ability and knowledge as healthcare professionals and keeps us focused on the objectives of the scenarios.

Challenges

- Increase the course duration
- Maybe make the debrief practice a little shorter so everyone has an opportunity to lead a scenario and do a debriefing
- scenario conception
- more practical sessions
- iPads manipulation
- food, and more exercises for scenario facilitation
- Need more time in the schedule

Take home messages

- Design a scenario, Implementing the practice, how to brief, and debriefing
- Non-technical skills are important
- Extend to our countries that have limited resources
- This model seems to be very suitable for teaching
- Keep encouraging this type of course
- Encourage a continuous training in simulation
- The role of simulation and facilitator during scenario delivery

Evaluation of the course facilitators:

- Good listeners

- They are excellent
- Super facilitation
- Food to be improved
- Much time for briefing
- Facilitators were knowledgeable of the content and tasks
- Well organized, wonderful team of facilitator
- Lovely team who transmitted knowledge
- Help the new team of VAST FC graduates to achieve a maximum level of VAST skills

Recommendations

- suggest this course to be delivered to other departments
- Suggestion for course participants to take part in updating v2 of documents to correct translation deficiencies and better familiarize with materials
- Continue use of new cognitive aid in debriefing, it was well received and utilized
- Consider developing the scenarios created by the groups further to increase number of scenarios available in courses
- Consider keeping scenario design but due to time may not always be possible to trial them in a simulation
- Encourage VAST facilitator course graduates to take part in VAST courses in lesser resource hospitals or countries that are French speaking as all were strong participants and would be great VAST ambassadors

VAST Course

What went well

- The simulations were practical cases that we face every day so it will help us to develop our skills
- The sequential organisation of the different simulations, role repetition
- The simulation training has allowed us a lot to question ourselves, to always work in a team in order to make the right decision. It's a complementary teaching with strong feelings.
- It feels like we were in a real situation
- The content of the training such as the communication, scenarios, mutual consideration and the good atmosphere in which the training took place
- Sharing spirit and feedback
- Humility and mutual respect in between
- The open-mindedness of the trainers, the positive interaction between trainers and participants
- how to get non-technical skills well captured
- Timing and simulation
- inviting atmosphere
- New-born resuscitation
- Explicit way of communication

- I've learnt new skills, simulation was participative
- motivating facilitators

Challenges

- Roles distribution according to the specialisations
- Take time to explain tasks before scenario
- I didn't feel the place of the midwife. Specify her role
- observe timing for every step of the training
- Conducting this type of training in a medical service with people that work together would be very beneficial
- To give more time to the training
- To keep buy-in essence
- to improve French accent
- Help us to get cognitive aids into our hospitals
- Deepen enough our skills
- ventilation and intubation of a difficult airways
- Improve the sessions by bringing more reality from the country's hospitals
- increase time for simulation
- Food quality

Take home messages

- a big call for non-technical skills practice in all hospitals
- team-working and leadership
- Management of antenatal bleeding by anesthetists
- Signed consent for pediatric practice
- structured evaluation of a patient into crisis
- Patient assessment and management using cognitive aids and structured approach
- There were multiple notes of feedback on the midwives not having enough of a role to play in the simulations
- Checklists and cognitive aids need to be employed routinely in practice
- A highlighted take home message by most participants was the need to improve closed loop communication and sharing of mental models in crises
- Concerns about implementing new skills in real practice where colleagues may not be employing non technical skills and communication sufficiently
- involvement of each team member regardless their qualification, take into consideration the remarks and suggestions, implement the displayed protocols

Facilitators feedback:

- Good listeners
- They are excellent
- Super facilitation
- Food to be improved
- Much time for briefing
- Facilitators were knowledgeable of the content and tasks

- Well organized, wonderful team of facilitator
- Lovely team who transmitted knowledge
- Help the new team of VAST FC graduates to achieve a maximum level of VAST skills

Recommendations

- Improved timing for briefing and motivation
- urgent need of another course to enforce the skillset of facilitation graduates
- Continue use of new cognitive aid in debriefing, it was well received and utilized
- Ensure the course timing does not interfere with cultural or religious commitments such as having teaching on Friday afternoons and/or weekends
- Consider adjusting scenarios to increase complexity in settings with a higher level of anesthesia or medical knowledge surrounding crisis resource management
- I feel like I am renewed, satisfied with the new skills and I profit improving my skills
- Redesign certain cognitive aids provided to be in line with French currently available cognitive aids and provide those for the group to use in hospital settings
- I've achieved my objectives

Challenges and lessons learnt

There is still a challenge of delivering VAST in French as it is kind of shifting brain process into action. It is still beneficial to involve VAST FC graduates in translating materials for the VAST Course as there are still points to reshuffle with French-speakers.

Another challenge identified was the implication of prayer and the cultural schedule on the timing of the course. Friday is a prayer day and everyone is running to participate in collective congregation. We had to spare time for that. Future courses in Muslim countries, taking the course up to Thursday or make it until Friday morning to allow for time for prayer and commitments participants have in the health care system on Saturdays.

Recommendations

1. Completion of Version 3 of the French translation of all VAST FC, VAST Course and VAST Wellbeing materials and cognitive aids with the assistance of new VAST FC graduates.
2. Specifically editing or redesigning the cognitive aids for the difficult airway algorithm to be in line with MAPAR recommendations and 2022 protocols. Consider involving MAPAR in the design or determining if they could provide any to hospitals. <https://www.mapar.org/>
3. Encourage the involvement of the new simulation coordinators trained during the course week in as many simulation training sessions as possible with the perioperative team there as they begin to use the simulation centre regularly so they can continue to refine skills and familiarize with equipment
4. Consider the creation of a subset of scenarios targeted to more advanced course groups such as in the case of the team in Senegal where further scenarios on traumatology and post-operative complications were requested

5. Consider adapting scenarios to participant speciality so that there is a subgroup of scenarios used for example when midwives are participating in training and there are not nurses participating
6. It is time to have a separate Slack group to upload French scenarios and correction as it is being done in English.

Course Photos



Group photo for VAST FC, Guinea



A paramedic in Action with hat and a ready-to-use laryngoscope into the pocket



Facilitated briefing session by Dr Celestin to Dr Bangoura as a VAST FC graduate



Skills station: Dr Jackson facilitating scenario design session



Debriefing phase during VAST course



During scenario delivery and skills session



VAST team which delivered the course