SAFE Obstetrics Course Report
Khulna, Bangladesh
November 2016

Course developed by:
Association of Anaesthetists of Great Britain and Ireland (AAGBI)
World Federation of Societies of Anaesthesiologists (WFSA)

Run in collaboration with:
Bangladesh Society of Anaesthesiologists (BSA)

Report written by:
Dr Rebecca Jones
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Executive Summary

This was the 3rd Safer Anaesthesia From Education (SAFE) Course on Obstetric Anaesthesia to be held in Bangladesh. It was held between 22-24th of November 2016 in Khulna, south Bangladesh.

The course was held primarily for Bangladeshi anaesthetists to receive further training with the aim of improving the safety of obstetric anaesthesia, improving management of sick obstetric patients and improving maternal and neonatal resuscitation skills.

The funding for the course was kindly provided by the AAGBI Foundation’s SAFE steering group.

The course was directed by Dr Rebecca Jones, a consultant anaesthetist from Bristol, in the UK. The local co-ordinator was Dr Sheikh Farid Uddin Ahmed, an anaesthetist from Khulna, Bangladesh.

There were 9 facilitators, 5 from the UK and 4 from Bangladesh. 8 of these were consultant level anaesthetists and 1 registrar. Of these facilitators, most work regularly in obstetric anaesthesia, though 1 from the UK is a paediatric anaesthetist and 1 from Bangladesh is recently retired.

There were 44 delegates for the SAFE Obstetrics course, 34 of whom were anaesthetists and 10 of whom were obstetricians.

10 of these delegates did the Training of Trainers course: 6 anaesthetists and 3 obstetricians.

Feedback from both courses was excellent with median feedback scores of 9/10.

The SAFE Obstetrics course improved the knowledge and clinical skills of delegates in the clinical skills tests provided. Delegates’ clinical skills were tested by a skills test, which showed statistically significant improvements from a median score of 6/10 before the course to 9/10 after the course. Delegates’ knowledge as tested by a multiple choice question paper showed that knowledge was good at the outset, with delegates scoring 76% at the start of the course, improving to 86% by the end.

Further feedback will be obtained by the Bangladesh Society of Anaesthesiologists at a 4 month post-course feedback day.
Why run this course in Bangladesh?

Bangladesh is a densely populated country with an estimated population of 156 million. The maternal mortality rate in Bangladesh is steadily declining, but it is still higher than the Millennium Development Goal of less than 143 per 100,000 live births by 2015. In 2015, the maternal mortality rate was 176 per 100,000 live births (World Health Organization data).

Bangladesh has only 1 doctor per 3000 people. There is a shortage of anaesthetists. Those that practice anaesthesia are mostly doctors although non-governmental hospitals have nurses or medical assistants performing anaesthesia. Anaesthetists in Bangladesh are often working in difficult situations where there is insufficient manpower, with one anaesthetist often responsible for two anaesthetised patients at a time. Equipment is often limited, with a shortage of pulse oximeters and scarcity of ECG monitors and capnography. Medication is also often in short supply.

The role of the anaesthetist is primarily in the operating theatre although some tertiary hospitals also have intensive care facilities run by anaesthetists. A large proportion of the anaesthetist’s role in Bangladesh is obstetric anaesthesia. This includes:

1. **Elective and emergency obstetric anaesthesia.** If the mother is sick and needs surgery, the anaesthetist helps with stabilisation and resuscitation of the mother. This usually occurs in the operating theatre.

2. **Management of sick obstetric patients on the ward or critical care.** This is done primarily by obstetricians on the ward, but anaesthetists manage critical care patients. The critical care beds in Bangladesh are severely limited, are mainly in Dhaka, and are mainly in the private sector. Thus sick obstetric patients are unlikely to be in intensive care units.

3. **Resuscitation of neonates.** The anaesthetist may be called upon to assist with resuscitating neonates born in the operating theatre who are apnoeic at birth. One of the most common causes of death in neonates in Bangladesh is birth asphyxia, so the anaesthetist is in a position to help reduce this by prompt neonatal resuscitation as long as the mother is stable.

The Safe Obstetrics Course aims to improve the safety of obstetric anaesthesia, by teaching a systematic approach that can be applied in resource-limited settings such as Bangladesh. It aims to reduce the morbidity and mortality of obstetric patients and neonates. The course covers many aspects of basic obstetric anaesthesia and a structured approach to the sick patient. The course targets the main causes of death, which are sepsis (included in “indirect” in the graph below), haemorrhage and eclampsia. The pie chart below shows the causes of maternal mortality in Bangladesh in 2010.

![Pie chart showing causes of maternal mortality in Bangladesh in 2010](chart.png)
The Course Location

This was the 3rd SAFE Obstetric Anaesthesia Course to be held in Bangladesh and was held in south Bangladesh, in Khulna. The location of previous courses is shown on the map below:

This course was held in Khulna Medical College Hospital (see photo below). We used 4 rooms, which will be future operating theatres, as well as one lecture theatre.
The Course Timetable

The Course took place in November 2016, between 22\textsuperscript{nd} and 24\textsuperscript{th} of November (red on chart below), with the Training of Trainers day preceding it (orange).

The faculty travel time was 13 days, as the course was combined with a SAFE Paeds course (yellow). The SAFE Paeds report is separate.

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<th>Monday</th>
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<td>18\textsuperscript{th}: Leave the UK</td>
<td>19\textsuperscript{th}: Arrive in Bangladesh</td>
<td>20\textsuperscript{th}: Travel Dhaka to Khulna</td>
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<td>21\textsuperscript{st}: Training of Trainers (10 delegates) and Lifebox (34 delegates)</td>
<td>22-24\textsuperscript{th}: SAFE Obstetric Anaesthesia Course in Khulna (44 delegates)</td>
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<td>25\textsuperscript{th}: Sightseeing and travel back to Dhaka</td>
<td>26\textsuperscript{th}: Rest and preparation for next day</td>
<td>27-29\textsuperscript{th}: SAFE Paeds Anaesthesia Course in Dhaka (separate report)</td>
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<td>SAFE Paeds Anaesthesia Course in Dhaka (day 2 and 3)</td>
<td>30\textsuperscript{th}: Leave Bangladesh and arrive in the UK</td>
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Course Faculty

The local co-ordinator in Khulna, Bangladesh was Dr Sheikh Farid Uddin Ahmed, President of the Khulna Branch of the Bangladesh Society of Anaesthesiologists. The course was organised by Dr Rebecca Jones from the UK and Professors Debabrata Banik and Khalilur Rahman from Bangladesh. Rebecca Jones is a locum consultant anaesthetist at the Bristol Royal Infirmary in the UK. Professor Debabrata Banik is the Chairman of the Department of Anesthesiology of Bangabandu Sheikh Mujib Medical University in Dhaka and Secretary General of the Bangladesh Society of Anaesthesiologists. Professor Khalilur Rahman is the Honorary Senior Consultant at the Department of Anesthesiology, BIRDEM General Hospital Dhaka.

Visiting faculty comprised of:

- Dr Lowri Bowen (Consultant Paediatric Anaesthetist, Children’s Hospital for Wales, Cardiff)
- Dr Debamoy John Chatterjee (Consultant Anaesthetist, King’s Hospital and London HEMS)
- Dr James Leedham (Worcestershire Acute Hospitals NHS Trust)
- Dr Ursula McHugh (Anaesthetic Specialty Trainee, Northern Ireland)
- Dr Allan Monks (Consultant Anaesthetist, Blackpool Victoria Hospital, UK)

Bangladeshi faculty comprised of:

- Professor Abdur Rahman (Head of the Department of Anaesthesia, Pain, Palliative and Intensive Care Medicine, Dhaka Medical College, Dhaka)
- Dr Md. Sayedur Rahman (retired Associate Professor of the Department of Anaesthesiology of Rangpur Medical College Hospital)
- Dr Manas Kumar Basu (Associate Professor of the Department of Anaesthesiology, Cancer Institute, Dhaka)
- Dr Atiqul Islam (Assistant Professor, Department of Anaesthesiology, Dhaka Medical College)

The majority of the UK and Bangladeshi faculty had taught previously on a SAFE Obstetric Anaesthesia course in Bangladesh.
Delegates

There were 44 delegates, which was an increase compared to previous years (31 delegates in 2013 and 32 delegates in 2014). 34 of the delegates were anaesthetists and 10 were obstetricians. We had mixed groups of eleven. This was a challenging size to teach in the 25 minutes available for each breakout group. Most of the delegates were from hospitals within the Khulna division of Bangladesh, with some having taken 4-5 hours to travel to the course within this division. Three delegates had come from the Barisal division (see Bangladesh map on page 5). See list of course delegates in appendix.

Delegates received the following at the start of the course:

- a course participants manual
- SAFE Paediatric and Obstetric Pocket Handbook (donated by the WFSA)
- some of the key laminates from the course printed in colour including:
  1. World Health Organization Surgical Safety Checklist,
  2. Management of Hypoxia
  3. Management of Obstetric Haemorrhage
- a logbook for noting down cases where the course has helped patient management
Course Photos

Lecture on Pre-Eclampsia:

Small group discussion about Safe Surgery Checklist
Small group skills demonstration:

Bag-valve-mask ventilation

Rapid Sequence Induction
Failed Intubation: Surgical Cricothyroidotomy

Cardiopulmonary resuscitation
(wedge present but difficult to demonstrate with half torso manikin)
Obstetric Trauma Scenario Teaching (faculty demonstration):
Course Results

Skills Tests:

44 delegates did a skills test at the start of the course. 43 did a skills test at the end of the course. Each delegate was tested on one skill before the course and the same skill after the course. This graph shows the median scores before and after the course for the 43 delegates who did both.

![Graph showing median scores before and after course](image)

Delegates had a statistically significant improvement in their median skills test scores in each clinical skill (p<0.01 using the paired student’s t-test with 2-tailed distribution). The most marked improvement was in neonatal resuscitation, which the delegates are often asked to help in their operating theatres, when an apnoeic baby is delivered in theatre.

Knowledge assessment by multiple choice question (MCQ) paper:

All 44 delegates attempted the pre-course MCQ, but 3 delegates only completed one side of the 2-sided MCQ paper. 43 delegates completed the post-course MCQ. Comparing the median scores of the 40 delegates who attempted both sides of the pre and post-course MCQ, the improvement was statistically significant (p<0.01 using the paired student’s t-test with 2-tailed distribution):

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<tr>
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<th>Pre-course MCQ</th>
<th>Post-course MCQ</th>
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<td>Median score</td>
<td>38 (76%)</td>
<td>43 (86%)</td>
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<td>(out of a maximum of 50)</td>
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Feedback

The following graphs show the course feedback by delegates. The diamonds show the median marks and the error bars show the interquartile ranges.

**Lectures**

![Graph showing feedback for lectures](image)

**Breakout Sessions**

![Graph showing feedback for breakout sessions](image)
Feedback comments:

- “ABCDE approach was most useful”
- “all of the sessions were useful for my day to day work”
- “useful for anaesthetists and gynaecologists [obstetricians]”
- “useful to help reduce morbidity and mortality of the pregnant woman as well as infant”
- “I am so lucky to get the opportunity to attend this course. Before this course I had insufficient knowledge and practical works especially CPR and managing unconscious patients. This course has made me more confident to handle emergency patients. Thank you all trainers.”
- “it was just excellent and brilliant”
Some of the suggestions for future courses:

- “it should be arranged regularly for anaesthetists as well as gynaecologists [obstetricians], paired from the same institute”
- “I would like more involvement of our local renowned faculty, especially for fluid management for pre-eclampsia”
- “more videos please” and “teaching on pain management for labour”

Course Follow-up

Logbooks: delegates were given logbooks to fill with cases where they feel that the SAFE Obstetrics Course has made a difference to the practice.

Post-course follow-up day: The Bangladesh Society of Anaesthesiologists is planning a post-course feedback day for 4-months after the course (March 2017) to discuss the course impact and to collect logbook data.
Training of trainers (ToT)

This is the second time we have included the ToT course in the SAFE Obstetric Anaesthesia Course in Bangladesh. This day was held before the SAFE Obstetric Anaesthesia Course. This was for two reasons. Firstly, the aim was that ToT delegates could then help later as faculty for the rest of the SAFE Obstetric Anaesthesia Course. Secondly, the ToT day is shorter than the SAFE course days, and the time available on the first day of the course was shorter as it followed on from an inauguration ceremony. Unfortunately, the ToT delegates had not done a SAFE Obstetric course before and so were not ready to help facilitate on the SAFE course. In retrospect, it would have been better to have done the SAFE course first, then the ToT.

There were 5 faculty members who helped with the ToT course (4 from the UK and 1 from Bangladesh). The Bangladeshi faculty member had previously done a SAFE Obstetric Course as well as a ToT course and was very helpful.

Ten delegates came on the ToT course. Although many of the delegates had previously given lectures, this was the first time for many of them to be shown how to teach a scenario.

The following graphs show median marks and due to small number of participants, the bars show minimum and maximum values.
Acknowledgments

Directorate General of Health Services of Bangladesh

We greatly appreciate the support of Professor Dr Abul Kalam Azad to this project to improve the safety of obstetric anaesthesia in Bangladesh.

Bangladesh Society of Anaesthesiologists (BSA)

Thank you to the president of the BSA, Professor ABM Muksudul Alam who helped to make this course possible. Thank you for the hard work of all those from the BSA who co-worked with us to arrange this course, especially Professors Debabrata Banik, Khalilur Rahman and Abdur Rahman. Thank you to all those involved in course administration in Dhaka.

Thank you to the Khulna branch of BSA, especially Dr Sheikh Farid Uddin Ahmed, who ably co-ordinated the local arrangements at the Khulna Medical College (KMC) Hospital. We are very grateful to all those involved with administration and catering at KMC Hospital.
Delegate List (alphabetical by first name):

### Anaesthetists:
- Dr. AHM Shahinur Rahman (KMC, Khulna)
- Dr. Ahsan Habib (Jessore)
- Dr. Belal Uddin (Khulna)
- Dr. Ehteshamul Alam Shoeb (KMC, Khulna)
- Dr. Farida Khatun (Bagerhat)
- Dr. Jyotrimaya Bala (Barisal)
- Dr. Khandaker Muzahidul Hoque (Bagerhat)
- Dr. Mahfuza Khanam (KMC, Khulna)
- Dr. Maksuda Rahman Kakon (Bagerhat)
- Dr. Md. Ali Siddiqui (KMC, Khulna)
- Dr. Md. Dider-E-Elahi Emu (KMC, Khulna)
- Dr. Md. Shahidul Islam (Jessore)
- Dr. Md. Shahin Dhali (Jhenaidah)
- Dr. Md. Wahiduzzaman (Jessore)
- Dr. Md. Habibur Rahman (KMC, Khulna)
- Dr. Md. Mominul Islam (Chuadanga)
- Dr. Md. Saiful Islam (Barisal)
- Dr. Mili Dutta (KMC, Khulna)
- Dr. Mollick Moniruzzaman (Khulna)
- Dr. Moutusi Sorowar (Barisal)
- Dr. Mukul Ranjan Charavarty (Sylhet)
- Dr. Mustafizur Rahman Rubel (Satkhira)
- Dr. Nani Gopal Roy (Pirojpur)
- Dr. Nitish Chandra Golder (Paikgacha)
- Dr. Sadia Afrin Lopa (KMC, Khulna)
- Dr. Saifullah Al Kafi (Satkhira)
- Dr. Shafiqul Islam Sikder (KMC, Khulna)
- Dr. Shams E Jahan Orin (Bagerhat)
- Dr. SM Zahid Hussain (Jessore)
- Dr. Suchinto Krishno Dutta (Jessore)
- Dr. Sudhanshur Shekar Malakar (KMC, Khulna)
- Dr. Sudhanshur Shekar Malakar (KMC, Khulna)
- Dr. Sumana Das (Khulna)
- Dr. Umme Salma Ayesha Hoque (Dhaka)

### Obstetricians:
- Dr. Joyanta Kumar Das (Khulna)
- Dr. Dipika Rani Mondol (KMC, Khulna)
- Dr. Farjana Yasmin (KMC, Khulna)
- Dr. Kaniz Mahmuda (KMC, Khulna)
- Dr. Lailatunessa (KMC, Khulna)
- Dr. Mamoni Sultana (KMC, Khulna)
- Dr. Nayer Islam (KMC, Khulna)
- Dr. Puspanjali Ray (Satkhira)
- Dr. S. M. Khaliduzzaman (KMC, Khulna)
- Dr. Sankar Prosad Biswas (KMC, Khulna)