

Building Safe Obstetrics Knowledge & Capacity: Baseline Findings of an Innovative Training & Mentorship Intervention in Cambodia

S. Bari, J. Incorvia, O. Ahearn, V. Smith, M. Cainer, J. Varallo, S. Sharma, S. Cheav, K. Rathamony, G. Menon, D. Lim, D. Barash, J.G. Meara, S. Alidina

AOFOG Annual Congress / November 2019 / Manila, Philippines



PROGRAM IN GLOBAL SURGERY
AND SOCIAL CHANGE

Harvard Medical School

Disclosure

Speaker: Sehrish Bari, MPH

Presented research and activities was supported by the GE Foundation as part of the SafeSurgery2020 Project.

Background – Access to Surgery in Cambodia



- **97% of people in South Asia are unable to access safe surgical care**
- **In Cambodia: 419 Surgical Procedures are performed per 100,000 population**
- **Ranks #146 of 192 countries**
- **Major gap in available surgical services**

Background – Safe Surgery 2020 Baseline Assessment



A collaborative training and mentorship initiative that aims to build the surgical capacity of Cambodian hospitals

LEAD PARTNERS



SUPPORTING PARTNERS



IN-COUNTRY PARTNERS



FUNDING AGENCY



A baseline assessment was conducted in 5 hospitals in Cambodia before implementation of SS2020 intervention package

Study Objective:

This prospective, observational study evaluates the baseline state of cesarean surgical care and performance in SS2020 intervention hospitals in Cambodia

SS2020 Trainings & Programs

- Leadership and Mentorship Training
- Clinical Training
- Surgical Key Performance Indicator Training
- SPECT Equipment Sterilization Training
- WFSA Safe Anesthesia Training
- Touch Surgery App Training
- Bio-medical Engineering Training
- Project ECHO Mentorship through Video Conferencing
- Perioperative Enhancement Project

Methodology

Observations of cesarean procedures were conducted in 5 intervention hospitals in February 2019 to assess baseline adherence to global standards of surgical care.

Data Collection

- Observation tool developed to assess adherence to several surgical performance items
- Local data collectors hired & trained
- Convenience sample
 - Data collectors observed as many surgeries as feasible over a 10-day period, including business hours, weekends and evenings



Methodology

Observations of cesarean procedures were conducted in 5 intervention hospitals in February 2019 to assess baseline adherence to global standards of surgical care.

Data Analysis

- Descriptive analysis conducted to aggregate indicator outcomes across all hospitals & by hospital type
- Data were collapsed into 18 performance indicators
 - Most (n=14) found on the WHO Safe Surgery Checklist (SSC)
 - Additional SS2020 program-specific indicators also analyzed (n=4)
- Scores between 0 to 18 assigned to each surgery to indicate # of performance indicators successfully achieved

SURGICAL SAFETY CHECKLIST Based on the WHO Surgical Safety Checklist

File Number: _____ Patient Name: _____ Date of Surgery: _____
Diagnosis: _____ Procedure: _____

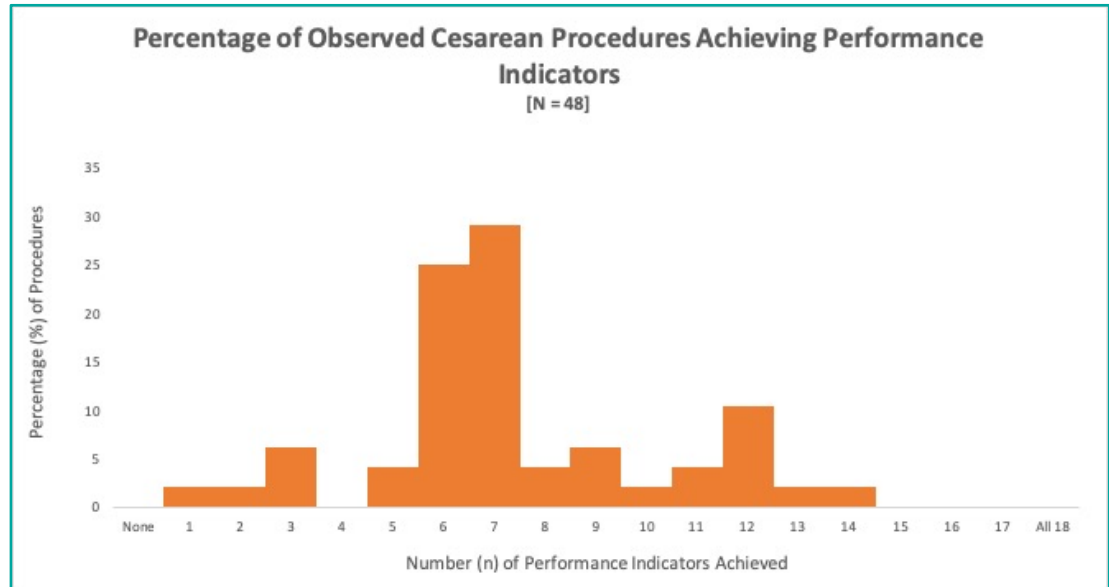
Before Anesthesia Procedure SIGN IN (to be read out loud)	Before Skin Incision/Procedure TIME OUT (to be read out loud)	Before Patient Leaves Room SIGN OUT (to be read out loud)
VERIFY: <input type="checkbox"/> All operating team members have been mobilized <input type="checkbox"/> For C-S, includes newborn provider <input type="checkbox"/> Level of urgency for surgery <input type="checkbox"/> Patient has confirmed her identity, procedure(s), and consent <input type="checkbox"/> Sterility of equipment and instruments <input type="checkbox"/> Anesthesia machine and medication check complete <input type="checkbox"/> Pulse oximeter on the patient and functioning Patient has known allergy <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Antibiotic prophylaxis given 15-60 minutes before expected skin incision <input type="checkbox"/> Antacid prophylaxis has been given <input type="checkbox"/> N/A Patient has a difficult airway or aspiration risk <input type="checkbox"/> No <input type="checkbox"/> Yes, and equipment/assistance available Risk of >500 mL blood loss (7 mL/kg in children) <input type="checkbox"/> No <input type="checkbox"/> Yes, and adequate IV access and fluids planned <input type="checkbox"/> Blood is available <input type="checkbox"/> N/A <input type="checkbox"/> Haemoglobin results <input type="checkbox"/> Other critical lab results <input type="checkbox"/> N/A <input type="checkbox"/> Blood group/Rh <input type="checkbox"/> N/A <input type="checkbox"/> For C-S, newborn resuscitation equipment and assistance available	SURGICAL TEAM VERIFIES: <input type="checkbox"/> All team members state their name and role (if not done during Sign In) <input type="checkbox"/> Correct patient, correct site and correct procedure. <input type="checkbox"/> Written consent on the chart NURSING VERIFIES: <input type="checkbox"/> Availability of all necessary equipment <input type="checkbox"/> Skin prep with Chlorhexidine-alcohol or iodine-based solution For C-S <input type="checkbox"/> Vaginal prep with povidone-iodine (if ruptured membranes and/or in labor) SURGEON VERIFIES: <input type="checkbox"/> Anticipated critical steps <input type="checkbox"/> Anticipated procedure level of difficulty and duration <input type="checkbox"/> Anticipated blood loss <input type="checkbox"/> Any patient-specific concerns <input type="checkbox"/> Essential imaging is displayed <input type="checkbox"/> N/A ANESTHETIST VERIFIES: <input type="checkbox"/> Any patient-specific concerns <input type="checkbox"/> ASA score For C-S NEWBORN PROVIDER VERIFIES: <input type="checkbox"/> Any newborn-specific concerns	SURGICAL TEAM MEMBERS VERIFY: <input type="checkbox"/> Name of procedure(s) <input type="checkbox"/> Instrument, sponge, and needle counts are correct <input type="checkbox"/> All specimens are labeled and forms completed per protocol <input type="checkbox"/> N/A <input type="checkbox"/> Equipment/Instrument problems to be addressed <input type="checkbox"/> Where patient will be immediately recovered followed by ward for post-op care SURGEON, ANESTHESIA, AND NURSE REVIEW: <input type="checkbox"/> Any key concerns for recovery and management of patient. <input type="checkbox"/> For C-S, reviewing team includes newborn provider SURGEON: _____ SCRUB NURSE: _____ ANAESTHETIST: _____

Results



48

Cesarean Procedures
observed in
5 intervention
hospitals
*[1 national &
4 provincial/regional]*



Number of Performance Indicators Achieved:

- 0 procedures had a perfect score
- 4.2% of procedures scored between 13-17
- 56.3% scored 7-12
- 39.6% scored 1-6
- Mean = 7.4 for all 18 indicators
 - 5.0 for 14 SSC indicators

Results

Percentage of Observed Cesarean Procedures Achieving Performance Indicators, Disaggregated by Indicator & Hospital Type

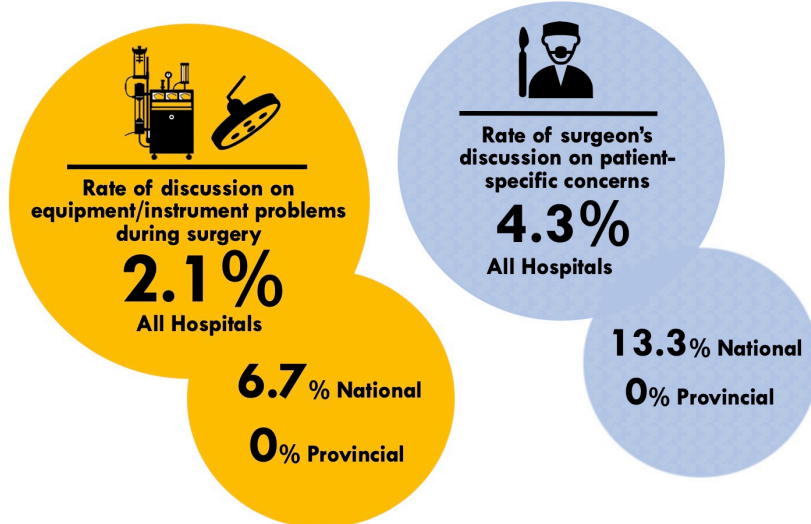
#	Performance Indicator	All Hospitals	National Hospital	Provincial Hospitals
1	Post-op removal of all instruments for decontamination*	97.90%	100.00%	97.00%
2	Pulse oximeter used	95.80%	100.00%	93.90%
3	Operative site cleansed	93.80%	100.00%	90.90%
4	Instrument, sponge, and needle counted	77.10%	73.30%	78.80%
5	Surgical instruments free of visible soil*	64.60%	100.00%	48.50%
6	Patient identity, consent, and procedure confirmed	55.30%	71.40%	48.50%
7	Discussion of instrument/equipment sterility	54.20%	86.70%	39.40%
8	Visible chemical sterilization tape*	52.10%	100.00%	30.30%
9	Safe Surgery Checklist utilization rate (paper checklist, read aloud)*	31.70%	86.70%	0.00%
10	Vaginal cleansing performed for cesarean sections	22.90%	0.00%	33.30%
11	Prophylactic antibiotic administered	20.80%	33.30%	15.20%
12	Discussion of airway difficulty	18.80%	60.00%	0.00%
13	Discussion of patient post-op recovery	16.70%	40.00%	6.10%
14	Discussion of blood loss risk	14.60%	46.70%	0.00%
15	Surgeon's discussion of procedure difficulty	12.50%	26.70%	6.10%
16	Anesthesiologist's discussion of patient concerns	8.30%	20.00%	3.00%
17	Surgeon's discussion of patient concerns	4.30%	13.30%	0.00%
18	Discussion of equipment/instrument issues	2.10%	6.70%	0.00%

*SS2020 program-specific indicators, not WHO SSC

Results

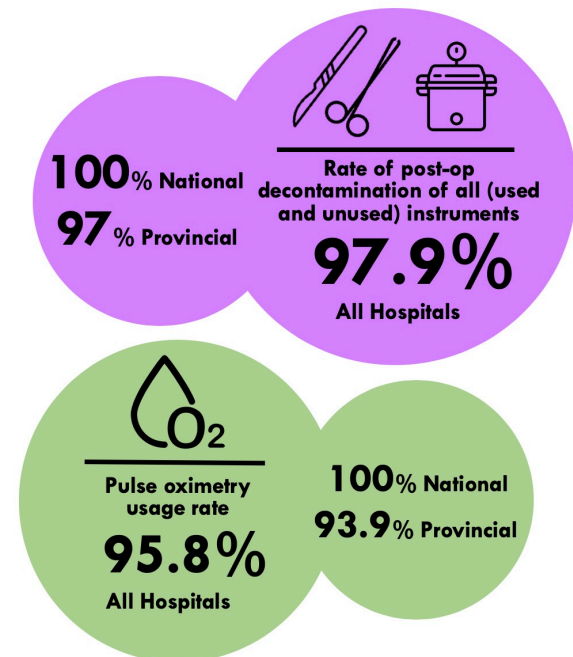
Lowest Performing Indicators

- Communication items generally scored lowest



Highest Performing Indicators

- Non-communication items generally scored better



Conclusion

Lessons learned from this baseline observational study:

- Cesarean surgery performance scores vary in SS2020 hospitals with room for improvement
- Hospitals will benefit from SS2020's emphasis on building both clinical and leadership capacity
- Endline assessment to be conducted following complete 1-year intervention package
- Final results will:
 - Assess SS2020's capacity to improve surgical performance
 - Provide compelling evidence to scale SS2020 for greater impact



Thank you!

Questions?