

Obstetric Anaesthesia & Analgesia

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Obstetric Anaesthesia & Analgesia

- How is obstetric anaesthesia (OA) linked to maternal deaths?
- What is the evidence for the role of obstetric anaesthesia in reducing maternal deaths?
- What special skills are required to provide safe obstetric anaesthesia & analgesia?
- Can these skills be made available at the first referral health facilities?



Obstetric anaesthesia linked to maternal deaths?

Developing countries scenarios

- Complications of pregnancy & childbirth: leading causes of death among women of reproductive age.
- At least 40% of women experience complications during pregnancy, childbirth & after delivery.
- An estimated 15% of these women develop potentially life threatening complication that calls for skilled care; some will require a major obstetrical intervention to survive (emergency & surgical procedures).
- Health personnel at the 1st referral health facilities are required to perform emergency life saving procedures, often with inadequate training & limited resources

* Safe Motherhood Fact Sheet: Maternal Mortality

* WHO training manuals for health personnel at first referral health facilities:

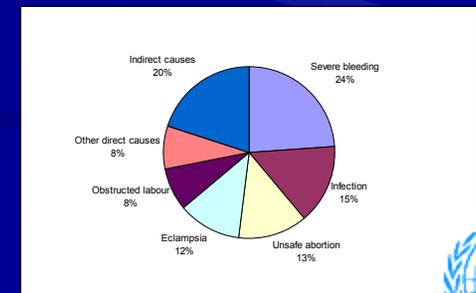
- Managing Complications in Pregnancy and Childbirth

- Surgical Care at the District Hospital



Obstetric anaesthesia linked to maternal deaths?

- Causes of maternal mortality. Other direct: 8% (anaesthesia, ectopic, embolism)
- 'Anaesthesia' is a component of the 'Comprehensive Essential Obstetric Care' in the safe motherhood programmes
- Majority of anaesthetic deaths & obstetric haemorrhage at level 1 hospitals*.
 - AIDS at level 2; hypertensive diseases at level 3 hospitals.
 - **Anaesthetic accidents (4.8%) are an important preventable cause of maternal deaths.**
 - **Lack of training & infrequent use of regional anaesthesia**
- Key recommendations:
 - **Regional anaesthesia should be promoted in all sites performing Caesarean sections**



Evidence for the role of OA in reducing maternal deaths?

Evaluation of the quality of care for severe obstetrical haemorrhage in 3 French regions (n=165)

■ Design & Methods:

Retrospective questionnaire survey

51% vaginal, 19% operative vaginal, 30% caesarean.

Expert committee established a framework for qualitative assessment (blood loss \geq 1500 ml)

■ Results:

62% received appropriate care

24% received totally inadequate care

14% mixed care

■ Conclusion:

- Organization of obstetric services for good clinical practices for safer motherhood

- Presence of an anaesthetist is shown to have a measurable effect on the quality of care for women giving birth



Evidence for the role of OA in reducing maternal deaths?

C-section in Malawi: Prospective study of early maternal & perinatal mortality

- **Methods & Results:** district & 2 central hospitals in Malawi
n= 8070 C-sections, 85 (1.05%) died & of these, 68 (80%) died in the 72 hrs

- **Quantifiable risk factors: Higher maternal mortality:**
 - Ruptured uterus
 - **Little anaesthesia training**
 - GA as opposed to spinal anaesthesia
 - Blood loss requiring transfusion > or = 2 units

Perinatal mortality 11.2%: Ruptured uterus; GA

- **Conclusion:**
 - **Improved training in anaesthetics**
 - **Wider use of spinal anaesthesia**
 - **Improved surveillance & resuscitation in postoperative wards might reduce mortality:**

Evidence for the role of OA in reducing maternal deaths?

- Standards & awareness of OA in healthcare professionals, general public & politically: **Obstetrics Association of Anaesthesia**
- Changes in practice & teaching of anaesthesia & analgesia techniques:
 - General vs Spinal, Epidural, Combined spinal & epidural anaesthesia.
 - Labour analgesia
 - Analgesia for Caesarean section
 - Pain relief following Caesarean section
 - Balanced combination of non-opioid & opioid medications, local anaesth.
- Postoperative Pain Management: impact on mothers & newborns:
 - Ambulation: thromboembolism
 - Dietary intake: ileus
 - Respiration: atelectasis, pneumonia
 - Nursing activities & breast feeding

* Journal of Clinical Anaesthesia 2004,16:57-65

* Anaesthesia 2003, 58(12), 1186-9



Why special skills are required for safe OA?

Anaesthetic risks in obstetric patients:

- Weight gain & uterine enlargement:
 - ↓ functional residual capacity (FRC),
 - ↑ onset of hypoxemia during hypovent./ apnoea

- Difficult airway (intubation): enlarged tongue, breasts

- Difficulty with nasal breathing & ↑ nasal bleeding:
 vasc. engorgement & oedema of nasal, oral pharynx, larynx, trachea

- Denitrogenation: 100% oxygen is mandatory before GA
 - ↑ maternal oxygen consumption

- Full stomach: Rapid sequence induction of GA:
 - ↑ gastric acid content with ↓ pH,
 - ↓ function of gastro-esoph. sphincter

- Supine Hypotensive Syndrome: 16 wks to term, in appx.12-15%.
 Gravid uterus may compress the vena cava & aorta in the supine position:
 - ↓ cardiac output, B.P& uterine blood flow.



What special skills are required for safe OA?

■ Resuscitation

■ Decisions on anaesthetic techniques in:

- emergencies
- coexisting medical conditions
- Skill, experience, resources

■ Management of complications

- Side-effects & toxicity of anaesthesia drugs
- Difficult airway



What special skills are required for safe OA?

HIV: anaesthetic & obstetric considerations

- Most Caesarean sections are performed as emergencies without preoperative preparation:
 - Anaemia, hypovolemia, sepsis from obstructed labour & ruptured uterus are common
- Prenatal anaesthesia consultations
- Team approach
- Regional anaesthesia usually technique of choice (local infection, blood clotting abnormalities; neuropathies)
- GA (drug interactions & impact on various organ systems)
- Infection control (asepsis, sterilization of equipment & standard precautions)

* BMJ 2003 13;327 (7415);587

*Anaesthesia Analgesia 2004;98(2): 503-11

* WHO training manual Surgical Care at the District Hospital



Can these skills be made available at the first referral health facilities?

Reduce maternal mortality due to preventable anaesthesia related complications

Policy

- Basic minimum requirement at 1st referral health facilities

Quality & Safety

- Ensure patient safety: needs assessment, & monitoring & evaluation of quality of clinical procedures & equipment

Access

- Recommendations & guidelines on best practice protocols for emergency & surgical procedures & equipment

Use

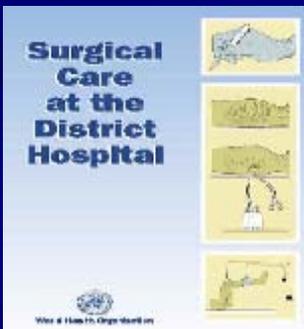
- Training tools: effective interventions in management of emergency procedures



Can these skills be made available at the first referral health facilities?

WHO Integrated Management for Emergency and Essential Surgical Care (IMEESC) toolkit

- Best Practices for Clinical Procedures Safety
 - Pregnancy- related complications
 - Needs assessment tool for monitoring
- EEE generic list
- Research- evidenced based ?



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Safe obstetric anaesthesia & analgesia

A Collaborative Approach

Right patient

Right surgery

Right site

Right time

Rightly trained health personnel



Thank you

