

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?

In many developing countries:

- Complications of pregnancy & childbirth are the 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 first referral health facilities are required to perform emergency life saving procedures, often with inadequate training & limited resources

* Safe Motherhood Fact Sheet: Maternal Mortality

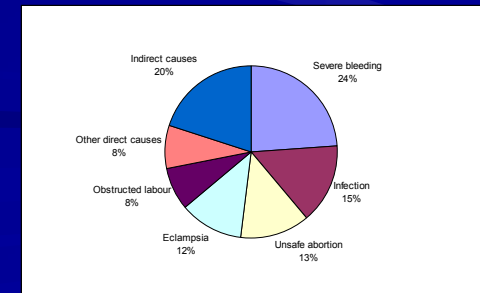
* WHO training manuals for health personnel at first referral health facilities:

- Managing Complications in Pregnancy and Childbirth

- Surgical Care at the District Hospital

Obstetric anaesthesia linked to maternal deaths?

- Causes of maternal mort. 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 anaesth. usually technique of choice (local infection, blood clotting abnormalities; neuropathies)
- GA is safe (drug interactions & impact on various organ systems)
- Infection control (asepsis, sterilization of equipment & universal 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
- Quality & safety
- Access
- Use



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

Policy

- Advocacy materials to promote training of health personnel & basic minimum requirement at first referral health facilities

Quality & Safety

- To ensure patient safety: tools for needs assessment of health facility & monitoring & evaluation of quality of clinical procedures & equipment

Access

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

Use

- Training tools for effective interventions in management of emergency procedures at the first referral health facilities.



Safe obstetric anaesthesia & analgesia

A Collaborative Approach



Thank you

