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Challenges of Obstetrics & Gynaecology: Strategies to Reduce Maternal Mortality

Wame Baravilala
Reproductive Health Adviser, UNFPA
Objectives

• Review of global and Pacific maternal mortality
  – some difficulties in measuring maternal mortality
• Strategies to reduce maternal mortality
  – EmONC including surgical and anaesthetic components of maternal mortality reduction
• Some gynaecological health issues
• Key messages
What is a Maternal Death?

The death of a woman while she is pregnant or in childbirth or within 42 days of the completion of the pregnancy irrespective of site or duration of pregnancy......from any cause related to or aggravated by the pregnancy or its management, but not from accidental causes

World Health Organization (WHO)
MMR per 100,000 Live Births
2000

WHO World Health Report, April 2005
Every One to Two Minutes, Around the World...

- 380 pregnancies conceived
- 190 women face an unwanted pregnancy
- 110 women face a pregnancy problem
- 40 women undergo an unsafe abortion
- 30 are injured or disabled
- A woman dies from a pregnancy related cause

Source: UNFPA

MATERNAL DEATHS

1 every 1 to 2 minutes

40/Hour

960/Day

350,000/Year
Causes of Maternal Mortality

- Severe bleeding: 24%
- Indirect causes: 20%
- Eclampsia: 12%
- Unsafe abortion: 13%
- Infection: 15%
- Obstructed labour: 8%
- Other direct causes: 8%* (includes ectopic pregnancy, embolism, anesthesia-related)

*Other direct causes include: ectopic pregnancy, embolism, anesthesia-related
*Indirect causes include: anemia, malaria, heart disease

How Much Time Do Mothers Have?

It is estimated that, if untreated, death occurs on average in:

- 2 hours from Postpartum Hemorrhage
- 12 hours from Antepartum Hemorrhage
- 2 days from Obstructed Labor
- 6 days from Infection
...But we do know at least 15% of pregnant women will experience an *antenatal* obstetric complication.

...and we do know that at least another 15% (low risk and higher risk) will develop a complication in labour.

...This is as true of pregnant women in the US and Europe as of women in Africa, Asia, Latin America and the Pacific.

Nobody Knows Why This Happens: It is just a Fact of Life!
How is the Pacific Doing?

• Polynesian countries doing well
• Some Micronesian countries need help
• Bulk of problem in Melanesia
• Common contributing issues:
  – Low status of women
  – Low education of women
  – Geography, topography & infrastructure (PNG is huge)
  – Low levels of skilled health workforce
  – Low density of health facilities
Reported MMRs and Percentage of Births by Skilled Attendants for selected Pacific Island Countries, 1990-2005

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Samoa</td>
<td>140 (1991)</td>
<td>22 (2005)</td>
<td>76</td>
<td>89</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>550 (1992)</td>
<td>142 (2006)</td>
<td>85.4</td>
<td>86</td>
</tr>
</tbody>
</table>

Averaged (3 year) Moving MMRs in Selected PICs

Sources: UNFPA (2006); SPC (2006); MOH Annual Reports (1990-2006)
The Problem with MMR in the Pacific

- Many PICs don’t even have 100,000 people, let alone 100,000 live births
- Problems with small numbers
  - In a small country there may not be a maternal death for a few years – MMR would be zero
  - In a year in which a single death does occur the MMR may reach 3 figures, and then drop back to zero a year later
- Trends not of much value for MMR analysis
- Number of deaths or 5 yearly MMR may be more useful (if population < 250,000)
- Avoid MMR if country population < 250,000
“Official” UN Estimates
Maternal Mortality: UK 1840–1960

Improvements in nutrition, sanitation

Antenatal care

Antibiotics, banked blood, surgical improvements

Maine 1999.
What Happened to Reduce Maternal Mortality in the Developed World?

1. Effective treatments for obstetric complications were developed and used
   e.g., skilled supervised birth, antibiotics for infection, blood transfusions for haemorrhage, safe anaesthesia for surgical procedures

   AND

2. The total fertility rate started to come down:
   from 6 → 2
Evidence-based Interventions for Major Causes of Maternal Mortality

- Severe Bleeding 24%
- Indirect Causes 20%*
- Eclampsia 12%
- Infection 15%
- Unsafe Abortion 13%
- Obs. Labour 8%
- Other Direct Causes 8%*

Other direct causes include: ectopic pregnancy, embolism, anesthesia-related

Indirect causes include: anemia, malaria, heart disease

Source: Adapted from “Maternal Health Around the World” World Health Organization, Geneva, 1997
Skilled Attendant at Delivery and Maternal Mortality Ratio

\[ R^2 = 0.74 \]

Maternal deaths per 1000000 live births

% skilled attendant at delivery
Maternal Mortality Since 1960 in Thailand, Sri Lanka & Malaysia

WHO World Health Report, April 2005
It Can Take Less Than 10 years

Trends in Skilled Attendant at Births in the Pacific
The Winning Strategy for Maternal Mortality Reduction

- Family planning:
  - prevent unwanted pregnancy and unsafe abortion
  - meet unmet needs
  - a woman on contraception who is not pregnant cannot become a maternal death
- Skilled care at childbirth: a skilled attendant in an enabling environment for ALL births
- Emergency Obstetric Care to manage complications
Contraceptive Prevalence Rate Selected PICs

![Graph showing contraceptive prevalence rates for selected Pacific Island Countries (PICs) from the 1990s to 2005-2007.](image-url)
Unmet Need for Family Planning

• Is the desire to limit or postpone childbearing but not being able to use any modern method

• Demographic Health Surveys reveal Pacific data

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>UNMET NEED</th>
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<tbody>
<tr>
<td>Cook Islands</td>
<td>20</td>
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<tr>
<td>Fiji</td>
<td>43-57</td>
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<tr>
<td>Kiribati</td>
<td>28</td>
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<tr>
<td>PNG</td>
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<tr>
<td>RMI</td>
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<tr>
<td>Samoa</td>
<td>20-53</td>
</tr>
<tr>
<td>Solomons</td>
<td>11.1</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>24</td>
</tr>
</tbody>
</table>
As many as 70% of pregnancies are unplanned at the time of conception and at least half of those are unwanted. 40% of women currently pregnant do not want to be pregnant but are not using any reliable method of FP at the time they conceive.
Supervised Delivery – by a Skilled Birth Attendant

A labour *and* delivery...

1. Conducted *in a health facility*
2. Observed and supervised by *a health care professional*
3. Who has had *training in midwifery skills, especially the provision of Emergency Obstetric Care*
Skilled Attendants at Birth by Global Regions

Skilled Attendants at Delivery, By Region

- North America: 99%
- Europe: 98%
- Latin America & the Caribbean: 75%
- Asia: 53%
- Oceania: 52%
- Africa: 42%

85%
The Role of The Pharmacy: RH Commodity Security

To ensure the correct medication is available for EmONC activities conducted in facilities

The right amounts of the right medications are always there when needed
To Avert Death and Disability...

...We Need to Ensure that Women have Access to...

Emergency Obstetric and Neonatal Care

EmONC
EmONC Training

• Accurate Knowledge
• The Right Attitudes
• Competent with required Skills
  – Decision making
  – Communication
  – Hands on

  – With the Right Logistics and Supplies support

  .... Related to local resources
EmONC Key Functions

**BASIC EmOC**

1. Antibiotics IV/IM
2. Oxytocic Drugs IV/IM
3. Anticonvulsants IV/IM
5. Removal of Retained Products…D&C
6. Assisted Vaginal Delivery
7. Neonatal Resuscitation

**COMPREHENSIVE EmOC**

8. Surgery e.g Caesarean Section (CS)
9. Blood Transfusion
Basic Emergency Obstetric and Neonatal Care (BEmONC)

At health centers (1 per 30,000 people)

Provided by midwives and nurses

1. Administer parenteral antibiotics
2. Administer parenteral uterotonic drugs (oxytocin)
3. Administer parenteral anticonvulsants for pre-eclampsia and eclampsia (MgSO4)
4. Perform manual removal of placenta
5. Perform removal of retained products of conception
   (MVA - manual vacuum aspiration, D&C dilatation & curetage)
6. Perform assisted vaginal delivery, e.g. vacuum
7. Perform neonatal resuscitation and provide neonatal care
Comprehensive EmONC (CEmONC)

At a hospital with an operating theater
(1 per 150,000 – 200,000 people)

Provided by team of doctors, anaesthetists, midwives and nurses

BEmONC (steps 1-7), plus

8. Perform surgery (caesarean section, laparotomy for ectopic pregnancy, safe anaesthesia)
9. Perform safe blood transfusion
For every 500,000 population, there should be at least:

1 Comprehensive EmONC Facility
4 Basic EmONC Facilities
EmONC Services Indicators

- All women who experience obstetric complications should be treated in EmONC facilities
- Caesarean Section rate should be between 5 to 15% of total births
- Case fatality should be no higher than 1%
High rates of cervical cancer (an STI), link between obesity and breast cancer;

Poorly developed cancer prevention awareness amongst women reflecting the general low status of Pacific women;

HPV vaccination offering hope; major price reduction

Very few PICs have fully functioning cancer detection programmes:
  - Where they do exist: poorly funded/equipped, poor registration systems, poor follow-up;
  - Rudimentary cancer treatment services available.
Age Standardised Rate of Breast and Cervical Cancer in the Western Pacific Region, 2008
Female Population and Estimates of Incidence and Mortality for Cervical Cancer in the Pacific

<table>
<thead>
<tr>
<th>Region Country</th>
<th>Female Pop.</th>
<th>Incidence</th>
<th>Ranking</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10-14 years</td>
<td>15+ years</td>
<td>Cases</td>
<td>ASR*</td>
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<tr>
<td>Melanesia</td>
<td>0.46</td>
<td>2.28</td>
<td>850</td>
<td>38.1</td>
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<tr>
<td>Fiji</td>
<td>0.04</td>
<td>0.29</td>
<td>113</td>
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<tr>
<td>Papua New Guinea</td>
<td>0.36</td>
<td>1.70</td>
<td>637</td>
<td>40.4</td>
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<tr>
<td>Solomon Islands</td>
<td>0.03</td>
<td>0.14</td>
<td>58</td>
<td>42.8</td>
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<tr>
<td>Vanuatu</td>
<td>0.01</td>
<td>0.06</td>
<td>14</td>
<td>21.7</td>
</tr>
<tr>
<td>Micronesia</td>
<td>0.03</td>
<td>0.19</td>
<td>19</td>
<td>9.4</td>
</tr>
<tr>
<td>Polynesia</td>
<td>0.03</td>
<td>0.21</td>
<td>0.21</td>
<td>28</td>
</tr>
<tr>
<td>Samoa</td>
<td>0.01</td>
<td>0.05</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>Tonga</td>
<td>0.01</td>
<td>0.03</td>
<td>0.03</td>
<td>10.9*</td>
</tr>
</tbody>
</table>
• Australia: 40%
• PNG: 67% of women surveyed
• Solomons (1995): 59.6% (urban) 51.2% (rural)
• Vanuatu: 1996, 6 months – 1,071
• Fiji (1999): 66% of women surveyed
• NZ: 33%
• Tonga: study completed, awaiting report
• Samoa (2001)- 37.6% physical, 18.6% emotional, 19.6% sexual

• [ WHO Global Report 10 – 69% ]
Gender Based Violence in the Pacific

- Women and girls are the victims in 90% of cases
- Prevalent yet under reported
- Compounded by socio-cultural and religious interpretations
- Still a great deal of “silence” surrounding the issue
- Links between violence that happens in “private” to that which happens in “public”
- Some evidence that sexual violence is more prevalent in Melanesian countries while in Polynesian countries the violence is more likely to be physical: ALL forms are destructive
Key Messages

• Poorest countries have the largest data gap
• Most maternal deaths occur in Sub-Saharan Africa and South-East Asia; in Pacific - PNG
• Timing of maternal deaths is clustered around labour, delivery, immediate postpartum period
• Haemorrhage is main medical cause of deaths; unsafe abortions important in some areas; indirect causes eg malaria, AIDS prominent
• Many deaths take place in hospitals
• Inequalities exist between/within countries
...women are not dying because of diseases we cannot treat. They are dying because societies have yet to make the decision that their lives are worth saving.

Dr. M. Fathalla
Thank You,

Wame Baravilala
UNFPA Pacific Sub-regional Office
baravilala@unfpa.org