

**(1)**

**METHODOLOGICAL ISSUES IN THE  
MEASURES OF MATERNAL  
MORBIDITY MORTALITY (MM<sup>1</sup>MM<sup>2</sup>)**

**Dr. AKO Simon**

**Postgraduate Research Training in  
Reproductive Health 2004**

**Faculty of Medicine, University of Yaounde**

## **INTRODUCTION AND DEFINITIONS (2)**

Worldwide, 500.000 to 600.000 women of reproductive age die every year from complications of pregnancy and delivery. The majority of these deaths are avoidable (WHO 1999)

Reported MM underestimates the true magnitude of the problem by as much as 70% in some countries (Royston & Armstrong 1989)

## INTRODUCTION CONTINUE (3)

Measure of MM<sup>1&2</sup> is a component of health information system.

It permits the identification, the notification, the quantification and the determination of causes and the avoidability of MM/M for a defined time period and geographic location.

### **Rationale:**

- \* Establish an assessment of the magnitude of the problem....
- \* Understand what actions need to be taken in the community level, within the formal health care system and at the inter-sectoral level

## **Maternal morbidity (MM<sup>1</sup>)**

Morbidity in a woman who is or has been pregnant from any cause related or aggravated by the pregnancy or its management, but not from accidental or incidental causes, of gynaecological and or contraceptive morbidity (Progress in Reproductive Health Research N° 57;2001) MM<sup>1</sup> may be acute e.g. APH, PPH, sepsis, preeclampsia-eclampsia or chronic e.g. urogenital prolapse or fistula

## **INCIDENCE**

- 40% of pregnant women present acute MM (Koblinsky 1993).
- 56% of once pregnant women in one community in Egypt had a chronic MM (Younis 1989)
- For every one maternal death, 100 more women suffer with acute morbidity (Koblinsky 1995)

**(6)**

## **Maternal mortality (MM<sup>2</sup>)**

The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration or site of the pregnancy from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (ICD-10). Maternal death (MD) may be direct or indirect

**(7)**

**Direct MD** results from obstetric complications of the pregnancy, labour or puerperium, from interventions, omissions or incorrect treatment or from a chain of events resulting from any of the above.

**Indirect MD** results from previous existing disease(s) that developed during or was aggravated by the pregnancy e.g. Sickle cell and pregnancy, cardiopathy and pregnancy.

## Measurements of MM<sup>2</sup>

**MM ratio:** The number of MDs during a given year per 100.000 live births during the same period. (Obstetric risk).

**MM Rate:** The number of MDs in a given period per 100.000 women of reproductive age (15-49 years). (Obstetric risk and frequency of the risk).



# WHY DO WE MEASURE MM<sup>1</sup>/MM<sup>2</sup> ? (9)

**Goal:** To monitor and reduce MM<sup>1</sup>/MM<sup>2</sup>

**Overall objectives:** To guide activities whose aim is to reduce MM by collecting, analysing and interpreting data, reporting findings and making recommendations for actions based on information

Specific Objectives

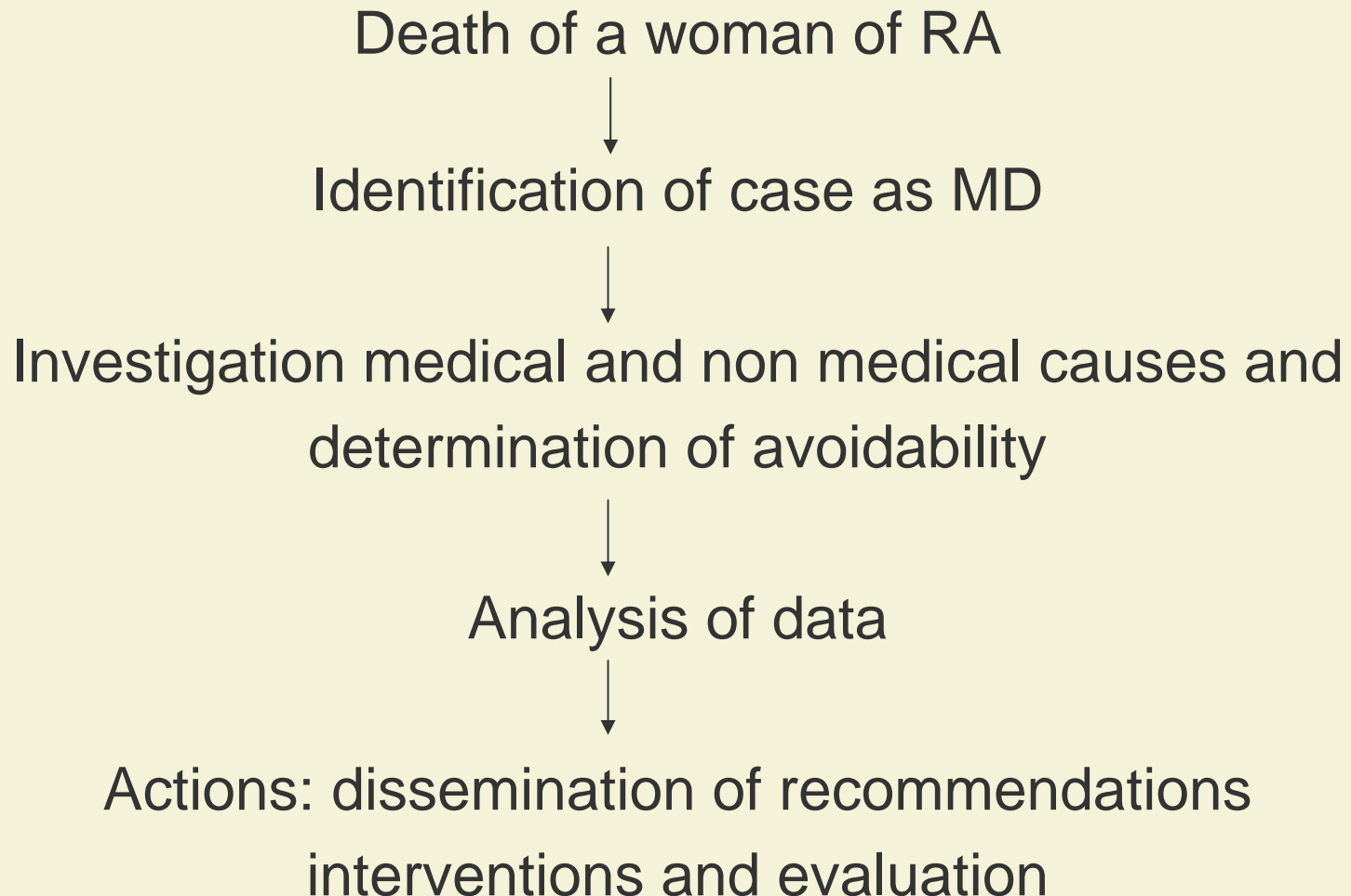
- Collect accurate data on all MDs

**(10)**

- Analyse data collected through surveillance
- Make informed recommendations for action to decrease MM<sup>2</sup>
- Disseminate the findings and recommendations to...
- Evaluate the impact of interventions
- Increase awareness among....
- Allow comparability of MM statistics
- Identify key areas requiring further research

# METHODS OF MEASUREMENTS (11)

## - MM Surveillance:



# IDENTIFICATION OF MDS

(12)

Identify all deaths among women of RA



Establish which deaths occurred among women during or within 42 days of pregnancy



Investigate all deaths among women during or within 42 days of pregnancy



Determine which deaths were caused by pregnancy or delivery, its complications or management

# **SOURCES OF INFORMATION (13)**

- Death certificates
- Hospital records
- Community identification of deaths
- Formal surveillance systems

# INVESTIGATION OF MD

(14)

Death of woman of RA

Pregnancy-related

Not pregnancy-related

Outside hospital / In hospital

Verbal autopsy

Record review

Local or regional committee

- \* Medical cause of death
- \* Non-medical causes of death
- \* Quality of medical care
- \* Avoidability of death

Compiled and sent to MMRC

Actions at local/hospital level

Monthly review

Feedback to/from community

Annual review

# PATHWAY TO SURVIVAL MM<sup>2</sup> (15)

Life	<b>Step 1</b>	<b>Step 2</b>		<b>Step 3</b>	
Threatening Illness	Recognition of medical problem	Timelines of decision actions	Access to care logistics	Quality of medical care	Survival/ death

# DETERMINATION OF AVOIDABILITY (16)

## 1) Family / Community Level

- Patient / family factors
  - \* Recognition of problem
  - \* Seek medical care
  - \* Seek prenatal care
  - \* Comply with any medical advice
- TBA factors: did the TBA
  - \* Manage labour and delivery correctly
  - \* Recognise any problem
  - \* Refer the woman on time



## 2) Formal health care delivery system level

- ANC
  - \* Did she receive ANC
  - \* As required in each country
  - \* Risk factors and medical problems correctly assessed and treated
- Hospital factors
  - \* Essential obstetric functions available?
  - \* Adequate resources to resolve the problem
  - \* Protocol / norms available
  - \* Care regardless of the ability to pay
- Health care-provider factor
  - \* Adequate training to handle problem correctly
  - \* If so, was the problem adequately treated
  - \* Were sensitive to the social and cultural values of the Pt.

### **3. Intersectoral level**

- Transportation factors
  - \* Availability of transport
  - \* Adequacy of roads
  - \* Ability to travel at night
  - \* Cost
- Education factors
- Communication factors
- Status of women

# **ANALYSIS - TURNING DATA INTO INFORMATION (19)**

## **Qualitative analysis**

Collected data is used to determine the events that led to the death, problems and solutions

## **Quantitative**

Classify MDs by age, place, time etc. and or by parity, gestational age etc.

# **CORRECTLY ANALYSED DATA PERMITS (20)**

- Examine trends in  $MM^2$  over time
- Compare the risk of MD between areas
- Compare data among different groups

## **USE OF INFORMATION**

- Dissemination to MM committee - local, regional
- Dissemination to other groups - media, publications, presentations
- Interventions: Changes in attitudes, knowledge, skills resources etc. primary, secondary, tertiary
- Evaluation