

# Maternal Mortality in University Hospital Kuala Lumpur, Malaysia

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## Summary

MATERNAL DEATHS which occurred since the beginning of the Obstetrical and Gynaecological Unit of the University Hospital from March 1968 until September 1973 are reviewed. Avoidable factors are indicated and suggestions for reduction of maternal mortality made.

## Definition

The definition of maternal mortality varies with different authors. The committee on maternal mortality of the International Federation of Gynaecology and Obstetrics defines it as death of any woman dying of any cause while pregnant or within 42 days of termination of pregnancy<sup>1</sup>, irrespective of the duration and the site of pregnancy, whereas deaths within one year of childbirth or abortion are included in the W.H.O. Health Statistics Report<sup>2</sup>. However the committee on maternal and child care of the council on medical sciences of the American Medical Association recommended in 1957 that maternal mortality should include any woman dying of any cause whatsoever while pregnant or within 90 days of the termination of pregnancy<sup>3</sup>. In the following study the definition recommended by F.I.G.O. in 1971 will be followed and it therefore encompasses deaths which occur in the Obstetrical and Gynaecological Unit and those in other Units of the hospital after transfer there. Patients who died outside the hospital are excluded as detailed clinical notes are not available for analysis.

During the period under review there were 13 maternal deaths and 13,200 deliveries (stillbirths and livebirths). Hence the maternal mortality rate is 0.9 per 1000 births.

## Case Reports

*Case 1:* A 26-year-old gravida 2 unbooked patient was admitted on 26.12.69 at 37 weeks pregnancy with fits, B.P. 270/150, severe oedema and gross proteinuria. Despite apresoline drip and lytic cocktail her condition deteriorated and she died of cardiac arrest, cerebral haemorrhage and eclampsia.

*Case 2:* A 16-year-old Orang Asli primigravida patient was admitted on 7.3.69 in a state of shock and with a history that vaginal bleeding and bloody diarrhoea persisted since delivery at home one month ago. In spite of vigorous resuscitation she died soon after admission. Cause of death was puerperal sepsis leading to peritonitis and septicaemia, with associated amoebic colitis.

*Case 3:* A 34-year-old multigravida unbooked patient was admitted with septicaemic shock. She failed to respond to intensive care and antibiotics. Cause of death was septicaemic shock and cardiac arrest.

*Case 4:* A 21-year-old primigravida was admitted on 5.5.69 with septicaemic shock from a septic abortion. Her condition improved initially but on the following day she went downhill and had pulmonary oedema, renal failure and repeated cardiac arrests. Cause of death was septic abortion leading to septicaemic shock, renal failure and cardiac arrest.

*Case 5:* A 34-year-old gravida 7 unbooked case was admitted on 12.7.70 in labour. She had a past history of pulmonary tuberculosis and thora-

coplasty. Soon after delivery she developed severe respiratory distress and was transferred to the Intensive Care Unit, where she died after two cardiac arrests. Cause of death was advanced pulmonary tuberculosis leading to severe pulmonary insufficiency and cardiac arrest and associated hyperthyroidism.

*Case 6:* A 44-year-old gravida 12 unbooked patient with a past history of hypertension was admitted unconscious and with a B.P. of 250/140. She remained unconscious and died on the following day. Cause of death was eclampsia and hypertensive encephalopathy.

*Case 7:* A 45-year-old gravida 6 para 6 was admitted on 20.5.72 having delivered two weeks ago in a private maternity home. She was febrile, comatose and had fits. Cause of death was septicaemia and cerebral abscess.

*Case 8:* A 28-year-old Orang Asli, gravida 7 unbooked patient admitted with septic abortion and hyperpyrexia. After aborting the foetus she went into septicaemic shock and died.

*Case 9:* A 25-year-old primigravida who had a congenital cyanotic heart disease. She had a low forceps delivery on 2.2.72 and was well in the post-natal ward until 10.2.72 when she died suddenly of pulmonary embolism.

*Case 10:* A 24-year-old gravida 4 patient who had no antenatal care. It was only when she developed eclamptic fits that she sought medical advice. Her condition failed to respond to treatment and she died from eclampsia on the next day.

*Case 11:* A 30-year-old gravida 5 who had eclampsia and a stillbirth on 25.11.72 and puerperal sepsis and was managed in a district hospital. She was only referred to our hospital on 18.12.72 when she was found to have septicaemia and acute renal failure. Despite intensive therapy and dialysis she died. Cause of death was eclampsia, septicaemia and renal failure.

*Case 12:* A 32-year-old gravida 3 who had a normal pregnancy and labour. She had a post-partum tubal ligation but died suddenly 4 days later of pulmonary embolism.

*Case 13:* A 20-year-old gravida 3 who was admitted on 5.6.73 with a septic abortion. Her condition deteriorated and she died of septicaemic shock.

## Discussion

It will be interesting to compare the maternal mortality of a few countries. In England and Wales the maternal mortality (excluding abortions)

in 1969 was 0.15 per 1000 births<sup>4</sup>. In the Borough of Bronx, New York it was 0.95 per 1000 live births during the period 1958 to 1967<sup>5</sup>. Grech et al<sup>6</sup> reported the overall maternal mortality in institutional deliveries in Uganda as 3.97 per 1000. The incidence in government hospitals in West Malaysia in 1969 was 2.2 per 1000<sup>7</sup>, while in this series it was 0.9 per 1000. The higher incidence in teaching hospitals and general hospitals is because of the large number of abnormal cases referred from rural clinics and general practitioners.

It will be interesting to determine in which cases maternal death could be avoided. It would be tempting to say that the deaths in the 11 unbooked cases were avoidable, but one should remember that an avoidable factor refers to some departure from the accepted standards of satisfactory care which may have played a part in causing death<sup>4</sup>. Failure to seek medical care early and failure to follow the doctor's advice contributed to the high number of preventable deaths where the responsibility was due to default by the patient<sup>5</sup>. This is well illustrated in Case 1. There was an interval of 4 weeks between her last clinic attendance and her hospital admission. Case 10 illustrates another example of an avoidable factor because the patient did not seek medical treatment until she had eclampsia.

Socio-economic status<sup>5</sup> and poverty<sup>8</sup> had been shown to play a significant role in maternal mortality. Poverty is associated with poor education and ignorance of the value of medical care. In Cases 2 and 8 it is quite clear that avoidable factors rest with the improvement of health education and health services so that these patients will and can have treatment early. In Cases 5 and 6 pregnancy was contra-indicated and should have been prevented.

Cases 4, 8 and 13 being deaths from septic abortions may be considered avoidable deaths. A lot has been said about legalising abortions in order that they may be done aseptically in hospitals so that deaths due to complications of criminal abortion such as septicaemia, haemorrhage and shock may be prevented.

Cases 7 and 11 shows the importance of early referral of complicated cases to specialist centres for management. Both patients were very ill when they were admitted for treatment.

The main causes of death in this series were septicaemic shock and eclampsia. Although haemorrhage was the major cause of maternal death in government hospitals in West Malaysia, accounting for 43.1 per cent of the deaths<sup>7</sup>, none of our 13

patients died from haemorrhage. This is probably because of the early treatment of haemorrhage, the ready availability of blood, and the active management of the third stage of labour<sup>9</sup>.

### Conclusion

To reduce maternal deaths to a minimum steps should be taken to identify causative factors and apply corrective measures. Reduction of maternal mortality by special attention to "high-risk" mothers prior to conception and during pregnancy is essential. The maternal deaths in this series represent a good cross-section of maternal deaths in a large hospital, with the exception of deaths from haemorrhage. In some of the cases avoidable factors were present, such as failure of health education, family planning advice, and insufficient medical centres where women can be cared for during pregnancy, delivery and puerperium.

Thus for prevention of maternal deaths, health education, advice on family planning and setting up of rural health centres are of utmost importance. With the implementation of the Second Malaysia

Plan which is aimed at eradicating poverty and raising the standard of living of the rural people, it is hoped that maternal mortality in Malaysia will be reduced.

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