Are most maternal deaths from pre-eclampsia avoidable?

In the latest UK Report of the Confidential Enquiries into Maternal Deaths (the CMACE report), 20 out of 22 deaths related to pre-eclampsia involved substandard care—a disturbing statistic that is higher than for any other cause of maternal death. The substandard care in 63% of these deaths was categorised as major and they were described as "undoubtedly avoidable". Hypertensive diseases accounted for 17.8% of all direct maternal deaths, an increase in frequency since the last triennial report, while overall death rates have reduced.

Pre-eclampsia complicates 2–8% of pregnancies, although the proportion is probably less than 5% in western nations, representing up to 30,000 women a year in the UK. Although maternal deaths are relatively rare, pre-eclampsia causes a third of severe obstetric morbidity. Fetal morbidity and mortality increase substantially in women with pre-eclampsia; hypertension is a major cause of stillbirths, as recently highlighted in The Lancet. However, fetal compromise can be identified and adverse events can be prevented by delivery.

The CMACE report describes basic failings, such as poor diagnosis and failure to act on obvious serious disease. In the UK, rates of maternal death from pre-eclampsia associated with substandard care have fallen below 80% only twice since 1985. In Holland, 96% of 26 maternal deaths from pre-eclampsia between 2000 and 2004 were associated with substandard care, and of all maternal deaths in Holland during 1993–2005, the highest rate was observed for pre-eclampsia deaths (91%). Similar data are not easily available for other countries because few have access to such a powerful audit system as the British Confidential Enquiries.

Pre-eclampsia care includes the pregnant woman herself, community carers and hospital staff, and organisation of health services. The most common cause of death in this latest report (involving cases from 2006 to 2008) was intracerebral haemorrhage (9 of 22 cases), which is likely to be preventable by antihypertensive medication. Severe hypertension was neither identified nor treated in several of these cases despite previous evidence showing the need to treat systolic blood pressure over 160 mm Hg in pregnant women. These reports also highlight that in pre-eclampsia oscillometric devices can under-record blood pressure. However, recent evidence from the UK showed that 33% of women with pre-eclampsia and a blood pressure over 160 mm Hg received no antihypertensives. The pre-eclamptic cerebral circulation has a specific vulnerability, so pre-eclampsia represents an acutely dangerous situation and needs urgent effective treatment.

The identification of pre-eclampsia relies fundamentally on the frequency of antenatal care. Globally, absence of antenatal care is strongly associated with eclampsia and death. Fewer antenatal appointments might not be cost effective: a UK study showed that a reduction shifts costs to neonatal care, which increases overall costs. Health-care professionals, including general practitioners, who are unskilled in maternity care overlook the relevance and seriousness of new-onset hypertension or proteinuria. Severe pre-eclampsia is often asymptomatic, whereas individual symptoms (eg, epigastric pain and headache) are common in normal pregnancy. In the CMACE report, proteinuria was shown to have been misinterpreted as a urinary tract infection, and epigastric pain as gastritis or indigestion. Basic recognition of signs and symptoms of pre-eclampsia is essential for all health-care professionals involved in antenatal care. Other changes in maternity care, such as reduced continuity caused by new shift systems and difficulties with staff retention, have only compounded the problem.

In the UK, protocols now exist for screening, detection, and management of pre-eclampsia. Recommendations from previous CMACE inquiries...
seem to have improved care, including fewer deaths from pulmonary oedema and adult respiratory distress syndrome related to pre-eclampsia. However, previous recommendations about the treatment of hypertension have not been followed. Mechanisms are needed to ensure that key recommendations from multiple guidelines filter through to those clinicians who need them, because busy front-line clinicians can be inundated with guidelines. One problem is the unpredictability of pre-eclampsia in its presentation and speed of progression. Protocols tend to be less effective for unpredictable conditions, which is not to argue against them, but we must not expect too much.

There has been a major emphasis on the experience of women in maternity care. While this is appropriate, it should not come at the expense of delivering basic medical care. The data which drive quality in maternity services have focused on service provision rather than outcomes (eg, early initial visit to the midwife, and one-to-one midwifery care during labour). This is in contrast with other specialties that use good surrogates of clinical outcomes (eg, HbA1c concentrations for diabetes). We should include pre-eclampsia outcomes to contrast with other specialties that use good surrogates of clinical outcomes (eg, HbA1c concentrations for diabetes). We should include pre-eclampsia outcomes to motivate organisations to provide appropriate, focused care, particularly in areas such as screening for pre-eclampsia, and efforts should be made to establish these outcome measures.

The Confidential Enquiries Report calls for a return to basics: urgent referral, senior staff involvement, and regular, written, documented, and audited training for all serious conditions in pregnancy. The current situation must change. Deaths from pre-eclampsia should be exceptional, without substandard care, and not a leading cause of maternal mortality. We therefore propose that pre-eclampsia is formally recognised as an emergency, and that deaths from pre-eclampsia or eclampsia are added to the list of so-called never events of the Department of Health’s patients’ safety policy team.11

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AHS has received funding from Alere International to identify women with pre-eclampsia (money paid to institution). CR has been a consultant for Alere International (money paid to institution). CC has written consumer health books on pregnancy and has been paid as a judge of the Guild of Health Writers’ annual awards, which included a submission about Hughes’ Syndrome. FM has been a paid freelance consultant and medical writer for Alere International.


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