Obstetrics and gynaecology

Comorbidity a key factor in maternal deaths from pregnancy complications

An analysis from the National Perinatal Epidemiology Unit has estimated that almost 50% of the population attributable risk of maternal mortality is associated with the presence of a medical comorbidity.

Using data from the Confidential Enquiry into Maternal Deaths, 135 cases of direct maternal death were identified between 2009 and 2012 from five major causes.

Data from the UK Obstetric Surveillance System was used to identify 1,661 women who survived one of these five complications i.e. eclampsia, pulmonary embolism, severe sepsis, amniotic fluid embolism and peripartum haemorrhage. These survivors formed an unmatched control group.

Analysis revealed that six factors were more commonly observed in the women who died, see table 1, below.

Inadequate antenatal care was nearly 16 times more common in those who died compared with controls. Substance misuse was ten times more common and medical comorbidity almost five fold higher.

Previous pregnancy problems, pregnancy-induced hypertension and being of Indian ethnicity were all twice as common in cases. The excess mortality attributed to Indian ethnicity was confined to sepsis and haemorrhage.

On a population basis, almost 70% of the raised risk associated with maternal death was attributed to these six risk factors, see table 2 below. The leading risk factor was medical comorbidities accounting for almost half the population attributable risk.

Eighteen medical comorbidities were studied of which eight were significantly more commonly present in the women who died compared with survivors (musculoskeletal disorders, inflammatory and atopic conditions, autoimmune disease, infections e.g. TB and group-B streptococcus, haematological disorders, essential hypertension, mental health problems and asthma.

Women with these comorbidities were more likely to be older, nulliparous, obese, smokers and have pregnancies complicated by gestational diabetes and hypertension. This study did not address individual avoidable case factors.

The authors estimated that almost 50% of the population attributable risk of mortality was associated with the presence of a medical comorbidity.

They concluded that their findings should encourage all of us involved in any way with pregnancy to minimise adverse consequences with 'extra vigilance and proactive management'.

Table 1

Risk factors independently associated with maternal death

Risk factor	Adjusted odds ratio (95% CI)
Inadequate use of antenatal care	15.87 (6.73-37.41)
Substance misuse	10.16 (1.81-57.04)
Medical comorbidities	4.82 (3.14-7.40)
Previous pregnancy problems	2.21 (1.34-3.62)
Hypertensive disorders of pregnancy	2.44 (1.31-4.52)
Indian ethnicity	2.70 (1.14-6.43)

Table 2

Population attributable risks

Risk factor	% Population attributable fraction (95% CI)
Medical comorbidities	48.9 (40.5-56.2)
Previous pregnancy problems	21.1 (11.7-29.5)
Hypertensive disorders of pregnancy	12.0 (7.7-16.1)
Inadequate use of antenatal care	10.5 (9.7-11.4)
Indian ethnicity	2.9 (0.3-5.5)
Substance misuse	1 (0.03-1.40)
Risk factors score	**69.8 (66.1-73.0)**

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● Nair M, Kurinczuk JJ, Brocklehurst P et al. Factors associated with maternal death from direct pregnancy complications: a UK case-control study. *BJOG* 2015;122:653-662

Diabetes

Shift work may raise risk of diabetes

A meta-analysis published in the *Journal of Occupational and Environmental Medicine* has concluded that shift work is associated with an increased risk of diabetes mellitus, especially in men and in those working rotating shifts.

The authors searched PubMed, Embase, Web of Science and Proquest for relevant studies. Overall, 448 potential studies were identified. Of »