

## Maternal deaths in Australia, 1997–1999

*Many maternal deaths in Australia are still preventable*

The recently released report *Maternal deaths in Australia 1997–1999* is the twelfth in a series of triennial reports, spanning over 35 years.<sup>1</sup> The maternal mortality ratio (MMR) for this triennium was 8.2 per 100 000 confinements — one of the lowest national MMRs in the world. The MMR of a country reflects, in part, the overall health of women, the quality of the maternity services, and women's access to those services. For comparison, the MMR per 100 000 confinements for the United Kingdom over this period was 11.4 and for the United States (for the year 2000), 17.0; Sweden had the lowest rate (2.0).<sup>2,3</sup> There are huge differences in MMRs between developed and developing countries, with about 99% of global maternal mortality occurring in Africa, Asia and Latin America. The World Health Organization estimated that, in the year 2000, the MMR for Sierra Leone was 2000 per 100 000, or one death for every 50 confinements, compared with Australia's one death for every 8500.<sup>3</sup>

While it is easy to see the magnitude and urgency of the problem of maternal mortality in developing countries, what, if anything, can be learned from analysing the rare maternal deaths in countries such as Australia? The answer lies in the fact that mortality represents the "tip of the iceberg" of severe morbidity; for every case of mortality directly or indirectly caused by pregnancy or its management, there are probably 50 women who experience a life-threatening complication but survive with varying degrees of short- and long-term sequelae. Improvements in obstetric care, which result from considering maternal mortality, can therefore be expected to apply to a broad population of childbearing women and their infants.<sup>4</sup>

### Key findings of *Maternal deaths in Australia 1997–1999*<sup>1</sup>

- The 1997–1999 maternal mortality ratio (MMR) was 8.2 deaths per 100 000 confinements, compared with 9.1 per 100 000 in 1994–1996.
- There were 90 maternal deaths: 34 direct, 28 indirect, and 28 incidental deaths.
- The main causes of death were obstetric haemorrhage (8 deaths), psychiatric disease (8 deaths), amniotic fluid embolism (7 deaths), and cardiac disease (7 deaths).
- The highest risk of death was seen in women aged 40 years and older (MMR, 23.2 deaths per 100 000 confinements, compared with 4.0 deaths per 100 000 confinements for those aged 20–24 years).
- The MMR for Aboriginal and Torres Strait Islander women remains three times higher than the MMR for non-Indigenous women.

Australia has witnessed a one-third reduction in the MMR over the past 30 years, from 12.7 per 100 000 confinements in 1973–1975 to 8.2 per 100 000 in 1997–1999. Higher rates of maternal mortality are seen for older women and for Indigenous women (Box). The highest risk of death was among women aged 40 years and older, who form an increasing proportion of the childbearing population, and who are more likely to use assisted reproduction techniques for conception, with higher multiple pregnancy rates. The inequity seen in all-cause mortality among Aboriginal and Torres Strait Islander women is reflected in the higher MMR for this population, who, in this triennium, represented about 3% of confinements, but 8% of deaths. There were no deaths in the

triennium from terminations of pregnancy. If estimates are correct that over 80 000 termination procedures are performed in Australia annually, then these procedures carry exceptionally low risks of serious perioperative complications.

Several conditions warrant special mention. Obstetric haemorrhage is still the major direct cause of maternal mortality (deaths directly caused by complications of pregnancy or its management). A recent report from Victoria supports the clinical impression of an increasing incidence of emergency hysterectomy for severe obstetric haemorrhage, possibly related to the increasing proportion of women embarking on pregnancy after one or more caesarean sections, with an increased risk of the more severe forms of abnormal placental implantation — placenta praevia, accreta and percreta.<sup>5</sup> This is another change in the characteristics of the obstetric population which warrants close observation through systematic and comprehensive maternal mortality analysis. The Australian and UK reports encourage maternity institutions to rehearse the management of simulated cases of obstetric haemorrhage, which is happening in some, but not all, Australian institutions.

Amniotic fluid embolism was responsible for seven deaths in Australia in the 1997–1999 triennium. Although small numbers are open to overinterpretation, it is noted that, in five of these cases, labour was induced. There is community and clinical concern about adverse consequences of induction of labour, especially when undertaken for non-clinical indications. We reiterate the need for maternity units (of all sizes) to have disaster plans for the immediate management of the rare and unpredictable cases of amniotic fluid embolism, which usually present with acute syncope and haemorrhage.

Thromboembolism and severe hypertension continue to be major contributors to maternal mortality, with six deaths in each category. Some of these deaths were considered preventable, and, with the trend towards more obesity, higher caesarean rates and women delaying childbirth into their 40s, awareness of the indications for perioperative thromboprophylaxis is increasingly important. Adherence to clinical practice guidelines for severe hypertensive disorders, including earlier specialist referral, would have prevented at least some of the six deaths from hypertensive disorders.

Deaths related to cardiac disease and psychiatric illness dominate the category of indirect maternal deaths (deaths in which the pregnancy was complicated by pre-existing disease). Eight deaths due to psychiatric causes mirrored what has been found in the UK,

where increasing numbers of maternal deaths are reportedly due to psychiatric conditions. Clinicians and the community need to be reminded about not ignoring or dismissing symptoms of depression, especially suicidal intent, during and following pregnancy.<sup>2</sup>

There is an emerging group of women at risk of maternal death — those who have had surgery for major congenital heart disease as infants or children, and who are now attaining reproductive age. These women are at risk of severe cardiac complications during and after pregnancy, and require sophisticated and multidisciplinary management.

Despite a very low risk of death associated with pregnancy, no-one should claim that, in a country like Australia, mere survival rates could serve as an indicator of the quality of maternity services. However, because of the implications for the broader population of women experiencing pregnancy and childbirth, maternal mortality warrants continuing systematic ascertainment, and high-level investigation and reporting, with reasonable timeliness, so that recommendations are relevant to current practice.

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