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Late maternal deaths: a neglected responsibility



Maternal mortality, no matter when and where it occurs, results in sequelae that extend beyond the loss of the life of a single woman. The death of a mother adversely affects the ability of her family to survive and thrive, especially under conditions of socioeconomic deprivation.¹ Documentation of data on maternal mortality has helped identify areas of socioeconomic inequity and serves as a barometer of a society's health system.

Avoidable deaths from pregnancy complications occur on a global scale, with the greatest burden of mortality among women in low-to-middle-income countries.² Most countries record maternal death only up to 42 days post partum because of the assumption that avoidable death in pregnant women occurs during pregnancy or shortly thereafter. Although limited, the available data suggest otherwise. Globally, there are more post-partum and late maternal deaths from direct and indirect obstetric causes than maternal deaths during pregnancy.² Post-partum and late maternal deaths have not declined in the past decade, whereas deaths during pregnancy and the puerperium have.^{2,3} Estimates of post-partum and late maternal deaths are likely to be underestimated because late mortality has been variably specified and either counted or discounted in reporting systems used in the recent past. This problem was highlighted in reports by WHO and the US Centers for Disease Control and Prevention on maternal mortality surveillance.^{4,5} Interestingly, the introduction of a check box indicating pregnancy in the past year before death on national death certificates in some US states led to an increase in reported late maternal deaths in those states.⁵

Currently, physicians can be unclear about what counts as a late maternal death. The WHO Working Group on Maternal Mortality⁴ has suggested International Classification of Diseases (ICD) coding principles that define maternal death up to a year after delivery from causes directly related to pregnancy or indirectly precipitated by the effects of pregnancy on underlying

diseases; coincidental deaths are not included. The ICD10 code makes it obligatory to document the occurrence of pregnancy within a year of the death of any woman.⁶ These principles and the system of reporting have been tested against existing databases and reviewed by professional bodies, including the International Federation of Gynecology and Obstetrics, the American College of Obstetricians and Gynecologists, and the UK's Royal College of Obstetricians and Gynaecologists.⁴ However, the use of ICD10 coding of late maternal death is generally not applied globally, and so far there is no large data series outlining the specific causes leading to late maternal death on a global scale. What is known is that late maternal deaths fall into four main categories: cardiovascular causes, thromboembolism, cancer, and suicide.⁷

Pregnancy can trigger cardiovascular disease (eg, hypertensive disorders leading to heart failure), aggravate underlying disease (eg, rheumatic heart disease, congenital heart disease, or pulmonary arterial hypertension), or cause specific diseases, such as peripartum cardiomyopathy (PPCM). The latter disease typically presents only 1–3 months post-partum, with mortality rates of about 10–25% within 6 months after diagnosis.^{8,9} PPCM is the largest contributor to cardiovascular maternal death in South Africa,¹⁰ but because it often occurs outside the 42-day post-partum period⁸ women who die from PPCM are not usually reported as late maternal deaths in South Africa and elsewhere. Thus, epidemiological estimates of the burden of disease causing maternal mortality are skewed by the exclusion of deaths caused by PPCM. This situation is of concern because no matter how late these deaths occur, they are related to pregnancy.

Maternal deaths related to mental disorders have recently been assessed as part of the Confidential Enquiry into Maternal Deaths in the UK and Ireland.¹¹ Almost a quarter of maternal deaths that occurred between 6 weeks and 1 year after pregnancy in 2011–13 in the UK and Ireland were due to psychiatric

causes.¹¹ Historically, death by suicide, along with other coincidental causes of death, have not been considered in the WHO definition of maternal mortality, which includes only direct and obstetric causes of death.⁴ Late maternal deaths related to mental disorders might be underestimated, particularly in low-income and middle-income countries, because they can be misclassified as deaths due to injury. This problem has led to the suggestion that injury-related and other coincidental deaths be included in the WHO definition of maternal mortality.¹² Pre-existing mental disorders, the need to cope with the social demands of caring for a newborn baby, or dealing with miscarriage, stillbirth, or neonatal death, can all increase a woman's vulnerability to mental illness after childbirth.¹¹ Intimate partner violence is also an identified risk factor for suicide during and after pregnancy.¹³ Better data on mental health in pregnancy and the post-partum period are needed to establish the full extent of the problem and guide targeted intervention during pregnancy.

So what can be done to improve the recognition and reporting of late maternal death? First, increased awareness of the burden of late maternal deaths in global estimates of maternal mortality is important. Second, the establishment of accepted unambiguous definitions of late maternal mortality will help to establish a culture of data collection. The current ICD10-based approach will need to be widely implemented and expanded, with an acceptance that this might lead to an increase in maternal mortality with its negative implications for health systems. Nationally and globally useful data require some measure of compliance with a single standard rather than piecemeal use of ICD codes in some places while confidential inquiries are the norm in other countries. Third, institutionalisation of data collection with scheduled published data analysis will allow a better understanding of pregnancy-associated risks and possible points of intervention in late maternal mortality. Fourth, analysis of these data by expert committees are needed to generate meaningful recommendations.

Continued lack of awareness about late maternal mortality leads to fragmented care and missed opportunities during pregnancy and after delivery. Additionally, counselling about the risks of future pregnancy, access to adequate contraceptive services, and adequate therapeutic management is not always provided. At a national level, inadequate investment in

data collection in many low-income countries, especially in some African countries,¹⁴ has resulted in gaps in data on late maternal death. Consequently, effective health-care planning is insufficient and surveys to describe and act upon the contributing factors to late maternal death are essential, and should form a larger part of our global health responsibility.

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