Hidden maternal mortality in Hong Kong

Hong Kong Med J 2025;31:248–9
https://doi.org/10.12809/hkmj2513369

To the Editor—Maternal mortality is defined by the World Health Organization as death from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy or within 42 days of ending a pregnancy, irrespective of the duration and anatomic site of the pregnancy.[1] Maternal mortality has been set as a priority issue under the Sustainable Development Goals of the United Nations Organisation, which aim to reduce the maternal mortality ratio (MMR) to less than 70 per 100 000 live births by 2030.[2] In Hong Kong, the MMR declined dramatically from 125 per 100 000 live births in 1946 to 3 per 100 000 live births in 2023. The MMR remained at a very low level, with no recordable maternal deaths in 2013 or 2019, and has met the MMR target set by the Sustainable Development Goals since 1961.[3,4] Several factors have contributed to this success, including universal coverage of care for pregnant women through publicly funded, structured, and comprehensive antenatal care programmes, as well as high-quality peripartum care and 24-hour emergency interventions in maternity units. These services are barrier-free, with the provision of interpreters for ethnic minority groups and an excellent transport system within a comparatively small geographical region.

Understanding the underlying causes of maternal deaths is critically important. In Hong Kong, for example, the leading cause of maternal deaths changed from major obstetric haemorrhage (accounting for 34% of maternal mortality) between 1961 and 1985, to pulmonary embolism (53% of maternal mortality) between 1986 and 1990.[5,6] A more recent report identified thromboembolism as the primary cause of maternal mortality between 1981 and 2017, responsible for 37% of deaths.[7] These findings were derived from the vital statistics; however, underreporting of maternal deaths in such records is not uncommon, with an average underestimation of 32%.[8] A local review comparing hospital-based data from all birthing units with vital statistics revealed that 90.5% of maternal deaths were missed by the latter. Notably, deaths due to suicide, amniotic fluid embolism, and 97% of indirect deaths were not captured.[9]

Suicide is a well-known condition that is often omitted from vital statistics due to stigma.[10] Of the 129 countries with available data on maternal deaths, only 12 provide figures for suicide.[11] The reclassification of suicide as a direct death (rather than accidental, incidental or indirect) under the International Classification of Diseases (ICD) for maternal mortality aims to raise awareness and improve reporting, despite the deviation of its underlying pathophysiology relating to maternal deaths.[12] In Hong Kong, suicide has been persistently underreported, a pattern already identified in 1997.[13] However, our recent review revealed that thromboembolism accounted for only 1.4% of all maternal deaths, whereas suicide (20.3%) became the leading cause of maternal deaths.[9] The apparent high incidence of thromboembolism in previous report[7] may have been due to miscoding of amniotic fluid embolism under the general category of 'embolism'. A recent global analysis highlighted a similar issue[11]: both amniotic fluid embolism (ICD code O88.1) and thromboembolism (O88.2) were grouped under obstetric embolism. This is problematic as the term embolism is ambiguous and may refer to either thromboembolism or amniotic fluid embolism. These two pathologies should be reported separately.

We note that suicide has become the leading cause of maternal deaths in Hong Kong, a major and potentially preventable outcome. Perinatal mental health services must be enhanced to allow for early detection of depression, other mental health issues and changes in social circumstances, with the aim of eliminating the risk of suicide.

High-quality data remains essential to reflect the real situation and guide stakeholders in allocating resources effectively. Nonetheless, there is evidence that data on most maternal deaths in Hong Kong are not captured, and such deaths therefore remain invisible. We believe it is time to revisit the current reporting mechanism for maternal deaths and consider establishing a confidential enquiry into maternal deaths in Hong Kong.

Author contributions

Acquisition of data: KW Cheung.
Analysis or interpretation of data: All authors.
Drafting of the manuscript: KW Cheung.
Critical revision of the manuscript for important intellectual content: All authors.

All authors had full access to the data, contributed to the study, approved the final version for publication, and take responsibility for its accuracy and integrity.

Conflicts of interest

The authors have declared no conflicts of interest.

Funding/support

This letter received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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