

## **Application of WHO ICD-PM Classification for Perinatal Death : A Global Need**

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Perinatal death is one of the important indicators of the health status of women and quality of maternal and child health. Globally each year more than 5 million perinatal death occurs mostly due to preventable causes, which is most challenging for the international public health agenda beyond 2015.<sup>1</sup> Majority of these are occurring in low and middle-income countries. According to one hospital-based study in Karachi, Pakistan, perinatal mortality (PMR) was found to be 107.08 per 1000 total birth<sup>2</sup> which is alarmingly high while a community-based study by World Health Organization (WHO) reported 66 per 1000 total births.<sup>3</sup> An international study carried out in low and middle-income countries revealed 95.2 perinatal death per 1000 total births in Pakistan which was comparably high among other countries.<sup>4</sup> One of the essential steps to address this issue is to develop an accurate and universally applicable and comparable classification of the causes of perinatal deaths.

The new ICD-perinatal mortality (ICD-PM) system, developed by WHO in collaboration with its partners in 2014, is an important tool. ICD-PM is a worldwide applicable perinatal death classification system that emphasizes the need for a focus on the mother-baby dyad as we move beyond 2015.

To reduce perinatal death, implementation of the ICD-PM system could be an effective strategy for timely intervention and allocation of resources, particularly in a developing

country. There are three distinctive characteristics of ICD-PM.<sup>5</sup> Firstly, it documents the time of a perinatal death in relation to its occurrence in the antepartum, intrapartum or neonatal period (up to day 7 of postnatal life). Secondly, it applies a multilayered approach to the classification of cause of death, such that it reflects varying levels of available information depending on the setting. Thirdly, it documents the contributing maternal condition, for perinatal death, reflecting the effect of maternal factors at the time of the death.

A pilot database study carried out in South Africa and the United Kingdom stated that although no global classification system will be perfect for every setting. This ICD-PM based on systems already used in 117 countries will be helpful for standardized comparisons of data internationally.<sup>6,7</sup>

The ICD-PM system organizes the ICD-10 codes of perinatal death into logical grouping and coded with A (antepartum), I (intrapartum) or N (neonatal) for the timing of perinatal deaths. These groups are further divided according to causes i.e. antepartum causes of death 'A' into six groups 1-6, Intrapartum 'I' into seven groups 1-7 and neonatal 'N' into eleven groups 1-11.

This approach is repeated for the maternal condition at the time of perinatal death. The maternal condition is considered by the certifying doctors to be the primary condition in the pathway leading to perinatal death. Currently, the ICD-10 coded maternal condition is assigned to one of five main ICD-PM groups for the maternal condition designated with M 1-5. M1- the complications of placenta, cord, and membranes; M2- maternal complications of pregnancy; M3- complications related to labour and delivery; M4- the medical & surgical conditions which

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may or may not be related to the present pregnancy and M5- no maternal cause identified.

Although there are inherent challenges in assigning a perinatal cause of death especially in developing country even in settings with intensive investigative powers (i.e., Autopsy and placental histology facility), accurate assignment of cause of death is difficult. Recording of maternal condition at the time of perinatal death may overcome this challenge and improve the quality of data providing necessary critical information to target interventions in preventing these deaths.

In summary, as Pakistan has high PMR, we must unify our system of classifying these deaths by adopting WHO ICD-PM classification. Implementation requires dedicated and nation-level support, so as to allocate resources for intervention in the light of this information for modifiable factors to reduce preventable perinatal deaths.

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