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Editorial

Maternal Mortality - Causes and Remedy

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Maternal death is defined by the World Health Organization (WHO) as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.[1]

There are two performance indicators that are sometimes used interchangeably: maternal mortality ratio and maternal mortality rate, which confusingly both are abbreviated "MMR".[2] According to the United Nations Population Fund (UNFPA) this is equivalent to "about one woman every two minutes and for every woman who dies, 20 or 30 encounter complications with serious or long-lasting consequences. Most of these deaths and injuries are entirely preventable.[3]

Worldwide mortality rates have been decreasing in modern age. High rates still exist, particularly in impoverished communities with over 85% living in Africa and Southern Asia.[3] The effect of a mother's death results in vulnerable families and their infants, if they survive childbirth, are more likely to die before reaching their second birthday.[3]

The most common causes are postpartum bleeding (15%), complications from unsafe abortion (15%), hypertensive disorders of pregnancy (10%), postpartum infections (8%), and obstructed labor (6%).[4] Other causes include blood clots (3%) and pre-existing conditions (28%).[5] Indirect causes are malaria, anemia,[6] HIV/AIDS, and cardiovascular disease, all of which may complicate pregnancy or be aggravated by it.

Sociodemographic factors such as age, access to resources and income level are significant indicators of maternal outcomes. Young mothers face higher risks of complications and death during pregnancy than older mothers,[7] especially adolescents aged 15 years or younger.[8] Adolescents have higher risks for postpartum hemorrhage, puerperal endometritis, operative vaginal delivery, episiotomy, low birth weight, preterm delivery, and small-for-gestational-age infants, all of which can lead to maternal death.[8] Structural support and family support influences maternal outcomes. Furthermore, social disadvantage and social isolation adversely affects maternal health which can lead to increases in maternal death.[9] Additionally, lack of accesssssss to skilled medical care during childbirth, the travel distance to the nearest clinic to receive proper care, number of prior births, barriers to accessing prenatal medical care and poor infrastructure all increase maternal deaths. Unsafe abortion is another major cause of maternal death. According to the World Health Organization, every eight minutes a woman dies from complications arising from unsafe abortions. Complications include hemorrhage, infection, sepsis and genital trauma.[10] Globally, preventable deaths from improperly performed procedures constitute 13% of maternal mortality, and 25% or more in some countries where maternal mortality from other causes is relatively low, making unsafe abortion the leading single cause of maternal mortality worldwide.[11]

According to the 2010 United Nations Population Fund report, developing nations account for ninety-nine percent of maternal deaths with the majority of those deaths occurring in Sub-Saharan Africa and Southern Asia.[12] Globally, high and middle income countries experience lower maternal deaths than low income countries. The Human Development Index (HDI) accounts for between 82 and 85 percent of the maternal mortality rates among countries.[13] In most cases, high rates of maternal deaths occur in the same countries that have high rates of infant mortality. These trends are a reflection that higher income countries have stronger healthcare infrastructure, medical and healthcare personnel, use more advanced medical technologies and have fewer barriers to accessing care than low income countries. Therefore, in low income countries, the most common cause of maternal death is obstetrical hemorrhage, followed by hypertensive disorders

of pregnancy, in contrast to high income countries, for which the most common cause is thromboembolism.[14]

At a country level, India (19% or 56,000) and Nigeria (14% or 40,000) accounted for roughly one third of the maternal deaths in 2010. Democratic Republic of the Congo, Pakistan, Sudan, Indonesia, Ethiopia, United Republic of Tanzania, Bangladesh and Afghanistan comprised between 3 and 5 percent of maternal deaths each.[12] These ten countries combined accounted for 60% of all the maternal deaths in 2010 according to the United Nations Population Fund report. Countries with the lowest maternal deaths were Estonia, Greece and Singapore.[15]

In the United States, the maternal death rate averaged 9.1 maternal deaths per 100,000 live births during the years 1979–1986,[16] but then rose rapidly to 14 per 100,000 in 2000 and 17.8 per 100,000 in 2009.[17] In 2013 the rate was 18.5 deaths per 100,000 live births, with some 800 maternal deaths reported.[18]

UNFPA estimated that 289,000 women died of pregnancy or childbirth related causes in 2013.[3] These causes range from severe bleeding to obstructed labor, all of which have highly effective interventions. As women have gained access to family planning and skilled birth attendance with backup emergency obstetric care, the global maternal mortality ratio has fallen from 380 maternal deaths per 100,000 live births in 1990 to 210 deaths per 100,000 live births in 2013, and many countries halved their maternal death rates in the last 10 years.[3]

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