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Global disparities in maternal morbidity and mortality

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ABSTRACT

The disparity in maternal mortality for African American women remains one of the greatest public health inequities in the United States (US). To better understand approaches toward amelioration of these differences, we examine settings with similar disparities in maternal mortality and "near misses" based on race/ethnicity. This global analysis of disparities in maternal mortality/morbidity will focus on middle- and high-income countries (based on World Bank definitions) with multiethnic populations. Many countries with similar histories of slavery and forced migration demonstrate disparities in health outcomes based on social determinants such as race/ethnicity. We highlight comparisons in the Americas between the US and Brazil—two countries with the largest populations of African descent brought to the Americas primarily through the transatlantic slave trade. We also address the need to capture race/ethnicity/country of origin in a meaningful way in order to facilitate transnational comparisons and potential translatable solutions. Race, class, and gender-based inequities are pervasive, global themes. This approach is human rights—based and consistent with the UN Millennium Development Goals (MDG) and post 2015—sustainable development goals' aim to place women's health the context of health equity/women's rights. Solutions to these issues of inequity in maternal mortality are nation-specific and global.

Introduction

The International Statistical Classification of Disease (ICD 10) defines maternal death as "the death of a woman while pregnant or within 42 days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes." Accidents/suicides are often reviewed during maternal mortality surveillance, but are not included in international maternal mortality ratios.[1] A late maternal death is the death of a woman from direct or indirect causes more than 42 days, but less than 1 year after termination of pregnancy.[2] In high-income countries these sentinel events are rare. Another indicator of maternal health-related outcomes is maternal near misses. WHO defines a "Maternal Near Miss" (MNM) case as "a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy."[3] Maternal mortality ratios are expressed as number of maternal deaths per 100,000 live births. Severe maternal morbidities—"near misses" occur

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approximately 100 times more commonly than maternal mortalities and can be used as indicators of quality of care.[4] The higher frequency of these events enables more robust analysis of potential factors contributing to maternal deaths as well as examination of potential health disparities in care.[5] "Near misses" also allow survivors to provide their personal accounts of factors contributing to the adverse outcome.[3,6]

Globally, MDG-5 placed women's health in a human rights and political context. The world's nations pledged to reduce maternal mortality ratios by 75% from 1990 to 2015. The world's maternal mortality ratios have cut in half; however, still remain high- and low-income countries still bear the highest burden.[7] The fact that maternal mortalities are largely preventable events places these events in a human rights context as violations of women's reproductive rights.[8] Women's rights to education, access to quality health care, and health equity are essential; UN sustainable development goals continue this focus.[9]

Global disparities exist between low, high and middle, income nations with low-income countries demonstrating the highest maternal mortality ratios.[10] Within nations, disparities in race/ethnicity adversely impact maternal mortality. This analysis focuses primarily on middle- and high-income nations with identified racial/ethnic disparities in maternal mortality.

In the United States (US), maternal mortality ratios for non-Hispanic black women are 3–4 times higher than for White women.[11] Maternal near misses follow a similar pattern with non-Hispanic black women demonstrating approximately 2 to 5-fold increased risk for severe morbidity than non-Hispanic white women in the US.[4,12] In Brazil, maternal mortality for women of African descent is approximately five times higher than for white women.[13] The United Kingdom (UK) confidential inquiries demonstrate similar disparities with a greater than 5-fold increased risk for black women in the UK.[14] Maternal near misses occur twice as often for women of African and Afro-Caribbean descent in the UK.[5] In the Netherlands, an analysis of largely migrant populations demonstrated a higher rate of maternal near misses for African women than White women in their population.

United Kingdom

The United Kingdom (UK) Confidential Enquiries in Maternal and Child Health (CEMACH) is the oldest maternal mortality surveillance system in the world.[1] The focus has evolved since the 1950s from clinical issues to encompass clinical, public health, and policy issues to reduce health inequities.[1] The Enquiry's philosophy is to "recognize and respect every maternal death as a young woman who died before her time…a member of a family and of her community…it goes beyond counting numbers to listen and tell the stories of the women who died so as to learn lessons that may save the lives of other mothers and babies…as well as aiming to improve the standard of maternal health."[1] The UK is racially and ethnically diverse. Early reports did not analyze race/ethnicity. Since 1995, ethnicity was provided in England and the new query demonstrated surprising findings in a system where universal coverage through the National Health Service system was thought to eliminate barriers to care.[1] However, in 2000–2002, women self-described as Afro-Caribbean and African descent were noted to have maternal mortality ratios two and seven times higher, respectively, than Whites in the UK. These results should be interpreted with caution due to the overall small number of maternal deaths in this cohort.[1] In 2005, the UK initiated a United Kingdom Obstetric Surveillance System (UKOSS), a national, population-based audit to study near miss maternal morbidities and rare events. Rates of maternal near misses (MNM) for African and Afro-Caribbean women were double those for White women.[5] These risks remained elevated following adjustment for age, socioeconomic status, BMI, and parity (OR = 1.5, 95% CI: 1.15–1.96).[1] Maternal and system factors were identified as contributors to these disparities. Black and minority ethnic groups often book later for antenatal care than white women and report experiencing disrespect from health care providers. Many reported staff did not effectively communicate with them in a way they could understand during pregnancy, labor/birth and the puerperium.[5,15] The contribution of preexisting medical conditions to these outcomes was not measured in this UKOSS analysis.[5]

One of the strong features of the UK Confidential Enquiries is the use of "top ten" recommendations for maternal mortality prevention based on identified primary causes of maternal death[1] (Table). The report also highlights national guidelines aimed at reduction of the primary causes of maternal mortality. The report information is also disseminated publically.[1] The Confidential Enquiry made recommendations aimed at the reduction in racial/ethnic disparities in maternal mortality. Specifically, the report recommended the following:

- Maternity services should ensure that antenatal services are accessible and welcoming so that all women, including those who currently find it difficult to access maternity care, can reach them easily and earlier in pregnancy. Women should

Table – Strategies associated with overall maternal mortality and in disparities reduction (UK).

- Comprehensive maternal mortality surveillance and review system focusing on widespread dissemination of strategies for prevention.
- Ensure that antenatal services are universally accessible and welcoming, so that all women, including those who currently find it difficult to access maternity care, can reach them easily and earlier in pregnancy.
- Women should also have had their first full booking visit and hand held maternity record completed by 12 weeks of pregnancy.
- Pregnant women, who on referral to maternity services are already 12 weeks, should be seen within 2 weeks of referral.
- All pregnant women from countries and groups where women may experience poorer overall general health and who have not previously had a full examination should have a medical history taken and clinical assessment made of their overall health, including a cardiovascular examination at booking, or as soon as possible thereafter. This should be performed by an appropriately trained doctor, who could be their usual general practitioner.