Racial Disparities in Maternal Mortality: Social and Clinical Considerations

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Abstract:

Studies show that Black women have a higher rate of maternal mortality than white women. A review of the causes of maternal deaths shows that many are preventable. Black women experience pregnancy complications at a higher rate and experience a difference in the quality of care they receive from medical professionals compared to white women due to stereotypes and implicit biases about Black women present in the medical field. This paper examines the societal and racial inequities that contribute to this difference in pregnancy experiences and highlights possible solutions. Strategies to reduce maternal mortality rates in Black women include increased awareness and preparation of healthcare providers of specific complications(such as cardiovascular-related problems), and a decrease in prejudiced interactions between healthcare providers and Black patients.

Introduction:

The CDC defines maternal mortality as “the death of a woman during pregnancy at delivery or soon after delivery” (CDC, 2023). These deaths are typically precipitated by complications that occur during or post-delivery.The complications that contributed most to the disparity between Black and white maternal mortality are eclampsia, preeclampsia, postpartum cardiomyopathy, and obstetric embolism. MacDorman et al state that disparities in maternal mortality rates were first reported in 1933, and at that time, Black women’s mortality rate was 1.8 times that of white women. This disparity has continued and in fact increased to 2.5 times that of white women. Studies exploring the causes of increased maternal mortality in Black women have found that the majority of these deaths are preventable (MacDorman et al., 2021). Understanding the causes of maternal death and the contributions of social inequity is important to reduce rates of maternal mortality in Black women.

This paper examines the impact of discrimination outside and inside the hospital on Black maternal deaths. Outside of the hospital, Black women commonly experience racism, which has been associated with increased stress and negative impacts on cardiovascular health (Calvin et al., 2003). These predisposing factors increase the risk of experiencing complications during pregnancy. The way Black women are treated in the hospital influences the quality of care they receive when they experience complications. Chambers et al. demonstrate that many medical professionals may experience implicit bias which impacts their understanding of what black women’s needs are during the pregnancy experience.

Methods:

The initial literature search was conducted through a research AI platform called Elicit. The primary research question entered into the platform was “Why do Black women have a higher maternal mortality rate than white women?” Search results were narrowed to papers published within the last twenty years. Key terms such as the definition of maternal mortality and

information about complications were found through a Google search by typing in “What is ___?” (e.g. “What is preeclampsia?”). Search results were filtered to only established reputable sources including non-governmental agencies (e.g. CDC) and health-focused non-profit organizations (e.g. American Heart Association).

Key Findings:

Socioeconomic Factors:

The social aspects that contribute to maternal mortality disparities include racism, implicit bias, and socioeconomic disadvantages. Due to a history of racism in America, Black women are more socioeconomically disadvantaged than white women and are therefore provided with fewer opportunities leading to increased levels of stress. This stress is correlated with increased risks of cardiovascular disease that can predispose Black women to pregnancy complications. Cardiac complications are more common in Black women than white women at pregnancy and this difference is likely related to these increased stress levels. In turn, Black women have an additional risk of dying from heart-related complications (MacDorman et al., 2021). The result of socioeconomic disadvantage also increases the likelihood that Black women have higher exposure to unsafe environments and conditions. Access to proper care also determines the health of a Black woman during pregnancy as they might not be able to visit their medical providers as often as pregnant white patients. This infrequent care can contribute to a provider’s lack of knowledge about their Black patients’ needs, affecting their experience through the pregnancy, delivery, and postpartum periods. All of these factors exacerbate health issues, such as heart and lung disease, and that further increases the risk of complications in pregnancy (Tangel et al., 2018).

Another social aspect studied was implicit bias and racism. Past experiences of how Black women were studied without their consent have built narratives within healthcare on how to interact with Black women in medical environments which contributes to their worse treatment (Chambers et al., 2022). These experiences are influenced by the history of slavery embedded in American culture. For example, the most cited example of how to treat Black women is the experiments that the 19th-century scientist J Marion Sims did on enslaved Black women for treatments on fistulas. The women did not give their consent to be studied by him and were not provided with anesthesia while undergoing medical procedures. These experiments set a precedent for the uninformed assumption that Black women have a higher tolerance for pain and do not need to give consent. This likely influences Black women receiving inadequate care from their medical providers in terms of both quality and frequency of care. Chambers et al. surveyed healthcare providers on their perceptions about the treatment of Black women by other providers. This group of professionals noted a relationship between racist ideas about Black women and the quality and frequency of care they received. This looks like disregarding Black women’s concerns about pain during labor and an inability to meet their needs overall during pregnancy. These uncomfortable situations not only cause more stress to the patient but also lead to them experiencing life-threatening situations since doctors do not focus as much on what the patient is asking for. The participants also mentioned that racism is embedded within training and curriculum for future healthcare providers, meaning that providers are being trained to use racist practices when interacting with patients and often gaslight them into consenting to a procedure more convenient for the provider, not the patient (Chambers et al., 2022).

Clinical Factors:

The clinical factors that contribute to the disparity are the commonly experienced pregnancy complications Black women experience at a higher rate. The complications that contribute the most to maternal death are eclampsia, preeclampsia, postpartum cardiomyopathy, obstetric embolism, and obstetric hemorrhage (MacDorman, 2021). Preeclampsia is caused by high blood pressure and reduces blood supply to the fetus. It can lead to eclampsia, which is when a pregnant person with preeclampsia begins to have seizures and is at high risk of going into a coma (NIH, 2017). Postpartum cardiomyopathy refers to the heart failure a woman is at risk of experiencing either toward the end of pregnancy or within a few months of giving birth (American Heart Association, 2023). Obstetric embolism occurs when amniotic fluid enters the bloodstream during pregnancy, delivery, or the post-delivery period, increasing the risk of heart and lung failure (Cleveland Clinic, Reviewed 2022). Finally, obstetric hemorrhage is excessive bleeding during pregnancy, delivery, or in the postpartum period, leading to severe blood loss or death (Trikha et al., 2018). These complications are experienced across race and ethnicity, but Black women have higher mortality rates from these causes compared to other races. As previously mentioned, several social factors such as stress, access to care, poverty, opportunity, and quality of care can all exacerbate health issues and cause a higher risk of death from the complication. While these health issues are present in women across races, the combined experience of complications and the above social factors Black women experience at higher rates than white women will lead to an increase in death from those complications (MacDorman et al., 2021).

Figure 1.

Five leading causes of confirmed maternal death by race and Hispanic origin, United States, 2016–2017

	Total[1]			Non-Hispanic White[2]			Non-Hispanic Black[3]			Hispanic			Rate ratio (95% CI)	Percent contribution to NHB/NHW disparity
	Rank	Number	Rate[4]	Rank	Number	Rate[4]	Rank	Number	Rate[4]	Rank	Number	Rate[4]	NHB/ NHW	
All causes		615	7.88		230	5.58		232	19.81		109	6.00	3.55 (2.94, 4.28)	
Obstetric embolism (O88)	1	98	1.26	1	41	0.99	3	30	2.56	1	22	1.21	2.58 (1.55, 4.23)	11.0
Eclampsia and pre-eclampsia (O11,O13-O16)	1	98	1.26	2	32	0.78	1	46	3.93	3	13	0.72*	5.06 (3.16, 8.21)	22.1
Postpartum cardiomyopathy (O90.3)	3	86	1.10	4	29	0.70	2	40	3.42	5	11	0.61*	4.86 (2.93, 8.12)	19.1
Obstetric hemorrhage (O20,O43.2,O44-O46,O67,O71.0, O71.1, O71.3,O71.4,O71.7,O72)	4	82	1.05	3	31	0.75	4	20	1.71	2	19	1.05*	2.27 (1.22, 4.11)	6.7
Other complications of obstetric surgery & procedures (O75.4)	5	40	0.51	7	10	0.24*	6	14	1.20*	4	12	0.66*	4.93 (2.04, 12.4)	6.7

[1] Includes other races not shown separately due to small numbers of deaths.

[2] For non-Hispanic White women, Diseases of the circulatory system was the 5th leading cause of death with 16 deaths and a rate of 0.39.

[3] For non-Hispanic Black women, Ectopic pregnancy was the 5th leading causes of maternal death with 18 deaths and a rate of 1.54.

[4] per 100,000 live births

* Rate considered statistically unreliable; based on 10–19 deaths in the numerator.

CI=Confidence interval; NHW= non-Hispanic White; NHB=non-Hispanic Black

Note: Maternal deaths include those during pregnancy and up to 42 days postpartum

(MacDorman et al., 2021)

Figure 1 displays the leading causes of maternal death compared by race as well as their percent contributions to the Black/white disparity in a sample of 615 collected by MacDorman et al. Obstetric embolism and preeclampsia/eclampsia were tied for the highest contribution to total maternal mortality rates at 98 maternal deaths, while preeclampsia/eclampsia had the highest percent contribution to the Black/white disparity, contributing 22.1%. Black women who had preeclampsia/eclampsia had 5.06 times the rate of death compared to white women. Black women who had postpartum cardiomyopathy had 4.86 times the rate of death compared to white women. Black women who had obstetric embolism had 2.58 times the rate of death compared to white women. Black women who had obstetric hemorrhage had 2.27 times the rate of death compared to white women. Overall, Black women who experienced pregnancy complications had 3.55 times the rate of death compared to that of white women (MacDorman et al., 2021).

Another clinical factor contributing to the disparity is the difference between Black and white patients in their rates of C-section deliveries. Black women have a higher rate of C-section deliveries, and going into surgery increases the risk of any of the complications previously outlined (Tangel et al., 2018) The increased rate of C-section deliveries in Black women can both be attributed to clinical and social factors. More Black women experiencing complications

means that more Black women may need a C-section delivery. Additionally,, Black women are often pressured into obtaining a C-section because a lack of accurate knowledge on Black women's medical needs puts providers in a position where they think they know what is best for the patient or what is more efficient for them.

Proposed Solutions:

MacDorman et al state that any causes of increased maternal deaths in Black women can be prevented. For clinical issues, experts recommended an increased awareness of complications, especially for providers, in order for them to be able to properly address a patient's concerns. For hypertension specifically, experts recommended a "hypertension safety bundle" containing information and suggesting treatments for pregnant women who suffer from hypertension. Hypertension can result in larger issues such as preeclampsia and eclampsia, so a safety bundle providing information and treatment options aids in preventing hypertension in escalating into a serious medical issue. Similarly, the implementation of an obstetric embolism safety bundle was also suggested. More information on the complications themselves is required for more detailed treatments to be suggested (MacDorman et al., 2021).

With regard to social factors, training for medical professionals on racism and implicit bias would help address and counteract the pervasive impact of racism on the development of the field of OB/GYN. (Chambers et al., 2022). To ensure that Black women do not fall victim to providers who are not properly trained in recognizing and avoiding racism and implicit bias, there needs to be a greater emphasis and effort to ensure that the practices taught in these trainings are followed in real life settings. Training providers can lead to a greater awareness of implicit biases and the difference in the quality of care Black women receive as opposed to white women, improving the care Black women receive. Implicit bias training is a common part of many employee training programs, but they are often not engaging and prevent participants from paying attention and retaining the information. The information provided in the training is incredibly important, and can be forgotten if not reiterated often. Engaging and frequent implicit bias and racism training can help solve this issue and lead to better care for Black women. Hospitals and clinics can also assign supervisors trained similarly to periodically check if healthcare workers are properly implementing the knowledge they received in training into practice.

There are still large gaps in the maternal mortality rates between Black and white women, despite advances in the fields of healthcare and public health. More attention and emphasis on the crisis is needed.

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