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The Influence of Socioeconomic Status on Maternal Health Amongst African American Women in an Urban Setting

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ABSTRACT

This paper explores the effect of socioeconomic status on maternal health in an urban setting. Maternal health is an ongoing challenge within the United States. Unfortunately, the maternal mortality rate in the U.S has been identified as one of the worst amongst other industrialized countries. Studies have shown that proper prenatal, delivery, and post-partum care are essential for the well-being of mother and child. Without proper care, the likelihood of pregnancy complications or death occurring becomes higher. According to the Centers for Disease Control and Prevention (2019), African American women are three to four times more likely to die from pregnancy-related causes than White women (CDC 2019). This is consistent with the fact that individuals within the African American community have been historically denied opportunities for quality healthcare. The lack of adequate care is particularly detrimental for pregnant African American women. Underlying health issues such as heart disease, hypertension, and thrombotic pulmonary embolism may contribute to the increased rate of pregnancy-related deaths (CDC 2019). However, other factors such as race, geographic location, socioeconomic status, and inadequate care throughout pregnancy are also significant factors (Fogel et al., 2017). One would argue that the racial disparities among women in lower socioeconomic classes seems to be consistent with the lack of access and poor quality of healthcare. A review of relevant literature from peer-reviewed publications was completed using scientific databases such as PubMed. This review's expectation is to better understand this public health dilemma and address any possible strategies that could be implemented to improve women's health within the African American community.

INTRODUCTION

According to the World Health Organization, Maternal Health refers to women's health during pregnancy, childbirth, and the postpartum period (WHO,2021). Although pregnancy and childbirth are unique experiences specific for different women, it is still crucial for adequate care to be provided for women and their babies to ensure wellness and good health. When discussing maternal health, it is often associated with maternal mortality and morbidity because women are usually at risk of complications or death. Unfortunately, maternal mortality has been incredibly high globally, in 2017 alone, approximately 810 women died from preventable causes related to pregnancy and childbirth each day (WHO, 2019).

Specific to the United States, The Pregnancy Mortality Surveillance System (PMSS) was implemented by the Centers for Disease Control and Prevention (CDC) in 1986 to understand the risk factors for and causes of pregnancy-related deaths in the U.S (CDC, 2020). Each year, The PMSS reports an estimate of pregnancy-related deaths based on maternal and fetal death records from all 50 states, New York City, and Washington, DC (CDC, 2020). Since implementing this system, there has been a noticeable increase in the number of pregnancy-related mortality in the U.S. as compared to other developed countries. Data showed that the U.S. went from 7.2 deaths per 100,000 live births in 1987 to 17.3 deaths per 100,000 live births in 2017 (CDC, 2020), some other studies have reported numbers to be as high as 23.8 in 2014 (Hayes et al., 2019).

The increase in maternal mortality continues to be a concerning issue in the U.S. Although the U.S has one of the most expensive hospital costs relating to maternal and newborn care, this does not guarantee good birth outcomes. Across the U.S., the MMRates varies in number depending on the state. For example, Louisiana, Georgia, and Indiana all have MMRates of 40 deaths per 100,000 births from 2011 to 2015, making them the top highest states with high MMRates versus Massachusetts, California, and Nevada (United Health Foundation, 2020). These numbers within the states alone emphasize the difference between the U.S. and other developed countries. It is important to note that each state has its contributing factors that could lead to such an increase in maternal mortality. These numbers can also be further analyzed to determine which racial or socioeconomic groups are significantly affected. Overall, within the U.S., many factors may contribute to the risk of maternal mortality, such a geographical location, race, low socioeconomic status, maternal age, lack of healthcare resources, previous/new onset medical conditions, or inadequate prenatal & post-partum care. Fortunately, most maternal deaths are preventable by addressing inequalities that can affect health outcomes amongst pregnant women.

Definitions and Abbreviations

Throughout this literature review, the following words will be used. In order to prevent any confusion, the explanation of each word has been provided.

Term	Definition
Maternal mortality	Death of a woman during pregnancy, at delivery, or soon after delivery (CDC, 2020)
Maternal Mortality Ratio (MMR)	The annual number of maternal deaths from any cause related to or worsen by pregnancy during pregnancy, childbirth, or within 42 days of termination of pregnancy, per 100,000 live birth per year.
Maternal Mortality Rate (MMRate)	Defined by the World Health Organization is the number of maternal deaths in a population divided by the number of women of reproductive age (WHO, 2020).
Pregnancy- Related Mortality Ratio (PRMR)	Deaths during pregnancy or within one year of the end of pregnancy from: a pregnancy complication, a chain of events initiated by pregnancy, but not from accidental or incidental causes (CDC, 2020).
Social Determinants of health (SDOH)	Conditions in places where people live, learn, work, and play that affect a wide range of health risks and outcomes (CDC, 2021)

BACKGROUND

As mentioned previously, many factors contribute to the risk of maternal mortality, such as geographical location, race, low socioeconomic status, maternal age, preexisting medical conditions, and inadequate prenatal & postpartum care. However, studies have shown that African American, American Indian, and Alaska Native women are two to three times more likely to die from pregnancy-related causes than white women (CDC, 2019). Although most deaths are preventable, it is crucial to understand that this crisis stems from deeply rooted structural racism and bias within the healthcare system – especially toward African American women.

For many years, racism has had a detrimental effect on African Americans' mental and physical health. It manifests in many different forms, such as lack of quality health care providers, low-income salaries, uneven access to services, or lack of health insurance coverage, causing individuals within the community to die prematurely of preexisting illnesses and experience other health issues, including cancer, cardiovascular diseases, and hypertension. In addition to racism, low socioeconomic status (SES) has been one of the most critical factors associated with depreciating health outcomes within the African American community (Kim et al., 2018). It results in inadequate medical care, contributing to higher mortality rates. As shown in figure 1, white families have ten times the wealth of most African American families (Taylor et al., 2020). This gap impacts the lives of African Americans in a significant manner that makes it hard for them to own homes, have retirement savings, and good health insurance (Taylor et al., 2020).

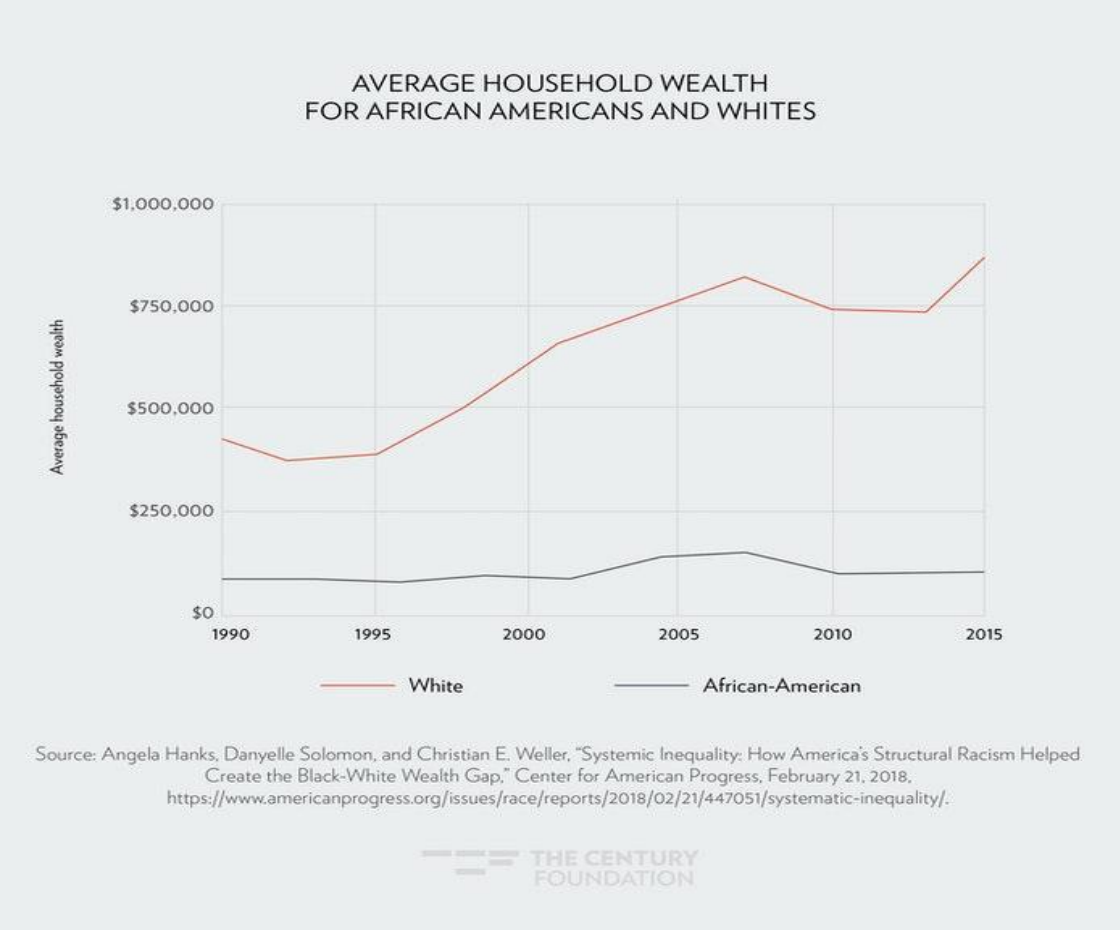

Figure 1 – this graph shows the difference in the average household wealth between African American and white families. White families are having ten times the wealth of African American families between the year 1990 to 2015

When we focus on women within the African American community, we see a history of medical malpractice/experimentations involving the use of African American women's bodies during slavery. For example, J. Marion Sims, known as the "Father of Modern Gynecology," performed many surgical techniques relating to women's reproductive health on enslaved African American women without anesthesia. Sim's reasoning behind the lack of anesthesia was that he believed that African Americans did not experience pain like whites (Hollard et al., 2017). This same false ideology of African American people being "biologically inferior" is still present today within different

communities. It contributes to the type of medical assessment or treatments provided by some physicians. We see this hidden bias manifest when African Americans seek medical attention for pain-related problems and are not taking them seriously. A study from 2016 showed that medical trainees who believed that "black people are not as sensitive to pain as white people" were less likely to treat black patients' pain appropriately. (Hoffman et al., 2016). In the U.S., one in six women experience one or more types of medical mistreatment (Vedam et al., 2019). Black women are twice as likely, when compared to white women, to report health care providers ignoring or refusing their request for pain relief (Vedam et al., 2019). Within the same study, women with low SES had similar rates of mistreatment but were twice as likely to report being threatened or shouted at by providers, compared to women with moderate/high SES (Vedam et al., 2019).

The connection between the type of care received depending on race and SES has been discussed in many instances, primarily via social media and news outlets. Even African American women in higher SES experience medical neglect/mistreatment during their pregnancy.

In this section the stories of two well-known African American women with access to the best medical care and their struggles with pregnancy complications and medical neglect will be highlighted. Serena Williams is an African American professional tennis player who holds the top spot in the Women’s Tennis Association. She has won many championships and Grand Slam titles, but in her personal life, she is a mother. Serena nearly lost her life in 2011when she was diagnosed with a pulmonary embolism (PE) (Guardian, 2018). She was no stranger to hospitals with her prior medical history

and was very cautious about her health, especially during her pregnancy in 2017. Shortly after giving birth to her daughter, Alexis Olympia Ohanian Jr, on September 1, 2017, Ms. Williams revealed in an interview that she was bedridden for six weeks following an emergency cesarean section. She states, “I almost died after giving birth to my daughter, Olympia” (Guardian, 2018). Although the procedure went well, she reported feeling shortness of breath the following day. Due to her history of blood clots, she assumed she was having another PE. She immediately reported it to her nurse (Haskell et al., 2018). Unfortunately, the nurse resisted the self-diagnosis and told her she might have gotten confused from the pain medication. Still, Serena insisted on getting a CT scan and a heparin drip as soon as possible (Haskell et al., 2018). Soon enough, an ultrasound was performed – showing nothing, and a CT scan was done, which confirmed her suspension. Serena has several small blood clots settled in her lungs and had to be placed on the heparin drip (Haskell et al., 2018). This incident was nothing compared to the following days to come. She later experienced her C section wounds opening due to intense coughing spells, and a large hematoma was found in her abdomen (Haskell et al., 2018).

Considering her high SES, Ms. Williams was fortunate to be in the position to advocate for herself, but she still experienced medical neglect. This led to many questions, such as why were her concerns not addressed immediately? What if she never received the CT scan? Where could have happened to her? We could apply the same questions to many African American women in low SES, who are unable to receive adequate care or advocate for themselves and unfortunately had to experience life-threatening pregnancy complications.

Following Serena Williams' story, Beyonce Knowles, a famous African American woman – a 23-time Grammy winner and mother of three shared her challenging experience while giving birth to her twins in 2017. During childbirth, she developed preeclampsia, also known as toxemia, a rare pregnancy complication that led to her having an emergency C-section (Howard et al., 2018). She reported having to be on bed rest for over a month, which was a physical and mental battle for her (Howard et al., 2018). Stories similar to Serena Williams and Beyonce are prevalent within the African American community with worse outcomes for women in lower SES. Generally, African American women are disproportionally more likely to develop pregnancy complications such as preeclampsia, preterm labor, hypertension, fibroid tumors, and post-partum hemorrhage (PPH) (Hoskin et al., 2020), a result of structural racism in the healthcare system. As mentioned previously, MMRates varies by states and pregnancy outcomes are correlated with availability of healthcare access and other policy issues. MMRates will be further examined for an urban setting like Washington, D.C.

MMRates in Washington, D.C.

Washington D.C., also known as the District, is the nation's capital. The District has a population of about 712,000 residents making it one of the largest metropolitan cities in the country. The largest ethnic groups in the District includes Non-Hispanic African American (46.0%), White (46.0%), and Hispanic or Latino (11.3%) (source).

In Washington, DC, African American residents struggle for equitable and quality access to healthcare. The level of care DC residents have access to is largely dependent on where they live. The city is divided into four quadrants-- NE,NW,SE, SW-- which is

further divided into eight wards. Medical care in Wards 1,2,3 and 5 is easily accessible as they have urgent care facilities, clinics, and hospitals serving residents (source). On the other hand, Wards 4,6,7,8 do not have the same accessibility to medical care. With Wards 6,7,8 being east of the Anacostia River, an area known for the lack of resources its residents have access to only one medical facility (source). In 2016, Data from the DC Fire and EMS department released a report detailing the average response time of ambulances when called. Response times to Wards 7 and 8 took on average 10 minutes longer than calls made to other wards (Henebery et al., 2016). This highlights a small portion of the struggle for adequate care in areas where African American residents are the majority. The struggles that we see with basic primary care needs also carry into maternal health with even graver consequences

In the District, the MMRate is almost twice the national rate. In 2017, the District's PRMR was 41.9 per 100,000 live births, which is higher than the U.S. average of 29.1 per 100,000 live births (CHNA, 2020). This rate is significantly higher for African American women when compared to the national rate (71 per 100,000 live births and 63.8, respectfully). Wards 7 and 8 mostly contribute to this high number due to factors such as lack of access to healthcare facilities, preterm births, delaying prenatal care, and lack of postpartum care (Erickson et al., 2020). As mentioned previously, residents living east of the Anacostia River (Wards 7 and 8) are considered to be part of the District's underserved neighborhoods for medical services with high poverty rates.

As of 2021, the only public hospital available to residents Wards 7 and 8 is United Medical Center (UMC), which has been associated with multiple medical scandals

(Delgadillo et al., 2019). As it relates to women within these wards, UMC was forced to permanently close its obstetric unit in 2017 due to multiple medical errors, inadequate screening, medical assessments, and delivery practices (Bedigian et al., 2021). This resulted in women within Wards 7 and 8 being forced to travel further for medical care. To exacerbate the inconvenience these women have to experience, there are no public transportation options to get to these hospitals. For example, Ward 7 only has three Metrorail stops, making the bus system the most dependable source of transportation (Bracmort et al., 2010). In Ward 8, there is no bus system available for transportation. Needless to say, the closure of UMC's obstetric unit had a major impact on maternal care in the District. However, some women have reported still having deliveries in the hospital's ER despite its lack of proper equipment (Davis et al., 2010). Additionally, the hospital will be permanently closed by 2023 with no promise of future reopening or plans to replace it.

Lack of access to quality health care, access to reliable transportation, and low income/high poverty are SDOH affecting the lives of women living in Wards 7 and 8. These factors play a major role in the high rates of women delaying prenatal and postpartum care. Prenatal care is an essential aspect of pregnancy, it is the care a woman receives while pregnant. Studies have shown that mothers who do not seek prenatal care have children who are three times more likely to have low birth weights. Essentially, prenatal care keeps mother and baby healthy. In 2015, a study comparing the percentage of women in the District who initiated prenatal care by ward and trimester showed the following; 70.19% of women in Ward 1 initiated prenatal care within the first trimester, while only 55.27% and 50.77% in Wards 7 and 8 initiated prenatal care (DC DOH,

2018). Additionally, 0.74% and 0.33% of women in Wards 2 and 3 decided against seeking prenatal care, as compared to 3.89% and 5.58% of women in Wards 7 and 8 (DC DOH, 2018). These numbers can be attributed to lack of access to prenatal care. A survey was conducted in 2018 to evaluate locations where DC residents can access prenatal care. The result of the survey showed 39 facilities within the District provide prenatal care (Montague et al., 2020). Of the 36 facilities, Ward 2 has twelve facilities, while Wards 7 and 8 each have four (Montague et al., 2020).

The postpartum period is the recovery time for a woman after childbirth. During this time, she is adjusting to physical, social, and psychological changes as a result of childbirth. This transition period could be challenging for women, especially if there are preexisting health and social issues. Unfortunately, postpartum care is usually perceived as a single encounter after the first six weeks of childbirth. However, for some women it may not be a priority or even an option. In an effort to reduce the MMRate, the American College of Obstetricians and Gynecologist (ACOG) proposed a new initiative, recommending that postpartum care should be an ongoing follow up process within the first three weeks postpartum (ACOG, 2018). The question becomes, what happens to women living in Wards 7 and 8, who are unable to get access to the postpartum care they need? They are more prone to medical problems such as hemorrhage, sepsis, pulmonary embolism, depression and anxiety. However, in the District, clinics such as Mary's center, Doulas of Capitol Hill, Mamatoto Village, and Community of Hope can provide community-based health services in Wards 7 & 8 to provide prenatal and postnatal care.

RESEARCH STRATEGIES

Key sources and scientific websites such as the American College of Obstetricians and Gynecologists (ACOG), Centers for Disease Control and Prevention (CDC), PubMed, National Center for Biotechnology Information (NCBI), National Library of Medicine, and Digital Commons Network were used in the completion of data to support this topic. These sources were utilized based on their rich scientific sources and were helping in the process of gathering information on maternal health and morbidity in the United States. Key terms such as maternal health, low socioeconomic status, health disparities, systemic racism, prenatal, and postpartum were used to locate relevant information to support the content of this paper. Research regarding the types of maternal care options available to African American women in low SES living in Washington, DC were also evaluated and included in this paper.

DISCUSSION

The introduction and background information of this literature review justifies the idea that socioeconomic status influences maternal health, especially in an urban setting like Washington, D.C. Through the research conducted, it was found that race plays a significant role in the type of medical attention African American women receive. Additionally, through various studies, history has been proven to have influences implicit racial bias among some medical providers. As described in the examples shared previously, African American women, regardless of their SES, experience preexisting health conditions and medical mistreatment when seeking medical attention, all of which could result in adverse maternal health outcomes.

In an ideal world, equitable and quality healthcare would be available to all women. However, this is nearly impossible due to the SDOH that women in particular geographic locations have to endure. Not everyone can get access to quality healthcare, reliable transportation, or a high salary income. As mention previously, maternal health has different components that involve more than childbirth. Prenatal and postpartum care is critical to ensure the safety of mothers and their babies. Although the District has facilities to provide prenatal and postpartum care to women in low SES, there are still very few of these facilities in specific wards. A study showed that nearly 97% of the free preventative healthcare service available for District residents are underutilized (DC Census, 2019). This could be because the majority are unable to get to the locations of these facilities and eventually not take the initiative to seek help. When these components are neglected or overlooked, it could lead to long-term complications or detrimental complications contributing to high MMRates in the District. Unfortunately for women living in Wards 7

and 8 of the District, this is their reality. The poor infrastructure's effect in these Wards forces many women to either have unsafe deliveries in a facility lacking proper equipment or travel a long distance to get quality care. To reduce the high MMRates in the District, the Maternal Mortality Review Committee was established in 2018 to investigate maternal health outcomes (Erickson et al., 2020). On a national level, The Black Maternal Health Momnibus Act of 2021 was implemented to address SDOH influencing maternal health outcomes, provide funding to community-based organizations, and promote healthcare equity.

RECOMMENDATIONS FOR FUTURE STUDIES

As stated previously and based on the research conducted for this literature review, maternal health within the United States needs significant improvement. Unfortunately, African American women are more likely to suffer from pregnancy complications when compared to other women. The health outcomes of African American women should be taken into consideration to ensure that they feel protected when seeking medical attention. On a national level, implicit bias training should be adopted in hospital programs. This will ensure that health care providers are aware of their personal biases and learn ways to address the medical concerns of African American women adequately. As it relates to women living in the District, nonprofit organizations make current efforts to provide maternal health services in Wards 7 and 8. The majority of the recommendations that will be proposed are specific to government officials.

Additionally, there have been conversations surrounding the possibility of a new hospital opening in 2023, located in Ward 8. Emphasis must be placed on government or DC officials to make sure this comes to fruition. In the meantime, reliable transportation should be provided to get people in Wards 7 & 8 to and from hospitals. This can be done through collaboration with small businesses or nonprofit organizations willing to come together and improve the lives of women in need. Another suggestion would be recruiting doulas or midwives to provide in-home patient care experience to women living in low SES Wards. Also, increasing public funding to build free or low-cost clinics in Wards that are lacking would be highly beneficial.

Lastly, increasing public awareness regarding the women's health in the District and the types of preventative care available would be beneficial. By doing this, information is more likely to spread from Ward to Ward. Many people cannot access social media or check online to find out information on preventative care, so actively going into communities could help bridge the gaps in knowledge of women who are at risk during or after pregnancy.

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