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Disparities Among Black Women in Maternal Health

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Abstract

The literature shows that Black women face many disparities in terms of health care access and the quality of care. These obstacles could negatively affect the health of the mother and their child. This paper includes a literature review and proposed research study. The objective of this research study is to identify the outcomes of Black women compared to White women and other women of color in terms of maternal health. A literature review is provided in order to identify how race affects the following factors: obstacles that limit access to healthcare, rates of obtaining prenatal care, postpartum outcomes and infant mortality. The literature review showed that Black women face poorer access and outcomes in almost all aspects of maternal health such as prenatal care utilization, maternal morbidity and mortality (Howell et al, 2016) and higher infant mortality rates (Cox et al, 2011). There are many factors such as socioeconomic status, region, access to healthcare and education that add to their poor health outcomes; however, it has been found that race is a factor that negatively impacts outcomes independently of these extraneous factors. The research question proposed asks how the quality and quantity of prenatal care differ by race and if this impacts neonatal outcomes. A correlational study will be used to determine if there is a correlation between factors that will be identified and how they affect the outcomes of these neonates. The method of research will utilize multiple surveys that identify race, age, yearly income, the amount of time spent at prenatal care (PNC) appointments and a Likert scale to identify the perceived quality of their PNC appointments. Neonatal outcomes such as birth weight, APGAR score, prematurity in months, morbidity and mortality will be identified. This quantitative data collected will be analyzed using a multiple regression analysis to obtain multiple measurements of correlation between the many variables identified in the surveys.

Disparities among Black Women in Maternal Health

Years of research shows that women of color and especially Black women face terrible outcomes of implicit bias in the healthcare system (Altman et al, 2020). This racism and prejudice not only affects the lives of these women but also the health and well- being of their children. Studies show that there is a higher rate of maternal morbidity and mortality for non-Hispanic Black women compared to non-Hispanic White women (Leonard, 2019). There are several theories as to how people's individual racism manifest as a system wide problem. Black women face difficulty at every level of their maternal health, from prenatal, intrapartum and postpartum care, each of these different phases come with different disadvantages towards people of color and Black women in particular. Many studies have identified the disparities for Black women but more research is needed to identify ways to combat this issue. Understanding that this disparity based on race exists is crucial in implementing systemic changes to eliminate the deadly effects of racism in healthcare.

Purpose statement

The purpose of this thesis is to examine the research in order to answer the questions:

- What are the significant relationships between race and health outcomes in maternal health?
- How can we change the system in order to become anti racist?

Literature Review

The purpose of this research review is to deepen the understanding of how race affects health outcomes for Black women and their babies in a women's health and to also identify the areas that need further research.

Search Strategy:

Criteria for the research articles:

- Primary research articles

- Published in the last 12 years

- Peer reviewed

- Research conducted in the United States

The following databases were explored:

- PubMed

- UpToDate

- Iceburg

- Credo reference

- Google Scholar

The following search terms were used:

- Healthcare disparities for women of color

- Black women and healthcare

- People of color and preterm labor

- Racism in healthcare

- Black women and infant death

Roadmap

Each of these studies adds to the body of knowledge and highlights a different aspect of racial bias within the healthcare system. It helps us to illuminate some of the complexities of racism that stems from our healthcare system that permeates into the health care teams approach to patient care for Black women. For this review 6 articles were chosen and divided into a category

for retrospective studies and another for cross-sectional studies. The articles look at possible disparities for Black women in women's health ranging from the areas of prenatal care, postpartum and fetal outcome.

Category 1

In the first category all the articles chosen utilized a retrospective study design, meaning they look back on past data and use this data for their research. Three of the four articles are specifically cohort studies and one used a published algorithm in the study design.

In *Racial Disparities in Postpartum Pain Management* (Badreldin et al., 2019) the main purpose of the study was to discern the differences between reported pain of postpartum non-Hispanic White, Hispanic and Black women and to evaluate the amount of opioid pain medication prescribed to these groups during their time of stay and prescriptions at discharge. Badreldin stated that the reason for this study was to debunk the idea that Black women feel less pain. Some researchers have associated the difference in prescription patterns between White, Black and Hispanic women on the notion that Black women feel less pain. The sample consisted of 9,900 postpartum women in a tertiary care center over the course of a year between 2015-2016. Women who had a diagnosis of an opioid abuse disorder or were suspected of having an opioid dependence were excluded from the study in order to eliminate the difference in pain prescription for these women. At the time of the study the hospital had no set parameters on pain dosing or prescriptions; therefore, it was based on the physician's clinical judgement. The researchers selected data on the patients pain rating at discharge, inpatient oral opioid dosing during their hospital stay in the postpartum units and if the patient had an opioid prescription at discharge. Using a bivariable analysis the researchers found that non-Hispanic White women were less likely to report a pain score of over 5 during discharge (4.2%) than Hispanic (7.7%) and non-

Hispanic Black women (11.8%) but that these same women had a significantly greater likelihood of being prescribed an opioid and at higher doses during their stay and at discharge (Badreldin et al., 2019, p. 4). The results of this study show that although Hispanic and non-Hispanic Black women report on average a higher pain score, these women receive less pain medication as inpatients and at discharge. This is important because one cannot argue that this difference in prescriptions is due to Black and Hispanic women feeling less pain. This study helps to bring up the question of why there are these differences in opioid prescriptions and why these clinicians prescribe in such a racist and unethical manner. This article helps us to understand the effects of racism within the hospital setting and to propel further research on this extremely harmful discrepancy.

In Postpartum hemorrhage outcomes and race (Gyamfi-Bannerman et al., 2018) the goal of the study was to differentiate between the rates of adverse outcomes of postpartum hemorrhage between non-Hispanic White, non-Hispanic Black, Hispanic and Asian or Pacific islander women. The study highlighted that maternal hemorrhage mortalities are highly preventable and could be due to failure to report and take action in the case of abnormal vital signs, lack of communication and coordination between consultants, resulting in delayed intervention for these women. The researchers wanted to further this idea of prevention and compare it to race to identify how racism accentuates the morbidity and mortality for women of color. The study consisted of 360,370 women who were diagnosed with postpartum hemorrhage between the years 2012-2014 in hospitals that published their data in the National Inpatient Sample. Non-hispanic Black women had the highest rates of severe morbidity (26.6%), Disseminated intravascular coagulation (8.4%) and transfusions (19.4%) (Gyamfi-Bannerman et al., 2018, p. 4). For the likelihood of a hysterectomy, Asian and Pacific islander women were at highest risk at 2.9% and Black

women had higher rates compared to White women (2.4% vs 1.9%, P<.01). The study notes that there was no way to differentiate what hospitals these women attended and therefore cannot consider how infrastructure and resources impact outcomes. This study recommends further research and gives examples as to what researchers could look for when trying to understand why there is this disparity; however, it does not mention the possibility of healthcare personnel racism, biases and stereotyping of Black women which is a especially realistic factor in this complex issue.

In *Black-White Differences in Severe Maternal Morbidity and Site of Care* by Howell et al, the researchers stated purpose was to discern if hospitals that had a higher volume of Black patients had higher rates of severe maternal morbidity relative to hospitals with medium and low Black serving hospitals and compare between race and outcome overall. This study consisted of 4,609,291 deliveries from 1146 hospitals from the Nationwide Inpatient Sample of the Healthcare Cost and Utilization Project from 2010-2011. The hospitals were categorized into three groups based on the percentage of deliveries from Black women. They also identified information such as comorbidities and hospital data such as location, percent of Medicaid deliveries and delivery volume. A logistic regression was used to analyze the data and the researchers adjusted the regressions for the following: patient characteristics, comorbidities, hospital characteristics and within hospital clustering. The data showed that Black women were more likely to have medicaid, be younger and live in lower-income areas. High Black serving hospitals tended to be in the South, have a high bed count, and be teaching hospitals. Black women had a higher rate of maternal morbidity in high and medium Black serving hospitals (29.3 and 19.4 per 1000 births) than in low Black-serving hospitals (12.2 per 1000 deliveries) (Howell et al., 2016, p. 122). The researchers concluded that Black women are more than twice as likely to develop a maternal morbidity than their White counterparts and that although some of these morbidities are

attributed to higher rates of comorbidities in Black women, there is still evidence that these high and medium Black serving hospitals negatively impact health outcomes for Black women. Although the identity of these hospitals were not identified the authors stated that if efforts to improve these high and medium serving hospitals were implemented there would be a drastic change in maternal outcomes for Black women.

In *Prenatal Care Utilization in Mississippi: Racial Disparities and Implications for Unfavorable Birth Outcomes*, Cox et al. states that prenatal care (PNC) directly affects birth outcomes and that although there is evidence that race affects PNC utilization there is no sufficient evidence as to why. According to Cox et al. "The principle goal of our study was to examine by race the independent association between prenatal care utilization and preterm birth and low birth weight and infant mortality in Mississippi after controlling for confounding risk factors: mothers age, education, marital status, place of residence, tobacco use and medical risk." (2009, p.2). A cohort of 292,776 single infants born in the years 1996-2003 to Mississippi residents were chosen for this study. The women were examined for levels of PNC from no care to intensive care. A multiple logistic regression was used to obtain data that controlled for the confounding factors. The results of this study showed that Black women were more likely to have inadequate PNC compared to White women (5.9% and 16.4% respectively), Black women with no PNC had a fivefold increase risk of death and White women with no PNC who had three fold increase in infant mortality (Cox et al., 2011, p.6). In controlling for comorbidities they looked at PNC utilization among Black and White women with medical conditions and found that white women received higher levels of PNC compared to Black women. Although a correlation between race and PNC was found, there was no data collected that would tell us the barriers for

Black women. The researchers discussed the importance in further research to understanding the barriers Black women face when getting access to PNC.

These studies help to add to the body of research on racism and health bias for Black women and women of color. The first two articles focus on the postpartum period for women and the negative impact of bias on pain management for women of color, especially Black women, and the higher risk these women face for adverse postpartum outcomes. The last two articles focus more on the determinants of health and how their environment and socioeconomic factors and access to care can negatively impact their health outcomes. All of these studies contained large sample sizes which makes the data collected more accurate to the population in the United States and the conclusions made could be more generalizable.

Category 2

The researchers of this second category of articles chose a cross-sectional study design for their research looking at their research population at a certain point in time. For the first article *Structural Racism, Socio-Economic Marginalization and Infant Mortality*, the research population was a group of 77 community areas in Chicago Illinois (Bishop-Royse et al., 2021) and used an ecological public health design. They used data from public records of birth in Chicago Illinois from 2021 to 2014. This study examined the relationship between race, infant mortality and socioeconomic status. They compared statistics on different communities in Chicago rather than comparing individuals and used an algorithm called the Index of Concentration at the Extremes (ICE) that produces a value that measures the extreme privilege or deprivation of a community based on income and race. Values range from -1 meaning complete deprivation to +1 meaning extreme privilege. These values for the ICE race + income values were compared to community infant mortality rates. They found that regardless of income communities with higher

concentrations of Black women still have higher rates of infant mortality compared to areas with a large concentration of White women. A limitation of this research is that there was no explanation of the methods when choosing these different areas within Chicago and there is no identified number of births or participants. They conclude that these results further support the idea that structural racism leads to poorer health outcomes for Black women and their children and highlighted the importance of dismantling structural racism.

In *Exposures to Structural Racism and Racial Discrimination Among Pregnant and Early Post-Partum Black Women Living in Oakland, California*, Chambers et al. (2020) explored the the relationship between areas with high quantity of Black people and low socioeconomic status and compared it to the frequency of racial discrimination these women face. The researchers used a cross-sectional study of pregnant and postpartum Black women living or working in Oakland California from January 2016- December 2017. The authors stated they hoped to further the knowledge from other studies that showed Black women are more likely to have preterm birth or low birthweight infants than White women and aimed to detect how structural racism and perceived racism correlates to these outcomes. This study and the study mentioned prior used the ICE race+ income index to measure extremes of these communities in Oakland. The participants were also asked questions with "yes" or "no" answers about discrimination based on their race or ethnicity. The study found that women who lived in the most deprived race and income neighborhoods reported experiencing more discrimination. They reported being discriminated against when at schools, restaurants, stores or on the street and when getting medical care. They ultimately found that 92.9% of these women experienced racial discrimination which causes an in-

crease in stress in these women's lives. A strength of this research is its ability to obtain quantitative data that still reflects these women's perceptions of discrimination. This research starts to identify reasons behind increased stress in pregnant and postpartum Black women.

These two articles both use the ICE race+income equation to help and quantify extremely deprived and extremely privileged communities and how this impacts these women's stress and fetal outcomes. This helps compare how the environment these women live in can affect the health outcomes of themselves and their infants. The implications of this helps to show that not only do the effects of structural racism such as poor access to healthcare, marginalization of Black communities and stress factors influence health but also, on an individual level, these women experience more racist acts of discrimination, which could lead to poor adverse health outcomes. Overall the ICE race+income algorithm was very useful in these studies but neither study explained it thoroughly enough to be able to understand the calculation without having any prior understanding of how it is used.

These studies help us differentiate the source of this extremely complex issue of how racism affects healthcare for Black women and identifies racism at the structural level as well as the individual level for these women. In general they all contribute to understanding the reasons for the higher health risks for pregnant Black women and all focus on a specific aspect of the health disparities. The strengths of these articles are the large sample size used and that all of them are quantitative research that made it able to measure socioeconomic factors and how racism affects health outcomes. These studies emphasize the necessity of outreach to communities of Black women and the promotion of early prenatal care as well as focusing on improving infrastructure that are in low income areas with a high population of Black women. This aspect focuses on preventative care before these women enter the hospital. The gaps in the research in general are;

although these articles are very thorough in identifying aspects within Black women's communities that negatively impact health outcomes, there is definitely a need to identify how racism and stereotyping by healthcare professionals affects these women's health when they are patients. It is well known and studied that having a poorer socioeconomic status and lacking resources, access to healthcare and living in poor neighborhoods affects health but it is crucial as nurses to understand our own prejudice and how it affects our patient care.

Research Proposal

For the research proposal a correlational study design will be utilized. Women will be recruited from various parts of the San Francisco Bay area who are entering their second trimester of pregnancy and are of various races and ethnicities. A preliminary questionnaire will identify these women's race, age, and yearly income. There will also be a recurring questionnaire to be filled out after every PNC appointment. This will allow them to identify their overall satisfaction with the appointments by asking how well they felt heard, how well they understood healthcare providers, if they felt they had been discriminated against based on their race and other questions that could identify their perceptions of care. There will also be a question asking how many minutes they spent at that specific PNC appointment. The recurring questionnaire will be scored on a Likert Scale, besides the question asking about time in PNC, from 1-5, 1 meaning strongly disagree and 5 being strongly agreed. The women will receive a score at the end of the experiment that will be calculated by adding the scores of all recurring questionnaires. A higher score would indicate more attentive and productive appointments and a lower score would indicate less satisfactory appointments. A follow up questionnaire will ask about birth outcomes such as birth weight, APGAR scores, prematurity in months, morbidity and mortality. The second part of the

research would be to compare these three factors (race, time spent in PNC visits and satisfaction ratings) with birth outcomes and determine the relationship between all of these factors, if any.

Sample

The sample will consist of 50 women in the San Francisco Bay area going into their second trimester of pregnancy who are willing to document the time spent at prenatal visits, fill out questionnaires after each visit and who feel comfortable sharing the outcomes of their pregnancy. These women will be recruited by posting flyers at prenatal care facilities giving information about what the research entails. The prenatal care facilities should be located in a variety of locations that contain both wealthy and poor neighborhoods in order to try to represent the whole population and give as many women access to this research opportunity as possible.

Ethical Considerations

This is a vulnerable population, so it is important for them to fully understand the details of the research. It is non-experimental, descriptive and correlational research so there is nothing that is being manipulated but it is still important to take into consideration the vulnerability of these women. They should be informed of what their duties will be during the research and the time commitment. They will be reassured that their information will not be shared with others outside of those conducting the study and that they can opt out of the study at any point in time. Their data will be stored on a password protected computer to protect their information from others.

Statistical Analysis

A multiple regression analysis will be performed to generate a correlation statistic for each variable (independent and dependent) examined in the study. This is to identify a correlation between our independent variables (race, age, socioeconomic status, perception of treatment by provider and total time spent in PNC appointments) and identify how they correlate with the dependent variables (birth weight, APGAR scores, prematurity in months and neonatal morbidity and mortality). Using this analysis you will be able to calculate a value indicating if there is a positive or negative correlation between variables and how strongly, if at all, they correlate. A table below shows a table of all of the variables to be analyzed. Once data is collected and analyzed using the multiple regression calculation values can be entered into Table 1.

Table 1

Sample multiple regression analysis table

Dependent Variables/Outcomes → **Independent Variables ↓**	Birth weight	Apgar Score	Prematurity in mos	Mortality

Perception of treatment by provider				
Race				
Age				
Socioeconomic status				
Total time spent in prenatal care				

Potential outcomes

For outcomes it could be predicted there will be significant correlations between all variables. For perception of treatment by provider data it's likely that the higher the score the lower the chances of having neonatal complications. Race may impact outcomes and if it does it could be predicted that being Black or Hispanic would have a negative effect on birth outcomes and prenatal care quality and time spent in PNC. Age could potentially have a positive correlation with the dependent variables. For time spent in prenatal care appointments there may be a negative correlation with outcomes. For example the more time spent in PNC, the less complications and the less time spent receiving PNC the more neonatal complications.

Theoretical Framework

Levels of Racism: A theoretical Framework and a Gardener's tale is the theoretical framework that guides the ideas behind this research paper (Jones, 2000). Jones suggests to understand the origins and effects of racism, you must look at it from three different levels. She first described the structural implications of racism, how it presents itself into our healthcare system and how it manifests into poor health outcomes for people of color. The differences in goods, opportunity and services between different racial groups leads to these drastic disparities in health. Jones writes "Indeed, institutionalized racism is often evident as inaction in the face of need." (P. 1). This highlights the faults of our healthcare system and the idea that inaction is violence against those who need care the most. She also highlights the idea that "personally mediated" racism in a health setting can lead to acts of commission or omission. This can happen either intentionally or intentionally by the perpetrator but that does not mean it is not racism. She states the last level of racism is internalized racism. This is the idea that those of a marginalized race internalize negative beliefs or attitudes about their innate selves. She theorizes that by using this knowledge of the different levels of racism, there can be more thorough and necessary actions taken to address racism, especially in the healthcare system.

Conclusion

The United States has a long history of racism towards Black Americans and as the years go by it becomes more apparent how deeply ingrained this racism is in our society. Our healthcare system is no different and reflects the same racial bias. Black women are less likely to receive or seek out prenatal care which could have detrimental effects on their health as well as their babies (Gadson, 2017). For intrapartum care Black women are much more likely to face discrimination and be ignored when they pose serious concerns for their health. Black women

are at higher risk for experiencing postpartum hemorrhage and disseminated intravascular coagulation, both serious complications, compared to non-Hispanic White, Asian and Hispanic women (Gyamfi-Bannerman, 2018). All of these disparities are the manifestation of systemic racism.

From a nursing perspective it is important to identify the areas in which we can improve our practice and for this we will need many more studies that identify areas where Black women are discriminated against, undermined and not taken seriously. This thesis has been able to identify different areas of women's health where Black women face higher rates of adverse outcomes compared to White women. A proposed research design was suggested that would address if race, age, socioeconomic status, time in PNC and perceived quality of these appointments affects outcomes for their infants. This can help identify if there needs to be outreach to Black communities to provide PNC and education and/or if there needs to be anti-racist workshops for healthcare providers or standardized protocols to eliminate maltreatment of these vulnerable women. These studies and the proposed research study can all give us more insight into why the care, or lack thereof, leads to life threatening complications and outcomes for these mothers and their babies. Nurses should lead with evidence-based care that incorporates the patients wants and needs while implementing research based practices to provide the highest quality care possible. If these research proposals were carried out we could potentially come closer to identifying racist areas that need to be addressed in our healthcare system.

Literature Review Table

...rpose	Investigator	N	Sample	Design	Major Finding	Strength	Weakness
...e purpose of the ...dy was to see the ...fferences between ...t only the reported ...n of non-hisp ...nite hispanic and ...ack people but also ...evaluate the ...ount of pain medi- ...ion prescribed to ...e if there was bias ...the ways in which ...n meds were given ...White women vs ...panic and Black ...men.	Badreldin, N., Gro-bman, W. A., & Yee, L. M. (2019). Racial Disparities in Postpartum Pain Management. *Obstetrics and gynecology*, *134*(6), 1147–1153. https://doi.org/10.1097/AOG.0000000000003561	9,900	Women 18 years or older who were documented as being non-Hispanic White, Hispanic or non-hispanic Black and had no allergies to opioids were chosen for the research.People who had a history of opioid use or any signs of potential use were not used for the research	Retro-spective cohort study	The major finding of this research study was that although Hispanic and Black women reported higher pain than White women they received less pain medication during their stay and also received less prescriptions for pain management at discharge.	The elimination of women who were suspected of having a history or reported opioid use was a strength to take out of the sample of women. Including these women would not reflect the average woman's pain medication regime. The number of the sample was proficient.	The ways in which the rac... groups were split up coul... muddle the re... sults. Hispan... White women... are in the his-panic categor... which could have skewed results. His-panic Black women were... the hispanic category whic... also could ha... skewed resul...

e purpose of this dy was to differen-te between post-rtum hemorrhage rbidity and mor-ty rates between n-hispanic White men, non-hispanic ack women, His-nic, Asian or Pa-ic islander women.	Gyamfi-Banner-man, C., Srinivas, S. K., Wright, J. D., Goffman, D., Sid-diq, Z., D'Alton, M. E., & Friedman, A. M. (2018). Postpar-tum hemorrhage outcomes and race. *American journal of obstetrics and gyne-cology*, *219*(2), 185.e1–185.e10. https://doi.org/10.1016/j.ajog.2018.04.052	360,370	The sample consisted of women aged 15-54 who had a diagnosis of postpartum hemorrhage within the years 2012-2014. The hospitals in-cluded in the data collection were selected from The Na-tional Inpatient Sample from the Agency for Healthcare Re-search and Quality.	Retro-spective cohort study	The major finding was that non-his-panic Black women face the highest risk of severe maternal mor-bidity and mortality vs all other group samples.	The strength of this research is the large sample size that was collected from all over the state from different types of hospi-tals such as community, nonfederal, gen-eral and spe-cialty-specific centers. The de-mographics of these women was also col-lected and showed that non-hispanic White women were more likely to have private-insur-ance and non-hispanic Black and hispanic women were more likely to have Medicaid insurance.	Although the study did dif-ferentiate be-tween which women went what kind of hospitals and which parts o the country th data does not include the in frastructure, skill and staff ing and other indicators of quality care these hospital can provide. Violation of i ternal validity

e purpose of the dy had two parts, e was to see if hos- als that had a gher volume of ack patients had gher rates of severe aternal morbidity ative to hospitals th medium and low ack serving hospi- s and to see if there s an association ween race and se- re maternal mor- ity overall be- een Black and ite women.	Howell, E. A., Ego-rova, N., Balbierz, A., Zeitlin, J., & Hebert, P. L. (2016). Black-white differences in se-vere maternal mor-bidity and site of care. *American journal of obstetrics and gynecology*, *214*(1), 122.e1– 122.e1227. https://doi.org/10.1016/j.ajog.2015.08.019	4,609, 291 deliv-eries	The sample consisted of 4,609,291 de-liveries from 1146 hospitals from the time of 2010-2011 for the Nation-wide Inpatient Sample of Healthcare Cost and Utili-zation Project.	Retro-spective compara-tive quantita-tive	The major findings were that severe maternal mor-bidity rates were highest among Black women com-pared to White women and that the highest mor-bidity was from Black women at high Black-serving hospi-tals	The idea to study hospitals based on the proportion of Black or White patients is an in-novative con-cept instead of comparing par-ticular cases. The conclusion states this can help us to imple-ment changes at these hospitals and dispropor-tionately help decrease mor-bidity rates.	I would want know specifi-cally what th womens mor-bidities were and what spe-cifically these high Black serving hospi tals.

e purpose was to derstand the use of enatal care between ack and White men and the difence between the alth out outcomes these women and ir babies.	Cox, R. G., Zhang, L., Zotti, M. E., & Graham, J. (2011). Prenatal care utilization in Mississippi: racial disparities and implications for unfavorable birth outcomes. *Maternal and child health journal*, *15*(7), 931–942. https://doi.org/10.1007/s10995-009-0542-6	292,776	The sample included a cohort of singleton infants born to Mississippi residents in the years 1996-2003. Black and non-hispanic women were chosen and infants	Population - based retrospective cohort	The data showed regardless of race poor utilization of prenatal care negatively affects birth outcomes. Black women had higher rates of inadequate or no prenatal care. It also showed that compared to White women with poor prenatal care, Black women face more adverse birth outcomes.	The study compared lots of factors that could affect a person's pregnancy outcomes and did not only compare prenatal care but also studied other factors such as the women's medical issues, marital status, education level, time of prenatal care and APNCU index which can tell us more specifically of the nature of the disparities.	The study do not explain th barriers that a fect Black women's acce to prenatal ca

Purpose	Citation	Sample	Data/Source	Design	Findings	Strengths	Limitations
e purpose of this dy was to deter- ne the relationship ween race and in- t mortality rates as ll as the relation- p between socio- onomic status and ant mortality rates.	Bishop-Royse, J., Lange-Maia, B., Murray, L., Shah, R. C., & DeMaio, F. (2021). Structural racism, socio-economic marginal-ization, and infant mortality. *Public Health (Elsevier)*, *190*, 55–61. https://doi-org.do-mini-can.idm.oclc.org/10.1016/j.puhe.2020.10.027	77 com-mu-nity areas in chi-cago	The sample used was a ret-rospective look at the public records of births in Chi-cago Illinois from 2012-2014.	Cross-sectional ecologi-cal public health design	They con-cluded that even when ac-counting for socioeco-nomic status and de-mographics that race was independently related to in-fant mortality rates. In this case being Black alone led to an in-creased risk of infant mortal-ity.	This study tried to look at race affecting infant mortality not only from a so-cioeconomic status but also isolated race as opposed to other factors that are secondary to racism such as education level.	The study do not give infor mation about how many births they looked at and doesn't give a sort of metho of who they chose to look from this pop lation of Whi and Black women in Ch cago.

e purpose of the dy was to deter- ne the relationship ween perceived ial bias, stress and th outcomes.	Chambers, B. D., Arabia, S. E., et al (2020). Exposures to structural racism and racial discrimi- nation among preg- nant and early post- partum Black women living in Oakland, Califor- nia. *Stress & Health: Journal of the International Society for the In- vestigation of Stress*, *36*(2), 213– 219. https://doi- org.domini- can.idm.oclc.org/10 .1002/smi.2922	42 wome n	A convenience sample of women was taken from Oakland Ca. These women were chosen from low in- come healthcare cen- ters. These women were aged 18-44 who identified as Black and were pregnant or in the first 6 week of the postpartum pe- riod.	Cross sectional study de- sign	The major findings of this study showed that women who experience more racial discrimination and were in areas of low income faced higher rates of premature birth and fetal death as com- pared to women who reported less discrimination and who lived in more afflu- ent neighbor- hoods of oak- land.	The study in- volved these womens experi- ences of racism into the experie- ment to see how their perceived discrimination effected their stress and birth outcomes. Most studies solely focus on socio- economic fac- tors and don't get qualitative information from the women experiencing the outcomes of these stressors.	The sample taken was a conveniences sample which could be a les accurate sam- ple.

References

Altman MR, McLemore MR, Oseguera T, Lyndon A, Franck LS (2020). Listening to Women: Recommendations from Women of Color to Improve Experiences in Pregnancy and Birth Care. *J Midwifery Womens Health*. Jul;65(4):466-473. doi: 10.1111/jmwh.13102. Epub 2020 Jun 18. PMID: 32558179.

Badreldin, N., Grobman, W. A., & Yee, L. M. (2019). Racial Disparities in Postpartum Pain Management. *Obstetrics and gynecology*, 134(6), 1147–1153. https://doi.org/10.1097/AOG.0000000000003561

Cox, R. G., Zhang, L., Zotti, M. E., & Graham, J. (2011). Prenatal care utilization in Mississippi: racial disparities and implications for unfavorable birth outcomes. *Maternal and child health journal*, *15*(7), 931–942. https://doi.org/10.1007/s10995-009-0542-6

Gadson, A., Akpovi, E., & Mehta, P. K. (2017). Exploring the social determinants of racial/ethnic disparities in prenatal care utilization and maternal outcome. *Seminars in perinatology*, 41(5), 308–317. https://doi.org/10.1053/j.semperi.2017.04.008

Gyamfi-Bannerman, C., Srinivas, S. K., Wright, J. D., Goffman, D., Siddiq, Z., D'Alton, M. E., & Friedman, A. M. (2018). Postpartum hemorrhage outcomes and race. *American journal of obstetrics and gynecology*, 219(2), 185.e1–185.e10. https://doi.org/10.1016/j.ajog.2018.04.052

Howell, E. A., Egorova, N., Balbierz, A., Zeitlin, J., & Hebert, P. L. (2016). Black-white differences in severe maternal morbidity and site of care. *American journal of obstetrics and gynecology*, 214(1), 122.e1–122.e1227. https://doi.org/10.1016/j.ajog.2015.08.019

Jones, C. P. (2000). Levels of Racism: A Theoretic Framework and a Gardener's Tale. *American*

Journal of Public Health, *90*(8), 1212–1215. https://doi-org.dominican.idm.o-

clc.org/10.2105/AJPH.90.8.1212

Leonard, S. A., Main, E. K., Scott, K. A., Profit, J., & Carmichael, S. L. (2019). Racial and

ethnic disparities in severe maternal morbidity prevalence and trends. *Annals of epidemi-*

ology, 33, 30–36. https://doi.org/10.1016/j.annepidem.2019.02.007