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Analysis of the Integration of Race and Cultural Concordant Doulas into the Birth Experience of African American Women

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Analysis of the Integration of Race and Cultural Concordant Doulas into the Birth Experience of African American Women

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Nominated by: Dr. Christopher Wyatt

Author Notes:

My name is Cherissa Garcia. I earned a bachelor's degree in Spanish from Wright State University in 2009. I later earned a Master of Public Health degree in 2016 and a Master's in Anatomy from Wright State University in 2024. I am currently a first-year medical student at WSU Boonshoft School of Medicine. I am interested in specializing in obstetrics and gynecology. I have been married for 10 years. I have a 6-year-old son and a 2-year-old daughter. I also have a 20-year-old bonus daughter, who is a student at Wright State University.

In the enclosed piece, I used existing data about the high African American maternal mortality rate in the U.S. to develop a hypothetical study. My study looked at how integrating race and cultural-concordant doulas into the birth experience of African American women would impact outcomes. I found similar studies that provided strong evidence to support doula integration. However, most did not select study populations that appropriately reflected the African American women at increased risk of poor outcomes. I designed a study that looked at race and cultural concordance between doulas and patients from a wide range of SES backgrounds and varying degrees of pregnancy risk.

Faculty Notes:

Cherissa was a graduate student in my Experimental Design class. This class is held in Spring semester and follows a Fall semester class where students write a review of the literature on a biomedical topic. Cherissa extended her review of the literature and addressed a unique hypothesis that built upon existing research. She was a joy to work with and her experimental design will be of interest to a wide range of our Wright State population.

Analysis of the Integration of Race and Cultural Concordant Doulas into the Birth Experience of African American Women

Hypothesis:

Integrating race and cultural concordant doulas into the birth experience of African American women from various socioeconomic status (SES) backgrounds and who have varying degrees of pregnancy risk will improve birth outcome measures and maternal mortality over time.

Background:

Despite spending more on healthcare than other high-income countries, the United States (US) has poor health outcomes, regarding maternal mortality (Fleszar et al., 2023). When maternal mortality in the US was compared with other high-income countries, the maternal mortality rate was more than double (Tikkanen et al., 2020).

It is almost impossible to look at maternal mortality data from the United States and not notice a dramatic variation in rates between races (Tikkanen et al., 2020). The Centers for Disease Control and Prevention (CDC) has found that of 50,000 women in the US who suffer from pregnancy complications annually, black women are at least three times more likely to die due to pregnancy-related causes compared to white women. African American maternal mortality is the highest among any racial group in the United States.

Although high African American maternal mortality has been studied for years, very little has changed. Maternal mortality reform in states like California, and doula reimbursement programs in other states are making an impact (Main et al., 2018; Fleszar et al., 2023). Even though we are seeing some progress, there is still a long way to go before we see real improvement throughout the country.

Rationale:

Doulas are professionals trained to provide emotional, informational, and physical support to mothers and their families during pregnancy, childbirth, and postpartum. Doulas also play a vital role in reducing health disparities by facilitating communication between pregnant women and their providers. Effective communication is essential to ensure quality of care and patient safety. This, however, can be hindered by language differences, implicit bias, lack of cultural competencies, and other differences between cultures. Poor communication between providers and patients can lead to poor birth outcomes, including mortality (Falconi et al., 2022).

Studies have shown that when mothers are matched with cultural and race-concordant doulas, doulas protect mothers from the negative social determinants of health that lead to poor birth outcomes (Sayyad et al., 2023; Thomas et al., 2023). Patients also report that their doulas help them feel more secure, knowledgeable, respected, and connected during the birth process, thus facilitating positive birth experiences (Sayyad et al., 2023). Research has additionally linked cultural and race-concordant doula utilization with a reduction in cesarean sections, preterm birth, and low birth

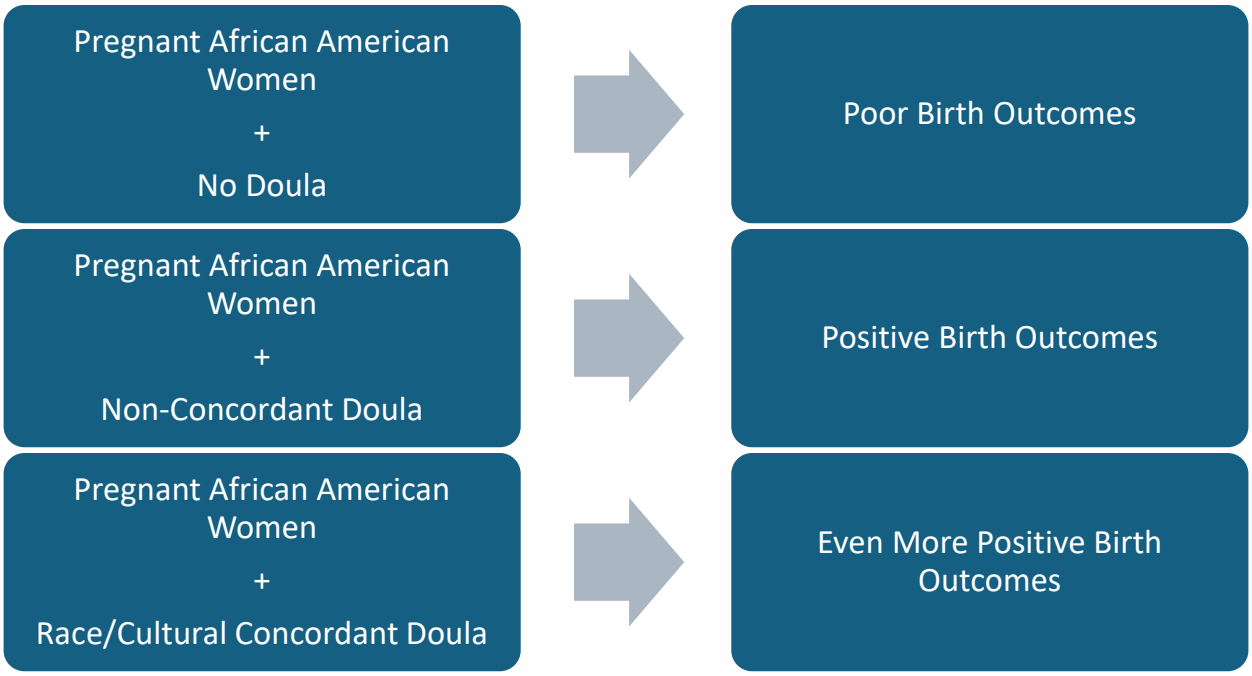
weight babies. Research has also found doula utilization to have great potential to improve African American maternal health (Falconi et al., 2022).

Many researchers have conducted studies to analyze this potential for improving African American maternal morality by studying the integration of doulas into the birth experience of African American Women. While most of these studies provide strong evidence to support doula integration, studies can be improved by paying attention to race and cultural concordance between doulas and patients, selecting participants from a wide range of SES backgrounds, and including both high and low-risk pregnancies. Studies tend to look at one or two of these aspects but do not typically consider all three at once.

Research shows that the risk of experiencing poor birth outcomes for African American women in the United States is equal regardless of SES (Geronimus, 1992; Geronimus et al., 2006; Martin et al., 2017; Saluja and Bryant, 2021; Soteriou, 2022; Fleszar et al., 2023). Yet, many studies only select low-income women to participate in their investigations. The lack of diversity within the candidate selection population inaccurately describes the general population of African American women affected by maternal mortality. Studies also tend to analyze low-risk pregnancies or high-risk pregnancies. There are not many studies that include all pregnancies regardless of the degree of risk. Some studies have analyzed race and cultural concordance between doulas and patients, while others analyze the doula-mother dynamic without considering the concordance aspect.

The African American community is extremely diverse and heterogeneous. A study that is aimed to represent the African American community needs to include a diverse study population to get accurate results. For this reason, our goal is to conduct a study that looks at the effects of integrating race and cultural-concordant doulas into the birthing experience of African American women of various SES backgrounds. Our study also attempts to equally include both high-risk and low-risk pregnancies. This study is unique as it will combine aspects that are not typically studied together.

Experimental Flow Diagrams



Outcome measures: The primary outcome measure will be cesarean delivery. Secondary outcomes will be labor induction, preterm birth (< 37 weeks 0 days of gestation), low birth weight (< 2500 g at birth), neonatal intensive care unit (NICU) admissions, post-partum anxiety or depression, rehospitalization within 60 days of delivery, and emergency room (ER) visits from pregnancy complications within 30 days of delivery (Falconi et al., 2022; Mottl-Santiago et al., 2023).

Experimental Description

Participants:

This study will focus on African American women from a variety of SES backgrounds who are all at least 20 weeks pregnant. There will be a mixture of low-risk and high-risk pregnancies.

Expectant mothers can be identified and referred to participate in this study by health professionals, social workers, counselors, school nurses, obstetrics and gynecology (OB/GYN) offices, nonprofit agencies, schools, college campuses, community settings like churches and libraries, through peers, or self-referral (Gruber et al., 2013).

Participants of this study will randomly be placed into a routine care group or a doula group. Those placed in the doula group will have the opportunity to work with a doula at no cost. Additionally, women in both groups will have the opportunity to participate in health education classes offered by local public health agencies on folic acid, nutrition, breastfeeding, smoking and substance abuse cessation, safe sleeping, neonatal care, and maternal mental health. The classes will be conducted to educate and offer peer support to mothers (Mottl-Santiago et al., 2023).

Conditions:

To participate, women must be at least 18 years of age and willing to attend one introduction/ informational meeting that explains the details of the study and gives women proper documents to obtain their written informed consent. Women must also agree to a postpartum interview, which will be used in part to gather some outcome measures and to learn how to best support participants after the completion of the study.

Study group assignments:

Participants will be randomized 1:1 either to a doula intervention or a routine care group. Computer-generated randomization will be performed by an outside statistician. Researchers will be blind to which groups the women are assigned to. The women will receive a packet of information with details about which group they are assigned to and how they are to proceed according to their group assignments (Mottl-Santiago et al., 2023).

Doula Group

Women assigned to the doula group will be randomly assorted and assigned to a concordant group or a non-concordant doula group based on race/culture, again, via computer-generated randomization by an outside statistician (Mottl-Santiago et al., 2023).

Women assigned to have a doula will be provided with a primary doula based on the availability of both the mother and doula and the mother's due date. A secondary doula will also be assigned, in case the primary is not available when the woman goes into labor. The doula groups will have access to standard, interdisciplinary maternity care services with their regular OBGYN, or if needed, we will work with the mothers to help them choose a physician or midwife that will work with her assigned doula (Gruber et al., 2013).

Doula services include:

- Between one and eight, two-hour prenatal home visits determined by the mother's preferences and needs
- Continuous support through labor and birth
- Between one and eight, two-hour postpartum home visits through six to eight weeks postpartum. Prenatal and postpartum activities including peer education, navigation of social and medical services, and social support. During labor, Doulas provide physical and emotional comfort measures, as well as amplify the voice of the laboring mother with the health care team (Gruber et al., 2013; Mottl-Santiago et al., 2023).

Non-Doula group

Participants randomized to the routine care group will have access to standard, interdisciplinary maternity care services with their regular OBGYN, or if needed we will work with the mother to help her choose a physician or midwife. The non-doula group will be followed through delivery, and their outcome data will be used as the control for the doula group (Mottl-Santiago et al., 2023).

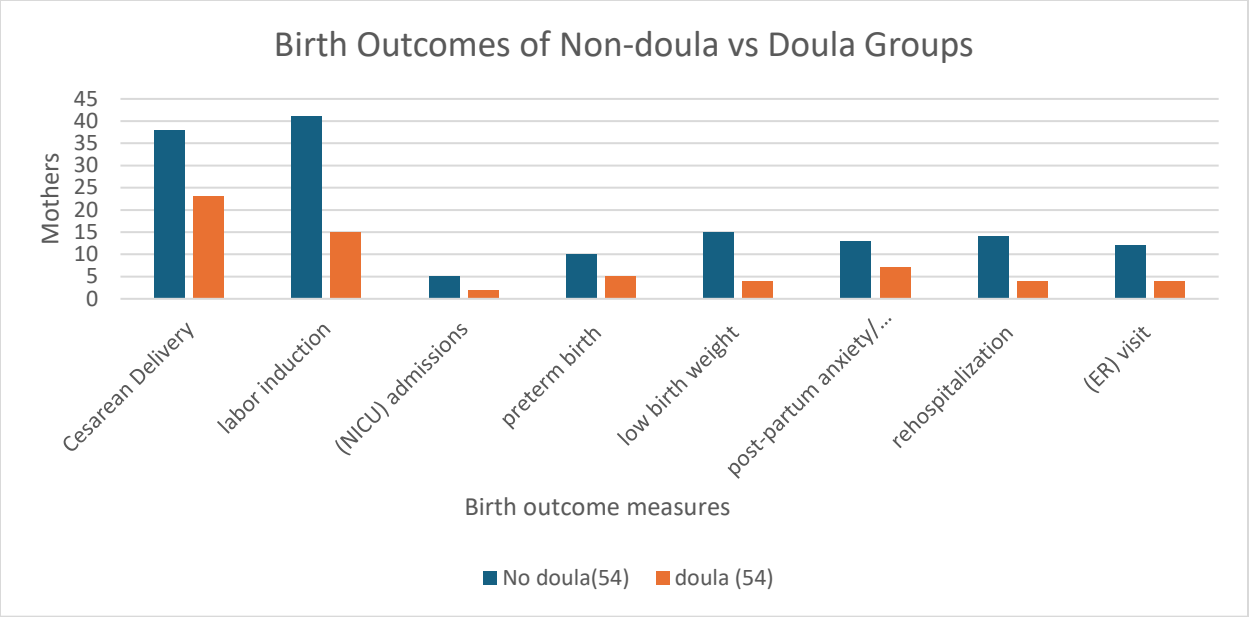
Outcome measures:

The primary outcome measure will be cesarean delivery. Secondary outcomes will be labor induction, preterm birth (< 37 weeks 0 days of gestation), low birth weight (< 2500 g at birth), neonatal intensive care unit (NICU) admissions, post-partum anxiety or depression, rehospitalization within 60 days of delivery, and emergency room (ER) visits from pregnancy complications within 30 days of delivery (Falconi et al., 2022; Mottl-Santiago et al., 2023).

Data Analysis and Results:

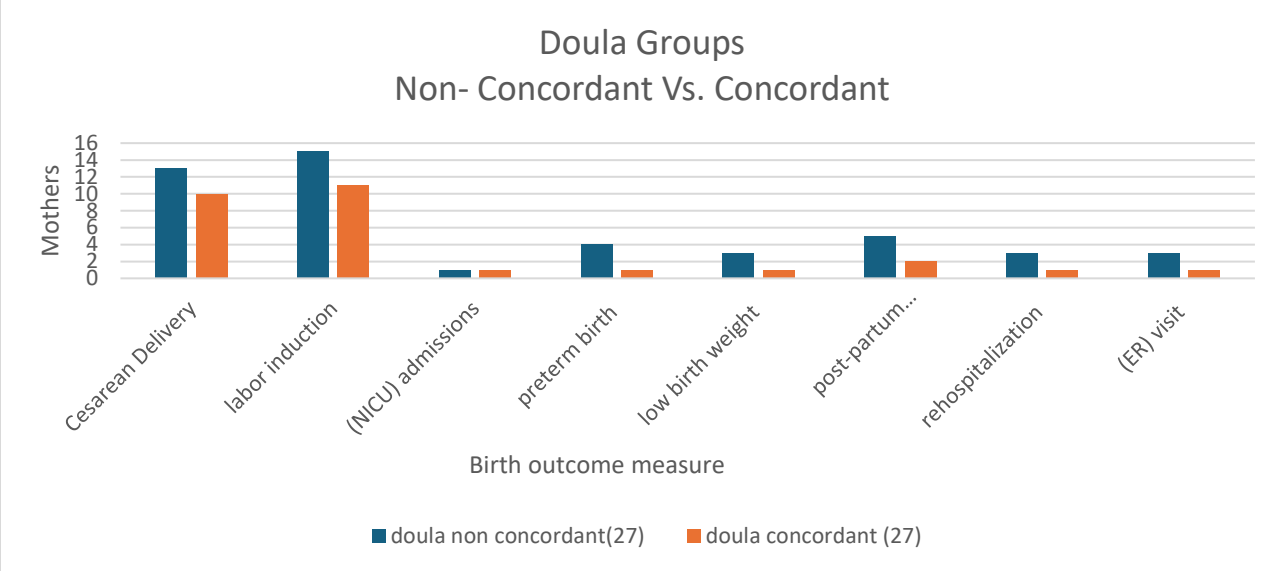
Data for outcome measures were obtained from the electronic medical records and participant postpartum interviews.

Graph 1.



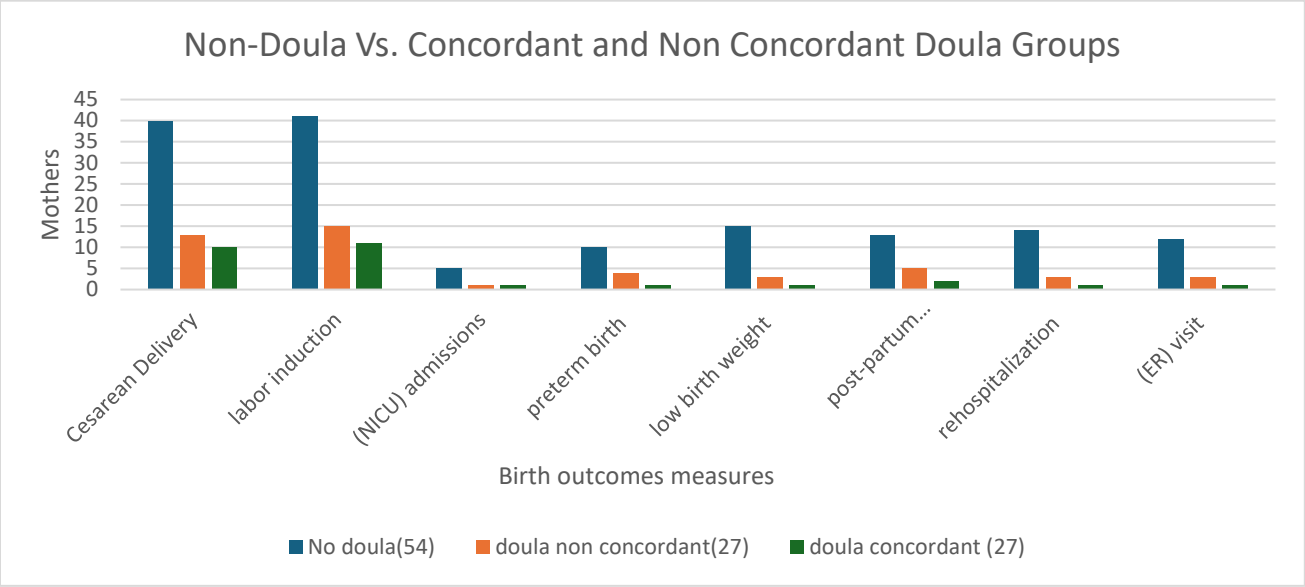
Graph 1 There was a statistically significant reduction in birth outcome measures associated with poor maternal health, among women who were part of the doula intervention group versus women who received standard care.

Graph 2



Graph 2 Between concordant and non-concordant doula groups, there was a statistically significant decrease in birth outcome measures associated with poor maternal health.

Graph 3.



Graph 3 This shows an increase in birth outcome measures associated with poor maternal health in the non-doula group when compared to both doula groups.

Discussion:

We hypothesized that women assigned to have a doula in addition to standard care would see a decrease in negative birth outcomes associated with poor maternal health like cesarean section, pre-term birth, and NICU admission. Graph 1 shows that our hypothesis was correct. We saw a statistically significant decrease in negative birth outcome measures among women who gave birth in the doula group compared to the non-doula group.

We hypothesized that women who gave birth with the assistance of a race/culturally concordant doula would see even better outcomes than we saw in the non-concordant doula group. This hypothesis was also correct. Graph 2 shows there was a statistically significant reduction in negative birth outcomes in the concordant vs non-concordant doula groups. Graph 3 shows the control groups and the concordant and non-concordant groups together. The graph shows an overview of the overall reductions in the intervention groups.

Conclusion:

When we look at maternal mortality in the US, it is impossible to discuss this issue without recognizing the great disparity that exists between different racial groups (Tikkanen et al., 2020). African American maternal mortality rates have consistently been 3-4 times higher than other races for years (Njoku et al., 2023; Snipe, 2023). Recently, there has been a push to develop programs that aim to address this issue. One such initiative aims to integrate doulas into the birth experience of African American women, based on data that proves that doulas play an important role in reducing

health disparities by facilitating communication between pregnant women and their providers and supporting women during the prenatal period, labor and delivery and postpartum (Falconi et al., 2022; Sayyad et al., 2023; Stryker, 2023).

Many studies have been conducted concerning this issue. However, most studies restrict their study population to low-income African American women who have either low-risk or high-risk pregnancies. We found that this type of segmentation of the study population limits the data that can be obtained from these studies.

Studies that limit their population to low-risk pregnancies exclude the population of African American women who would be more likely to experience negative birth outcomes. Studies that only look at high-risk pregnancies may overestimate the impact of their interventions. Not including a mix of various pregnancy types can introduce selection bias into the study and lead to inaccurate data (Sayyad et al., 2023).

We also find issues with the lack of diversity within the selected study populations. Research has proven that high SES African American women, including well-known celebrities and athletes and other high-earning and highly educated women, face the same risk or even higher risk of dying during childbirth, as low SES women. Yet, low-income women are most typically used for these studies. For this reason, it's imperative to include various SES backgrounds in these types of studies to get an accurate view of how the intervention will affect the population (Geronimus, 1992; Geronimus et al., 2006; Martin et al., 2017; Saluja and Bryant, 2021; Soteriou, 2022; Fleszar et al., 2023).

Additionally, many studies mention the importance of cultural/race concordance in the discussion about doula utilization among African American women. Research has shown that concordance between healthcare providers and patients could reduce the rates of cesarean sections, preterm birth and low birth weight babies, and other negative birth outcome measures (Sobczak et al., 2023). Yet, there are limited studies that consider this factor and fail to match African American women with race/cultural concordant doulas in their studies.

We wanted to conduct a study that better reflected the African American birthing experiences than we have seen in the literature. For this reason, we recruited a very diverse study population. We looked at African American women from various SES backgrounds. Our sample population was also heterogeneous concerning the degree of pregnancy risk. We also included an element of race/culture concordance in our study.

African American maternal mortality is an important issue in the United States; however, very little action has been taken to bring real change on a large scale. Because of this, many states have been working internally to make changes on the local level. California and other states already have doula reimbursement programs and initiatives that aim to improve African American maternal mortality. These programs, however, are targeted at low-income women insured through Medicaid. We hope that our research will help local and national governments understand that integration of race/cultural concordant doulas into the birth experience of African American women of all backgrounds will help to improve birth outcomes overall. Of course, this will not solve the issue completely, but we believe that by ensuring African American pregnant women have access to a doula in the same way we ensure that she has access to a physician, we will be making steps in the right direction to finally reducing African American maternal mortality in this country.

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