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# The Impact of Midwifery Care on Racial Disparities in African American Women and Infants

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# THE IMPACT OF MIDWIFERY CARE ON RACIAL DISPARITIES IN AFRICAN-AMERICAN WOMEN AND INFANTS

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# Racial Disparities in African-American Women and Infants

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Abstract

Background/Purpose: The purpose of this paper is to critically examine scholarly writings to understand the history and current manifestations of racism in maternal and perinatal outcomes and reproductive health care and to provide insight on how midwives can be impactful to the health disparities that impact Black women and infants.

Theoretical Framework: Dr. David Williams created a framework for understanding the relationship between race and health. Understanding the differential distribution of adverse health consequences within racial groups is essential to developing effective solutions to these problems. Race is constructed of biological factors, social, and economic structures by which groups live and can shape values and behaviors that have health consequences. This framework is relevant due to racism experienced by African-American women, which creates adverse birth outcomes.

Methods: Twenty research articles were critically reviewed with the purpose of evaluating the relationship between birth outcomes for African-American pregnant woman and low-birthweight infants, and the impact of midwifery care for this patient population.

Results/Findings: The literature review shows that within African-American populations there is a health disparity of maternal mortality and infant mortality within the United States. This health disparity in African-American women can be broken up into three causal categories: racism, implicit bias, and stress. The articles support that midwives have the ability to lower the incidence of low birth weight in African-American infants through the quality care that they provide to women. Some articles support birth centers as a place where African-American women can go and receive quality care from midwives in a safe and comfortable environment; this is one of the ways that midwives are able to address the racism and stress that African-Americans experience which, in-turn, leads to negative birth outcomes.

Implications for Research and Practice: The literature review consistently demonstrated that additional research is needed to enhance the understanding between the complex relationship of racism and birth outcomes. Literature demonstrates that birth weight has decreased in recent years, and reductions were greater in infants born to African-American women. It is therefore important to continue to assess why this disparity is growing, so that preventative interventions can be put into place. The support women receive during pregnancy is correlated with improved outcomes, and ongoing research that identifies the impact of public health interventions on Black maternal and infant health is necessary.

*Keywords:* African-American women, racial disparities, racism, implicit bias, pregnant, pregnancy outcomes, birth outcomes, adverse birth outcomes, low birth weight, midwifery, and birth centers.

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## Chapter 1: Introduction

Racial and ethnic disparities are detrimental to maternal and perinatal outcomes and healthcare quality. The disparities that exist are not straightforward, rather, they are inequities that systematically and adversely impact underprivileged groups of women. Recent research has demonstrated that racial and ethnic-minority women experience higher lifetime exposure to chronic stressors, which may increase their risk for poor pregnancy outcomes (Dominguez, 2011). According to Alhusen, Bower, Epstein, and Sharps (2016), minority women suffer from more maternal deaths, comorbid illnesses, and adverse perinatal outcomes than White women. In addition, factors such as race and ethnicity have been shown to impact perinatal care.

Black women are three to four times more likely to die from pregnancy-related causes and have more than a twofold greater risk of severe maternal morbidity than White women (Howell et al., 2018). Evidence establishes that Black women have increased rates of postpartum hemorrhage, venous thromboembolism, and infection during or following birth (Howell et al., 2018). Many of the same adverse perinatal outcomes, including infant death, are more widespread amongst Black women than White women. Black infants die before one year of life at more than twice the rate of White infants (Alhusen et al., 2016). Rates of infant mortality serve as one of the most significant measures for determining the health and social wellness of a community and can often imply failure of multiple systems (Mkandawire-Valhmu et al., 2018). The United States 2020 benchmark for infant mortality is 6.0 infant deaths per 1,000 live births. However, more Black infants die per 1,000 live births than White infants across the nation. Preterm birth is the most frequent predecessor to infant mortality (Mkandawire-Valhmu et al., 2018).

The preterm birth rate for Black women is 1.6 times greater than the preterm birth rate for White women, and preterm birth–related infant mortality is three times higher in Black women compared to White women (Alhusen et al., 2016). The incidence of low birth weight in 2013 was 8.02% for all infants in the United States; however, amongst Black infants the incidence was 13.1%, with preterm birth being the dominant cause for the difference in infant mortality rates. Preterm birth accounts for 54% of the infant mortality rate between White and Black infants (Alhusen et al., 2016).

Efforts to improve Black maternal and infant health too often disregard the racist origin of the problem, which is socially and economically implanted in the structures of institutions that influence the health of Black women and infants. Research demonstrates that integrating midwives into the healthcare system is associated with improved outcomes for mothers and babies (American College of Nurse Midwives [ACNM], 2018). According to Guerra-Reyes and Hamilton (2017), midwifery care has been clearly linked to progressive birth outcomes; however, there is insufficient evidence about the role of minority women in either providing or receiving this type of care. This paper will provide a critical review of the literature to identify interventions that may offer possible solutions.

**Statement of Purpose**

The purpose of this paper is to critically examine scholarly writings to understand the history and current manifestations of racism in maternal and perinatal outcomes and reproductive health care. Specifically, it explores how the multifactorial nature of racism, including review of stress-induced pathways and perpetuated racism, may negatively impact pregnancy and manifest itself in ways such as low birth weight in Black infants. Historically, midwives have made a positive impact on the health outcomes for women and infants. Relatively, the ultimate purpose

of this paper is to provide insight on how midwifery care can specifically be impactful to the health disparities of Black women and infants.

**Evidence Demonstrating Need**

All women deserve to receive compassionate, safe, prenatal care, which fosters an environment that allows for their growing babies to thrive and for them to feel well supported and cared for. In order for that to be a viable outcome for Black women, a strong persistence is required to confront racism and the social inequities that result from it. In the United States, we have a healthcare system that is progressive, provides ready access to a variety of services, and offers rapid advance of medical technology for those with stable coverage, which unquestionably improves the health status for millions of American citizens. Therefore, it is important to understand why maternal and infant mortality rates are consistently higher amongst Black women and infants.

It is well established that marked racial and ethnic disparities exist in maternal and perinatal outcomes. These disparities have persisted for years and are related to a variety of factors that offer several explanations. Giscombé and Lobel (2005), examined explanations for these differences in rates of adverse birth outcomes and outline the following factors: (a) ethnic differences in health behaviors and socioeconomic status; (b) higher levels of stress in African-American women; (c) greater susceptibility to stress in African-Americans; (d) the impact of racism acting either as a contributor to stress or as a factor that exacerbates stress effects; and (e) ethnic differences in stress-related neuroendocrine, vascular, and immunological processes.

The review of literature indicated that each explanation has some merit, yet no one factor offers a well-rounded explanation. The unremitting nature and multifactorial origins of these disparities present challenges in offering a simple resolution, and it becomes easy to feel that this

is beyond the capacity of the healthcare system to improve or eliminate. Yet, it is vital to adopt an unrelenting disposition as we work towards a solution.

Midwives have great potential in providing an example of how unbiased, culturally relevant care can be provided to all patients, as they work together to identify and implement ways to reduce the effect of racism on health outcomes for Black women and infants. The American College of Nurse Midwives (ACNM) recognizes the disparity among women and infants of color and offers the following statement as to how midwives can impact and improve outcomes:

> Midwives can contribute to the dismantling of structural racism by recognizing and addressing racism in themselves and in their institutions. Research indicates that provider bias is implicated in disparities in health care and that providers treat patients of color differently than White patients. (ACNM, 2018, p. 3)

The ACNM (2018) goes on to highlight that cultural diversity in the healthcare workforce system improves access to care and subsequently impacts the quality of care that Black women receive.

**Significance to Nursing**

The ACNM is committed to eliminating racism and racial bias in the midwifery profession. They are also committed to reducing race-based disparities in reproductive health care. The ACNM's position on racism and racial bias is that midwives must understand the past as well as the present manifestations of racism and White supremacy in medicine, midwifery, and reproductive health care. Therefore, midwives should identify and address the structural forces that carry on racism and race-based disparities in health care. Next, midwives are advised by the ACNM to engage in lifelong introspection and self-development to identify and address their own implicit biases and internalized racism (ACNM, 2018). The last position from the

ACNM on racism and racial bias "is that midwives should provide nonjudgmental, culturally sensitive care to all people" (ACNM, 2018, p. 2). Therefore, midwives should be able to work simultaneously to identify and implement ways to reduce the effect of racism on health outcomes for their patients of color (ACNM, 2018).

The vision of the ACNM is that there would be a midwife for every woman. Midwives are focused on providing holistic and quality care to women throughout their lifespan, especially through a pregnancy and birth. Midwifery care is inclusive to any woman no matter their race, ethnicity, socioeconomic status, beliefs, and culture. One study in the United States compared the birth outcomes of 8,779 women's births between midwives and physicians providing prenatal care (Loewenberg Weisband et al., 2018). Women who received care from midwives were at a lower risk of cesarean and preterm birth and with no increased odds of neonatal intensive care unit admissions, neonatal deaths, or severe maternal morbidity (Loewenberg Weisband et al., 2018). In America, there is a major race-based health disparity, with African-American mothers at a 1.4 to 3.1 times greater risk for a preterm delivery, usually resulting in a 2.6 to 3.3 times greater risk for a low birth weight infant when compared to Caucasian women (Hilmert et al., 2014). Midwives have been shown to have a lower risk of preterm birth and could have an impact on lowering the preterm birth and low infant birth weight rates among African-Americans. Midwives creating a trusting partnership with their patients, lowering stress in women because they feel encouraged and supported by their healthcare provider, make this possible.

Building on the partnership and trusting relationship that midwives create with their patients leads to women feeling safe. Creating a supportive and safe space for African-American women has been shown to lower adverse birth outcomes. This safe space is free of internalized

and structural racism. One way to create a safe space is for midwives to examine their own racial biases and take action to create a nonjudgmental environment within their practice. This could include having a diverse staff of certified nurse midwives of color or looking for ways to care for diverse populations within the community. An example of this is the birth center, Roots, in North Minneapolis, which is run by an African-American midwife and has a diverse staff of African-American women. The goal of Roots is to create individualized care for each woman that is cared for by the midwives and to ensure that each woman feels empowered through the support that she gets at Roots. The birth center has been able to care for a diverse population of women within the community of Minneapolis. This birth center has a 0% preterm birth rate for United States-born African-American mothers compared to 14% of births to African-American women in the United States (Mulrooney Eldred, 2019). This example strongly suggests that midwives have the ability to partner with their patients to create a safe, nonjudgmental, and trusting environment for African-American women, and through their care, could help lower the preterm birth and low birth weight rates of infants.

**Theoretical Framework**

Dr. David Williams of the Centers for Disease Control (1993) created a framework in order to better understand the relationship between race and health. Understanding the differential distribution of adverse health consequences within racial groups is essential to developing effective solutions to these problems (Centers for Disease Control [CDC], 1993). At the time that that framework was developed the United States Government currently recognizes five racial categories: White, Black or African-American, American-Indian or Alaskan-Native, Asian, and Native Hawaiian and other Pacific Islander, and Hispanic or Latino (CDC, 1993). Through this framework, race is not just classified as a biological factor but is made up of

cultural factors, socio-economic factors, racism, and political factors (CDC, 1993). Figure one, pictured below, is the framework model for understanding the relationship between race and health.

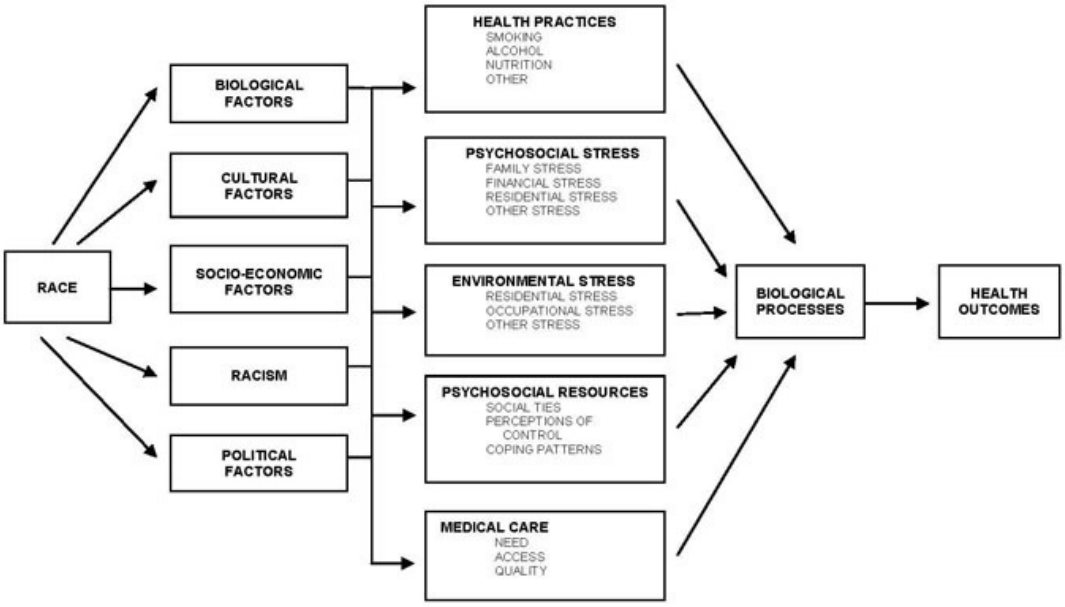


*Figure 1*. Framework showing how race affects health through multiple factors.

The larger societal factors of socio-economic and political affect health through transitional mechanisms and processes, including health practices, psychosocial stress, environmental stress, psychosocial resources, and medical care (CDC, 1993). Health status of an individual is affected through biological mechanisms and processes (CDC, 1993). Race is constructed of biological factors, social, and economic structures by which groups live and can shape beliefs and behaviors that have health consequences. This framework is relevant due to racism experienced by African-American women, which creates adverse birth outcomes. African-American women experience an increase in psychosocial stress due to racism factors, which in turn impacts the health outcome of low birth weight of the newborns. Identifying the biological and sociological factors that make up race and how they affect health outcomes

provides the opportunity for healthcare providers to examine interventions for health disparities experienced by African-American women. Also, this framework shows that medical care is one of the social and external factors that impacts health outcome. Therefore, midwives have the impact to make a positive change in health outcomes for African-American women.

This chapter has presented the question to be explored in this critical review of the literature and has identified the statement of purpose, evidence demonstrating need, significance to nursing and the theoretical framework. The next chapter will address the methods that were taken to search and review the literature.

# Chapter 2: Methods

This chapter will chronicle the procedures used to identify the literature related to disparities in prenatal care and birth outcomes in Black women and infants and the impact of midwifery care on birth outcomes, particularly birth weight. A list of search engines, as well as inquiry key words, that were used will be presented. The process that was employed to determine the relevant studies will be clearly outlined, including criteria for inclusion, exclusion, and a summary of studies selected. Lastly, the mechanism for determining the level and quality of the evidence will be reviewed and the number and type of studies chosen for the review will be identified.

## Summary of Selected Studies

The articles included in this review consist of nine non-experimental studies, two quasi experimental studies, three qualitative studies, two literature reviews, and four articles that include opinions of recognized authorities and/or reports of nationally recognized expert committees. After initially reviewing the abstracts of 52 articles for relevance to the topic, the articles were condensed to the 20 studies that have been included in this critical review. Initial searches produced 52 possible studies to be evaluated. Excluding literature that was older than 2005 or that did not fit inclusion requirements refined this number to 32 articles that were relevant to birth outcomes for African American pregnant woman and low-birthweight infants, and the impact of midwifery care for this patient population. Of these, 20 are included in this review. The studies chosen were all conducted within the United States.

## Search Strategies

The majority of studies were conducted between 2010 and 2019. Three studies were dated prior to 2010, and the studies have been incorporated due to their relevance to the topic.

The following databases were used: CINAHL, Google Scholar, PubMed MEDLINE, Academic Search Premier, and Science Direct. Keywords that were used for the database searches include African-American women, racial disparities, pregnant, birth outcomes, adverse birth outcomes, low birth weight, midwifery, and birth centers.

**Criteria for Inclusion and Exclusion**

The articles that were included in this review of the literature were included based on their exploration of the topic of racial disparity of African-American women having adverse birth outcomes especially with the focus on low birthweight in newborns. Then, articles were included which explored the effect that midwifery care has on low birthweight and lowering the health disparities seen in the African-American population. The majority of the studies were recent, since 2010, and many searches were made for earlier research. However, many of the articles found did not meet the inclusion criteria. There were several factors that went into the exclusion of articles. The main factor was the lack of quantifiable evidence related to African-American women and low birth weight infants. The other main factor was that there was a lack of quantifiable research that midwifery care had a direct impact on the birthweight of African-American newborns. Additional exclusion factors were the quality and the age of the study.

**Evaluation Criteria**

The Johns Hopkins Research Evidence Appraisal Tool was utilized to evaluate the strength and quality of the articles selected for review (Dearholt & Dang, 2012). The level of evidence for the final 20 articles was appraised on a scale of I-V. Level I includes experimental studies, randomized controlled trials, and systematic review of RCTs, with or without meta-analysis. Level II evidence includes quasi-experimental studies, systematic reviews of quasi-experimental or mixed quasi-experimental and RCTs. Level III studies include non-

experimental, systematic reviews of combination RCTs, or mixed quasi-experimental and non-experimental studies. Qualitative studies or systematic reviews with or without meta-analyses are also included in Level III. Level V studies are based on experiential and non-research evidence and include literature reviews, quality improvement, program or financial evaluation, case reports and opinion of nationally recognized experts(s) based on experiential evidence. Following the determination of level of evidence, the articles were then reviewed for quality. Classifications for quality are high quality (A), good quality (B) or low quality or major flaws (C), and are dependent on several elements identified in each level. The factors included in the determination of quality are based on the consistent and generalizability of the results, sufficient sample sizes, definitive conclusions made, and included consistent recommendations based on scientific evidence (Dearholt & Dang, 2012). These criteria apply to Levels I-III. Level V has alternative criteria, however, and is also classified as low, good, or high quality. In Level V, the factors included in the determination of quality are based on clear aims and objectives; consistent results across multiple settings; formal quality improvement, financial or program evaluation methods used; definitive conclusions and consistent recommendations with thorough reference to scientific evidence (Dearholt & Dang, 2012). Of the twenty articles, three were Level II, twelve were Level III, four were Level IV, and one was Level V. The studies ranged from good to high quality.

**Summary**

Literature for this critical review was obtained through use of several databases to identify appropriate research articles for review. The articles were considered based on the inclusion and exclusion criteria for applicability and reduced to 20 articles. Utilizing the

Johns Hopkins Research Evidence Appraisal Tool, the articles were then evaluated for level of evidence and merit of the research.

# Chapter 3: Literature Review and Analysis

This chapter will present the matrix and the synthesis of major findings, and critiques strengths and weaknesses of the most salient studies reviewed.

## Matrix

The matrix includes three qualitative studies, nine non-experimental studies, two quasi experimental studies, two literature reviews and four articles that include opinions of recognized authorities and/or reports of nationally recognized expert committees. The level of evidence and quality of each research study was appraised using the Johns Hopkins Research Evidence Appraisal Tool (Dearholt & Dang, 2012). The matrix includes study design, methods, and descriptions of the samples, pertinent findings, implications for practice, and the quality of each study, literature review or report. The matrix is organized alphabetically per first author's last name. The studies' purpose, design, and pertinent findings were evaluated- and the synthesis of that data is presented in chapter three.

## Synthesis of Major Findings

The 20 scholarly articles appraised in this review support the belief that African-American women experience a health disparity of low birth weight infants. This health disparity in African-American women can be broken up into three causal categories: racism, implicit bias, and stress. The articles also support that midwives have the ability to lower the incidence of low birth weight rate in infants through the quality care that they provide to women. Some articles support birth centers as a place where African-American women can go and receive quality care from midwives in a safe and comfortable environment. The five

main themes that came out of a synthesis of the literature are: racism, implicit bias, stress, midwifery care, and birth centers. These will be discussed here.

**Racism.** Several studies examined the relationship between racial discrimination and adverse birth outcomes in minority women and infants. One literature review demonstrated that the majority of the studies that examined preterm birth, low birth weight, or small for gestational age, as outcomes of interest, found a significant association between racial discrimination and adverse birth outcomes with few exceptions (Alhusen et al., 2016). Another study summarized that racism is deeply woven into United States society and tolerated. Researchers have assumed that African-American race is a genetic factor that places African-American women at higher risk during pregnancy, however nativity patterns suggest that the reproductive disadvantage of African-American women is likely a result of their experiences in the American social system and not an expression of genetic fragility (Dominguez, 2011).

Several studies outlined the impact racism has on the health of pregnancies and how birth outcomes are impacted. A study by Catov, Lee, Roberts, Xu and Simhan (2015), reviewed term pregnancies delivered between 37 and 41 completed weeks of gestation to African-American and White women from 1997 to 2011. The study found that after adjustment for gestational week at birth, maternal characteristics, and pregnancy conditions, birth weight decreased by 2.20 g per year ($p < 0.0001$). Decreases were greater for spontaneous births. Reductions were significantly greater in infants born to African-American women than in those born to White women (−3.78 vs. −1.88 per year; *P* for interaction = 0.010). The results of the study suggest that mean infant birth weight has decreased modestly each year since 1997 independent of maternal characteristics and

clinical conditions. Of note, these reductions appear to be larger in infants born to African-American women than in those born to White women, which raises the possibility that race disparities in fetal growth might be increasing (Catov, Lee, Roberts, Xu and Simhan, 2015).

To further evaluate the depth of racism and its impact on pregnancy, a study by Hilmert et al. (2014) examined how lifetime exposure to racism, in combination with maternal blood pressure changes during pregnancy, was associated with fetal growth. African-American pregnant women (n = 39) reported exposure to childhood and adulthood racism in several life domains (e.g., at school, at work), which were experienced directly or indirectly, meaning vicariously experienced when someone close to them was treated unfairly. A research nurse measured maternal blood pressure at 18 to 20 and 30 to 32 weeks gestation. Standardized questionnaires and trained interviewers assessed maternal demographics. Neonatal length of gestation and birth weight data were collected from medical charts. The study found that childhood racism interacted with diastolic blood pressure to predict birth weight. Specifically, women with two or more domains of indirect exposure to racism in childhood and increases in diastolic blood pressure between 18 and 32 weeks had lower gestational age adjusted birth weight than the other women. A similar pattern was found for direct exposure to racism in childhood. Comparatively, a study by Prather, Fuller, Marshall, and Jeffries (2016), looked at the interpersonal, community, and societal levels in which racism exist and concluded that widespread health implications of racism are evident as race-based mistreatment has been shown to place African-American women at increased risk for HIV/STIs, pregnancy-related complications, and early mortality.

In an effort to provide a voice to what research has suggested, a study by Harper-Hanigan, Ross, Sims, Trotter, and Turman (2017) brought together a group of women with varying levels of birth experience. Individual in-depth, in person, and telephone interviews were used to collect participants' perceptions of birth outcomes. The needs assessment identified that, although women have experience with adverse birth outcomes, these experiences are not discussed resulting in a lack of awareness of the widespread racial disparities in birth outcomes and the efforts and resources to address this public health problem (Harper-Hanigan, et al., 2017).

**Implicit bias.** Implicit bias differs from racism, as it refers to the attitudes or stereotypes that affect understanding, actions, and decisions in an unconscious manner and cause attitudes about other people based on personal characteristics (Howell et al., 2018). These biases can unconsciously affect a clinician's perceptions and decisions, thereby creating disparities in access, patient–provider interactions, treatment decisions, and health outcomes. These biases are pervasive, subconscious, and activated involuntarily (Howell et al., 2018). One study showed that despite Black women being at greater risk of preterm birth than White women, they were less likely to receive treatments such as progesterone that have been associated with preterm birth reduction (Howell et al., 2018). Findings through comprehensive and systematic reviews have indicated that adverse outcomes were most frequently related to patient–provider interactions, emphasizing the importance of communication and the need for health care providers to be aware of their own implicit biases given their influence in the setting of cross-cultural communications (Howell et al., 2018).

**Stress.** Many studies reviewed the impact that stress has on pregnancy in African-American women. In a study conducted by Giscombé and Lobel (2005), birth outcomes and the existing ethnic disparity in low birth weight, preterm delivery, and infant mortality were examined, along with the causes of disproportionately high adverse birth outcomes among African-Americans, including stress levels and ethnic differences in stress susceptibility. Five explanations for these differences in rates of adverse birth outcomes were reviewed and included: (a) ethnic differences in health behaviors and socioeconomic status; (b) higher levels of stress in African-American women; (c) greater susceptibility to stress in African-Americans; (d) the impact of racism acting either as a contributor to stress or as a factor that exacerbates stress effects; and (d) ethnic differences in stress-related neuroendocrine, vascular, and immunological processes (Giscombé & Lobel, 2005, p. 1). The study concluded that African-American women may be more susceptible to the adverse impact of prenatal stress on birth outcomes, as the vast majority of African-American women experience racism, which heightens their allosteric load, or cumulative burden.

Whether racism is conceptualized as a form of stress, or whether it is a different construct that exacerbates the impact of stress, there is increasing evidence from recent studies that racism is associated with adverse birth outcomes in African-American women. A study by Nuru-Jeter et al. (2008) compares the material (housing, lack of transportation, financial challenges) and psychosocial factors that significantly and negatively affected African-Americans more than Caucasians and were associated with increased adverse outcomes. The study utilized a focus group of 40 socioeconomically diverse African-American women of childbearing age in four northern California cities. The study reviewed how stress, due to experiences of racism, could contribute to African-American women's

adverse birth outcomes. Women highlighted several experiences and reported experiencing racism and stress (1) throughout their life course, with childhood experiences seeming particularly salient and to have especially enduring effects (2) directly and vicariously, particularly in relation to their children; (3) in interpersonal, institutional, and internalized forms; (4) across different life domains; (5) with active and passive responses; and (6) with pervasive vigilance, anticipating threats to themselves and their children The study concluded that in comparison to Caucasian women, African-American women are at higher risk of adverse outcomes due to both psychosocial stress and meso-level deprivation, after accounting for personal factors (Nuru-Jeter et al., 2008).

In considering protective measures that African-American women can have in place against poor birth outcomes, a study by Owens and Jackson (2015) explored how childhood and adulthood socioeconomic position (SEP) and socioeconomic mobility impact the relationship between contextualized stress and depression among well-educated, pregnant African-American women. African-American women (N=101) in their first and second trimesters participated in a cross-sectional study that was conducted between 1999 and 2003 in metropolitan Atlanta. The study revealed that education is not as protective for the birth outcomes of African-American women as expected. Findings consistently reveal that well-educated African-American women experience worse birth outcomes than women from other racial and ethnic groups with less education, fewer economic and material resources, and limited access to health care (Owens & Jackson, 2015).

To further evaluate how stress impacts the pregnancies of African-American women, a study by Simon et al. (2016) looked at the cortisol awakening response between African-American and Caucasian pregnant women. A total of 114 women (56 African-American and

58 Caucasian) in their third trimester, 32-40 weeks gestation, compromised the sample. For women to be eligible to be a part of the study they had to be pregnant, English speakers, at least 18 years old, and less than 23 weeks gestation at time of enrollment. The results revealed that women in the sample showed normative cortisol diurnal rhythms (high on waking, peak 30 min post-waking, lowest at bedtime), and found that African-American women had blunted (smaller) awakening responses compared to Caucasian women ($p<0.05$). This study supported the belief that there is an increased stress within African-Americans due to perceived discrimination. Prenatal stress was linked to a variety of poor psychosocial, birth, and developmental outcomes for mothers and offspring.

**Midwifery care.** For women whose pregnancy and birthing experiences were managed by physicians and those whose pregnancy and birthing experiences were managed by midwives, the women were classified according to prenatal care and provider type which was midwives versus physicians. The sample of this study was pregnant women who had low risk pregnancies. The birth outcomes between the groups were compared using the intent-to-treat analysis (Loewenberg Weisband et al., 2018). Then, modified Poisson regression was used to calculate adjusted risk ratios (aRRs) for common outcomes and then the logistic regression with Firth's bias correction to adjusted odds ratios (aORs) for rare outcomes (Loewenberg Weisband et al., 2018). The outcomes from this study were patients that received midwifery care had increased odds of postpartum hemorrhage and shoulder dystocia (aOR, 3.26: 95% CI, 1.40-7.58, and aOR, 1.80, 95% CI, 1.01-3.22 respectively). However, the evidence is among the women that were cared by midwives were associated with substantially fewer preterm births and labor interventions (Loewenberg Weisband et

al., 2018). With this evidence, midwives could bridge the gap to care for African-American women and help prevent low birth weight in African-American newborns.

Another study examined African-American midwives providing care and support in the United States. This study was a qualitative design and the researchers focused on a thematic analysis approach by identifying 28 websites that were about African-American nurse-midwives' practices and perspectives (Guerra-Reyes & Hamilton, 2017). The study found that the mission statements, roles, advocacy, and birth care were centered on African history, the current African-American struggles, and advocating for quality care for minorities in America (Guerra-Reyes & Hamilton, 2017). The evidence concluded that midwives of color can help bridge the gap of racial disparities in minorities in the United States. The limitations from this study include the methodology of the study created limitations of the providers' and patients' experiences because there was not direct contact with the providers and patients.

Midwives have the ability to conduct pregnancy-centered care for their patients and a study by Mkandawike-Valhmu and Lathen (2018) that was conducted in Milwaukee, Wisconsin, looked at the impact that has on women's lives. Centering Pregnancy is a promising innovated prenatal care group visit that provides substantial health promotion content and can be led by a midwife. The evidence showed that women who were involved in the Centering Pregnancy had significantly more prenatal visits, increased weight gain, increased breastfeeding rates, and higher overall satisfaction rates (Mkandawire-Valhmu et al., 2018). Midwives have the ability to conduct Centering Pregnancy care with African-American women and create a safe place for them to feel supported and cared for. Midwives have the ability to provide quality care for women and have a lower rate of preterm birth.

Midwives could bridge the gap of African-American women's low birth rate and through their quality care help lower this health disparity. African-American midwives could help bridge this gap more efficiently through their personal experience and their mission to address the poor birth outcomes that are experienced by African-American women. Midwives have the ability to lead Centering Pregnancy so that African-American women have a supportive group that has been shown to have positive birth outcomes in women. A study by Guerra-Reyes and Hamilton (2017) proposed that African-American women and families lack awareness about midwifery care an option and lack access to it.

**Birth centers.** Birth centers that are focused on minorities and have been created in order to meet the needs of these populations based on past and current African-American struggles have the ability to address the racial disparities in the United States. Birth centers have the ability to create a safe place for African-Americans to be cared for and supported through their pregnancy. A study that was conducted by the Milwaukee Birthing Project (MBP) looked at creating a safe and supportive place of pregnant African-American women. The study classified these spaces as: (1) community spaces lacking support (2) safe spaces of belonging and accepting, (3) spaces that foster meaningful interaction, and (4) safe, supportive spaces for other women in the future (Mkandawire-Valhmu et al., 2018). Birth centers have the ability to create a safe and supportive space for women that are at risk for poor birth outcomes to help make a better future for minorities in the United States. A study looked at a birth center in Washington, D.C., that was run by a nurse midwife that cared for African-American women. The women from the birth center reported being treated with respect, being encouraged and shown to take charge of their own pregnancies, and being supported to birth their own babies (Watson Lubic & Flynn, 2010). This birth

center over the last ten years has been able to provide quality care to African-American women and have a positive influence on birth outcomes and is a great example of how birth centers can create a safe space for African-American women (Watson Lubic & Flynn, 2010).

Another example of this is a birth center that is in North Minneapolis and has had a positive influence on African-American women in the area. These are some of the statistics that show the positive influence the birth center has had on the women in the area, a 4% C-section rate (compared to 31.9% nationally), a breastfeeding rate of 99% at one year (compared to 35.9% nationally), a 97% success rate for vaginal births after cesareans (compared to 60-80% nationally), a 0% preterm birth rate for United States-born African-American mothers (compared to 14 percent of births to African-American women in the United States) (Mulrooney Eldred, 2019). The evidence from these studies shows the ability that birth centers have in creating safe places for African-American women to have babies and lower poor birth outcome rates.

**Strengths and Weaknesses of the Most Salient Studies**

Alhusen et al. (2016) reviewed various studies with a variety of sample sizes and instruments used to measure racial discrimination, variables included in final analytic models, and time period assessed with regard to racial discrimination. The study thoroughly examined preterm birth, low birth weight, or small for gestational age as outcomes of interest and drew conclusions between racial discrimination and adverse birth outcomes with few exceptions. The authors thought the study was limited by the wide-ranging definition of race, with the majority of studies using self-identified-race. Furthermore, the

majority of the reviewed studies did not test for moderation or mediation by other variables that have been independently linked to both the exposure and outcome variables of interest.

Catoy et al. (2015) performed a large study over many years, allowing for researchers to detect developments or changes in the characteristics of the target population on several levels. The longevity of the study allowed for sufficient exploration of the relationship between race disparities and the impacts on fetal growth. The authors highlighted that the limitations were that many relevant features of pregnancy were unavailable, including serial blood pressure measurements, placental characteristics, and biomarkers of pathways that may play a role, such as insulin resistance and inflammation. Other important characteristics, such as whether the pregnancy was intentional, were not available, and the study was unable to determine whether gestational age dating via ultrasound differed by maternal race.

Giscombé and Lobel (2005) reviewed and drew conclusions on the simultaneous investigation of ethnicity, sociodemographic variables, stress, racism, coping, health behaviors, and biological pathways, with regard to the increasing evidence from recent studies that demonstrate that racism is associated with adverse birth outcomes in African-American women. The study highlights the susceptibility to the adverse impact of prenatal stress on birth outcomes in African-American women. The study was, however, limited by the variation in the influence of ethnic group heterogeneity on birth outcomes and concluded that there is a need for an accurate assessment of racism, more sophisticated measurement of socioeconomic status (SES), particularly measures that have been shown to offer validity across ethnic groups.

The common limitations expressed in several studies was a need for more research to be done in understanding the impact of critical psychosocial variables such as stress and racism, and how their complex interactive effects with behavior and physiology may illuminate how the life experiences of African-American women influence birth outcomes. These experiences subsequently impact the care and support African American women need during pregnancy.

**Summary**

This chapter presented the matrix and a synthesis of the major studies and articles found through a critical review of the literature. Twenty articles were reviewed and summarized in the matrix. The matrix was organized by the Johns Hopkins level of evidence, the purpose of the research, the results, and the limitations and strengths of the studies. The major findings from the studies and articles were synthesized into five main themes: racism, implicit bias, stress, midwifery care, and birth centers. Racism and stress have negative birth outcome effects on African-American women. Midwifery care and birth centers have the ability to address these poor birth outcomes seen in African-American women. Finally, the strengths and weaknesses of the major studies reviewed were discussed.

## Chapter 4: Discussion, Implications, and Conclusions

The purpose of this paper was to critically examine scholarly writings to understand the history and current manifestations of racism in maternal, perinatal outcomes, and reproductive health care. Specifically, to explore how the multifactorial nature of racism may negatively impact pregnancy outcomes, such as low birth weight in Black infants. There were 20 pertinent scholarly articles chosen for critical analysis using the Johns Hopkins Research Evidence Appraisal Tool. After completion of the research appraisal, implications for nurse-midwifery practice as well as deficiencies in the existing literature were uncovered. In chapter four, the implications for midwifery practice and opportunities for future research will be discussed. This chapter will conclude with the integration of Dr. David Williams' theory and framework for understanding the relationship between race and health with respect to how understanding the differential distribution of adverse health consequences within racial groups is essential to developing effective solutions in reducing poor outcomes in maternal and infant health for women and infants of color.

### Literature Synthesis

The principle purpose of this critical literature review was to explore how care provided by midwives can be impactful to Black women and infants and subsequently improve outcomes. Factors included for analysis incorporated midwifery-led care and birth centers. Several outcome variables were taken into consideration and the findings generally showed outcome improvements when prenatal care was midwifery led versus physician led. The environment in which women received care and birthed in and how women were supported during their pregnancy demonstrated improved outcomes as well.

Scholarly studies that were reviewed considered factors that influence pregnancy outcomes including racism, implicit bias, and stress. Black women die at a rate that is three to four times higher than White women from pregnancy related concerns (Howell et al., 2018). Research consistently demonstrates that Black women experience more maternal deaths, comorbid illnesses, and adverse perinatal outcomes than White women and have higher rates of postpartum hemorrhage, puerperal infection, and venous thromboembolism (Howell et al., 2018). In addition, perinatal care has been shown to differ by race and ethnicity. Research supports that disparities persist due to implicit or unconscious bias that can affect a clinician's perceptions and decisions, thereby creating disparities in access, patient–provider interactions, treatment decisions, and health outcomes (Howell et al., 2018). According to Alhusen et al. (2016), the majority of the studies that examined preterm birth, low birth weight, or small for gestational age as outcomes of interest found a significant association between racial discrimination and adverse birth outcomes with few exceptions.

The literature presented a common theme that it is vital for healthcare providers to understand that disadvantage is rooted in the manner in which racism—both interpersonally and institutionally manifested—subsequently impacts African American women throughout their lives and across generations, contributing to poor pregnancy outcomes (Dominguez, 2011). African American women may be more susceptible to the adverse impact of prenatal stress on birth outcomes, as the vast majority of African American women experience racism, which heightens their allostatic load, or cumulative burden. Whether racism is conceptualized as a form of stress, or whether it is a different construct that exacerbates the impact of stress, there is increasing evidence from recent studies that racism is associated with adverse birth outcomes in African American women (Giscombé & Lobel, 2005). A study by Guerra-Reyes and Hamilton

(2017) discusses growing evidence that was found that supported the role of socially patterned maternal stress-possibly over the life course, as a cause of racial disparities in very preterm birth (less than 32 weeks). In a study by Hilmert et al. (2014), African American women who reported greater exposure to racism, especially indirect childhood exposure in the context of increases in diastolic blood pressure between 18- and 32-weeks' gestation, had infants of lower gestational-age adjusted birth weights. This effect appears to be because of restricted fetal growth rather than earlier delivery because timing of delivery was controlled. Exposure to racism and other life stressors are contributors to increased blood pressure to pregnant African American women, therefore, leading to low birth weight babies.

Women who received care from midwives were at a lower risk of cesarean and preterm birth and had no increased odds of neonatal intensive care unit admissions, neonatal deaths, or severe maternal morbidity (Loewenberg Weisband et al., 2018). Midwifery has clearly impacted the overall health of women and infants; however, there is room for improved research on how midwifery specifically impacts the disparities that exist in Black women and infants. One study demonstrated that there were substantially fewer preterm births and labor interventions when care was provided by midwives (Loewenberg Weisband et al., 2018); however, overall evidence lacked on whether or not pregnancy outcomes improved when care was led by a midwife versus a physician.

Studies by Watson Lubic and Flynn (2010), demonstrated that birth centers have the ability to create a safe and supportive space for women that are at risk for poor birth outcomes. The women that received care from the birth centers reported being treated with respect, were encouraged and shown to take charge of their own pregnancies. When considering how birth centers improve statistics, a study by Mulrooney Eldred (2019) highlighted that a birth center in

North Minneapolis had a 4% C-section rate (compared to 31.9% nationally), a breastfeeding rate of 99% at one year (compared to 35.9% nationally), a 97% success rate for vaginal births after cesareans (compared to 60-80% nationally), and a 0% preterm birth rate for United States-born African-American mothers (compared to 14% of births to African American women in the United States.

**Trends and Gaps in the Literature**

Despite these documented advantages, gaps in the literature remain on how significant birth location and supportive care during pregnancy can directly impact outcomes. Roots Birth Center has clearly demonstrated that by providing a safe space and care offered by midwives, pregnant African American women have improved birth outcomes. However, there are large gaps in the literature regarding this and the recommendation is that more research be done to examine the impact that midwives and birth centers have on providing quality care to minorities in America and therefore improving health disparities. A study by Kilma, Norr, Vonderheid and Handler (2010) concluded that compared to women in individual care, women in Centering Pregnancy (group prenatal care) had significantly more prenatal visits, increased weight gain, increased breast-feeding rates, and higher overall satisfaction. Similarly, there are large gaps in the literature and more research should be conducted to see if Centering Pregnancy care is beneficial to more women and the effects that this has on positive birth outcomes.

**Implications for Nurse-Midwifery Practice**

The literature review shows that within African American populations there is a health disparity of maternal mortality and infant mortality within the United States. Midwives have the ability to provide direct care to this group of women. Midwives are in the position to give quality care in hopes of decreasing maternal and infant mortality. One of the ways that midwives are

able to address racism and stress that African Americans experience and that in-turn lead to negative birth outcomes, is to create a safe and supportive environment for women. The American College of Nurse Midwives (ACNM) is committed to abolishing racism and racial bias in the midwifery profession and race-based disparities in reproductive health care and lay out ways for midwives to address this. Midwives must understand the history and current manifestations of racism within western medicine midwifery, and reproductive health care (ACNM, 2018). Each midwife should engage in lifelong examination of their own implicit bias and internalized racism (ACNM, 2018). Through this process of self-examination, midwives are able to take active steps to equality and address the structural forces that perpetuate racism. Midwives should provide non-judgmental, culturally sensitive care to all people and work on identifying areas to implement ways to reduce the effect of racism on the health outcomes (ACMN, 2018). Through self-examination of racism, addressing race-based disparities in health care, and providing non-judgmental care to all people, midwives are able to provide safe and supportive care to all women. If women feel safe and supported, then there is trust and comfort to bring their child into the world.

**Recommendations for Further Research**

The literature review consistently demonstrated that additional research is needed to enhance the understanding between the complex relationship of racism and birth outcomes. Racial discrimination and implicit bias are significant risk factors for adverse birth outcomes. To best understand the mechanisms by which racial discrimination, implicit bias, and stress impact birth outcomes, and to inform the development of effective interventions that eliminate its harmful effects on health, longitudinal research that incorporates comprehensive measures of racial discrimination is needed (Alhusen et al., 2016). Efforts to resolve racial and ethnic

disparities in maternal health are constrained by lack of reliable data on patient identity (including race, ethnicity, nativity, and language), as well as patient and staff education on the best practices for ascertaining information related to identity (Howell et al., 2018).

Literature demonstrates that birth weight has decreased in recent years, and reductions were greater in infants born to African-American women. It is therefore important to continue to assess why this disparity is growing, so that preventative interventions can be put into place (Catov et al., 2015). The support women receive during pregnancy is correlated with improved outcomes, as demonstrated by one study that showed women enrolled in Women, Infant, and Children (WIC) have reduced incidences of infant mortality rates, especially within the African American population (Khanani, Elam, Heam, Jones & Maseru, 2010). WIC is a great public health intervention for health disparities seen in the African American population. Ongoing research that identifies the impact of public health interventions on Black maternal and infant health is necessary.

**Integration and Application of Theoretical Framework**

The framework created by Dr. David Williams helps demonstrate the relationship between race and health. This framework classifies race as not just a biological factor but also shows that race is made up of cultural factors, socio-economic factors, racism, and political factors. As found in the literature, African American women experience an increase of racism and stress affecting the birth outcome of their infants. Therefore, the framework pictured in Figure 1 helps link how stress and racism can lead to negative birth outcomes in African American women. The framework helps show that these different factors in race can have negative outcomes on health. Knowing that race can have negative outcomes on health will encourage further study as to whether consideration of change within cultural

factors, socio-economic factors, racism, and political factors will improve health outcomes. This framework helps bridge the understanding that stress and racism can lead to an increase in maternal mortality and low infant birth weight in African American women. Therefore, this framework can help link race to the health disparities that are seen in African American women. This knowledge allows health care providers to actively work on improving care to address this health disparity through addressing stress and racism that is seen in African American women.

**Summary**

The purpose of this critical review of the literature was to examine the impact that midwives have on birth outcomes in African American women, and this chapter has presented the literature synthesis. The review of the literature has shown that stress and racism have a negative effect on infant birth weight in African American women, and that midwives have lower rates of low birth rate through their quality care. The gaps in the research include limited research on the effects that midwives have on African American women. The impact of midwifery care as shown through this literature review is that midwives have the ability to provide nonjudgmental and patient-centered care for women. The care of midwives has the ability to lower the low birth rate in African American women. The theoretical framework helps illustrate this by showing that race has an effect on health and demonstrating how African American women could have higher infant low birth weight due to stress and racism.

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Appendix 1 – Literature Review Matrix

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| **Source:** Alhusen, J. L., Bower, K. M., Epstein, E., & Sharps, P. (2016). Racial discrimination and adverse birth outcomes: An integrative review. *Journal of Midwifery & Women's Health, 61*(6), 707-720. doi:10.1111/jmwh.12490 |
| **Purpose:**<br>To review the literature to examine the relationship between racial discrimination and adverse birth outcomes minority infants.<br><br>**Sample/Setting:**<br>Ethnic or racial minority groups in the United States with adverse birth outcomes (preterm birth, low birth weight, and small for gestational age)<br>**Johns Hopkins Evidence Appraisal:**<br>**Strength:**<br>**Level III**<br><br>**Quality: High** |
| **Design (Method/Instruments)**<br>Searches for research studies published from 2009 to 2015 were conducted using PubMed, CINAHL, Scopus, PsycINFO, Web of Science, and Embase. Articles were assessed for potential inclusion using the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2009 framework. The following inclusion criteria was used: 1) original quantitative or qualitative research; 2) studies that clearly delineated the relationship between racial discrimination and adverse birth outcomes, or that included racial discrimination in relation to a factor known to contribute to adverse birth outcomes; 3) studies that included racial and ethnic minority women (and related terms); 4) conducted in the United States; and 5) published in an English language peer-reviewed journal. |
| **Conclusion:**<br>The majority of the studies that examined preterm birth, low birth weight, or small for gestational age as outcomes of interest found a significant association between racial discrimination and adverse birth outcomes with few exceptions. |
| **Strengths:**<br>Various studies were reviewed, with a variety of sample sizes and instruments used to measure racial discrimination, variables included in final analytic models, and time period assessed with regard to racial discrimination<br><br>**Limitations:**<br>The method of defining race was wide ranging across studies with the majority of studies using self-identified race. None of the studies reviewed sought to further differentiate Black or African American women into different subgroups, such as Black Caribbean.<br>The studies included were quite varied with regard to sample size and sampling methods.<br>The majority of the reviewed studies did not test for moderation or mediation by other |

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| variables that have been independently linked to both the exposure and outcome variables of interest. |
| **Author Recommendations:**<br>Racial discrimination is a significant risk factor for adverse birth outcomes. To best understand the mechanisms by which racial discrimination impacts birth outcomes, and to inform the development of effective interventions that eliminate its harmful effects on health, longitudinal research that incorporates comprehensive measures of racial discrimination is needed. Additional research is needed to enhance our understanding of the complexity of the relationship between racism and birth outcomes. |
| **Implications:**<br>This study and continued research have the ability to encourage and assist health care providers in fully acknowledging and addressing the psychosocial factors that impact health outcomes in minority racial/ethnic women. |

**Source:**
Catov, J. M., Lee, M., Roberts, J. M., Xu, J., & Simhan, H. N. (2015). Race disparities and decreasing birth weight: Are all babies getting smaller? *American Journal of Epidemiology,183*(1), 15-23. doi:10.1093/aje/kwv194

**Purpose:**
Explores the relationship between race disparities in fetal growth.

**Sample/Setting:**
Term pregnancies delivered between 37 and 41 completed weeks of gestation to African-American and White women from 1997 to 2011.

**Johns Hopkins Evidence Appraisal:**
**Strength: Level II**

**Quality: High**

**Design (Method/Instruments)**
Review of race-specific trends in birth weight at Magee-Women's Hospital, Pittsburgh, Pennsylvania, from 1997 to 2011. Among singleton births delivered at 37–41 weeks (n = 70,607), evaluation of the proportions who were small for gestational age and large for gestational age and changes in mean birth weights over time. Results were stratified by maternal race/ethnicity.

**Conclusion:**
After adjustment for gestational week at birth, maternal characteristics, and pregnancy conditions, birth weight decreased by 2.20 g per year ($P < 0.0001$). Decreases were greater for spontaneous births. Reductions were significantly greater in infants born to African-American women than in those born to White women (−3.78 vs. −1.88 per year; P for interaction = 0.010). The results of our study suggest that mean infant birth weight has decreased modestly each year since 1997 independent of maternal characteristics and clinical conditions. Of note, these reductions appear to be larger in infants born to African-American women than in those born to White women, which raises the possibility that race disparities in fetal growth might be increasing.

**Strengths:**
Large study, composed over several years
**Limitations:**
Although there was access to extensive clinical diagnostic information, many relevant features of pregnancy were unavailable, including serial blood pressure measurements, placental characteristics, and biomarkers of pathways that may play a role, such as insulin resistance and inflammation. Other important characteristics, such as whether the pregnancy was intentional, were not available, and study was unable to determine whether gestational age dating via ultrasound differed by maternal race. The patient population that was studied changed over the study period, and the generalizability of findings to the larger population is not clear.

**Author Recommendations:**
There is a need for further studies that assess more specific factors, such as placental features, with serial blood pressure measurements across gestation and across serial pregnancies, are needed to disentangle the timing of growth decrements. Ultrasound studies might be useful in determining whether there have been temporal changes in first trimester growth or whether decrements occur later in gestation, during the time of rapid skeletal growth and fetal fat accretion.

**Implications:**
Recognition that birth weight has decreased in recent years, and reductions were greater in infants born to African-American women is important to continue to assess, so that interventions can be put in practice to prevent these disparities.

**Source:**
Dominguez, T. P. (2011). Adverse birth outcomes in African American women: The social context of persistent reproductive disadvantage. *Social Work in Public Health, 26*(1), 3-16. doi:10.1080/10911350902986880

**Purpose:**
To critically examine the persistent reproductive disadvantage of African Americans within the broader context of American race relations. To this end, the article focuses on racism as a social determinant of racial disparities in adverse birth outcomes by discussing (1) the viability of genetic explanations, (2) the role of socioeconomic factors, (3) the multidimensional nature of racism, and (4) the stress-induced physiologic pathways by which racism may negatively affect pregnancy.

**Sample/Setting:**
Discussion of African American reproductive disadvantage within the context of American race relations.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: Good**

**Design (Method/Instruments)**
A review of the literature was conducted, with particular attention to racism and health more generally and racial disparities in adverse birth outcomes more specifically. Several keywords (race, racism, racial disparities, health disparities, infant mortality, low birthweight, preterm delivery, stress, pregnancy, and African American) were used to search the PsycInfo and Ovid-Medline databases for relevant articles.
This article synthesizes and processes the vast, multidisciplinary, and ever-growing literature with inclusion of the key issues related to racism's role in race-based health disparities, rather than providing a detailed inventory of specific studies.

**Conclusion:**
The literature summarized that racism is deeply woven into U.S. society and tolerated. Researchers have assumed that Black race is a genetic factor that places African American women at higher risk during pregnancy, however nativity patterns suggest that the reproductive disadvantage of African American women is likely a result of their experiences in the American social system and not an expression of genetic fragility.

**Strengths:**
Use of multiple methods for gathering data on sensitive subjects.
Detailed information provided to explain complex issues
**Limitations:**
Data provided is more difficult to analyze and does difficult to fit into standard categories

**Author Recommendations:**

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| In order to extinguish the continual racial gap, there is a strong dedication that is required to confront racism and the social inequities that result from it. Connections must be drawn between the racial patterning of health and disease and the racial patterning of economic, educational, political, housing, and employment opportunities. Race-based socioeconomic differentials are pervasive and deeply-rooted, but race and class are not closely associated. Therefore, a vital part of explaining the African American reproductive disadvantage is understanding the manner in which racism, both interpersonally and institutionally manifested, impacts African American women throughout their lives and across generations. |
| **Implications:**<br>It is vital for healthcare providers to be encouraged to understand that African American reproductive disadvantage is rooted in the manner in which racism-both interpersonally and institutionally manifest, and how this subsequently impacts African American women throughout their lives and across generations, contributing to poor pregnancy outcomes. |

**Source:**
Giscombé, C. L., & Lobel, M. (2005). Explaining disproportionately high rates of adverse birth outcomes among African Americans: The impact of stress, racism, and related factors in pregnancy. *Psychological Bulletin, 131*(5), 662-683. doi:10.1037/0033-2909.131.5.662

**Purpose:**
Review of emerging evidence that disproportionate rates of infant mortality, low birth weight, and preterm delivery in African Americans may result from group differences in exposure or susceptibility to prenatal stress, including stress related to racism and discrimination, as well as from differences in physiological responses to stress.

**Sample/Setting:**
European Americans were used as the reference group with which to compare African Americans,

**Johns Hopkins Evidence Appraisal:**

**Strength: Level III**

**Quality: High**

**Design (Method/Instruments)**
The problem of adverse birth outcomes and the existing ethnic disparity in low birth weight, preterm delivery, and infant mortality were examined, along with the causes of disproportionately high adverse birth outcomes among African Americans, including stress levels and ethnic differences in stress susceptibility. Five explanations for these differences in rates of adverse birth outcomes were reviewed and included: 1. ethnic differences in health behaviors and socioeconomic status; 2. higher levels of stress in African American women; 3. greater susceptibility to stress in African Americans; 4. the impact of racism acting either as a contributor to stress or as a factor that exacerbates stress effects; and 5. ethnic differences in stress-related neuroendocrine, vascular, and immunological processes.

**Conclusion:**
African American women may be more susceptible to the adverse impact of prenatal stress on birth outcomes, as the vast majority of African American women experience racism, which heightens their allostatic load, or cumulative burden. Whether racism is conceptualized as a form of stress, or whether it is a different construct that exacerbates the impact of stress, there is increasing evidence from recent studies that racism is associated with adverse birth outcomes in African American women.

**Strengths:**
Article reviews the simultaneous investigation of ethnicity, sociodemographic variables, stress, racism, coping, health behaviors, and biological pathways

**Limitations:**
There is variation in the influence of ethnic group heterogeneity on birth outcomes, there is a need for an accurate assessment of racism, more sophisticated measurement of SES-particularly measures that have been shown to offer validity across ethnic groups. Research that allows analyzation of the data in a way that is most reflective of the actual research context and environment is needed.

**Author Recommendations:**
It is imperative that continued research be done to thoroughly explore the reasons why African American infants are born earlier, with lower birth weight and with higher rates of mortality than European American infants to enable the development of interventions that effectively prevent these outcomes.

**Implications:**
Healthcare providers understanding the impact of critical psychosocial variables such as stress and racism, and their complex interactive effects with behavior and physiology may illuminate how the life experiences of African American women influence birth outcomes and subsequently how the support women need when they are cared for during pregnancy.

**Source:** Guerra-Reyes, L ., & Hamilton, L. (2017). Racial disparities in birth care: Exploring the perceived role of African-American women providing midwifery care and birth support in the United States. *Women & Birth, 30*(1), 9-16. Retrieved from: DOI: 10.1016/j.wombi.2016.06.004

**Purpose:**
To understand the cause of the Black-White racial disparities in preterm birth.
**Sample/Setting:**
Preterm births that were less than 32 weeks, in African-American women, as compared to non-Hispanic White women.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: Good**

**Design**
**(Method/Instruments)**
Review of the evidence for the biologic and social patterning of very preterm birth, with attention to leading hypotheses regarding the etiology of the racial disparity.
Authors searched MEDLINE, CINAHL, PsycINFO, EMBASE, and the Cochrane Database using the Medical Subject Heading (MeSH) term “premature birth” as well as “preterm” and “premature” as keywords and crossing them with the MeSH term “continental population groups” or “race” as a keyword. This search resulted in 1,459 citations between 1960 and February 2009.

**Conclusion:**

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| Growing evidence supports the role of socially patterned maternal stress that happens over one's life. This stress can be the cause of racial disparities in preterm births that are less than 32 weeks. Racial differences impact the natural tendency for an African American pregnant woman to deliver prematurely because of host inflammatory response or vascular and neuroendocrine dysfunction. |
| **Strengths:** This review offers the start of improved etiologic understanding and the potential for effective intervention that may come with better integration of improved research approaches.<br><br>**Limitations:** Largely missing in the literature, with a few exceptions, are studies that informatively combine patterns in ways that increase our understanding and illuminate opportunities for effective intervention. |
| **Author Recommendations:**<br>Current literature is limited in that research on social determinants and biologic processes of prematurity has been generally disconnected. Improved etiologic understanding and the potential for effective intervention may come with better integration of these research approaches. Future studies should incorporate a rich causal framework while attending to outcome specificity, study design, and data sources. |
| **Implications:**<br>It is vital to consider and develop an awareness of challenges (social and biological) that women experience that may impact health and birth outcomes. |

**Source:** Harper-Hanigan, K., Ross, G., Sims, T., Trotter, K., & Turman Jr., J. (2017). Women's perspective of needs surrounding adverse birth outcomes: A qualitative assessment of the neighborhood impact of adverse birth outcomes. *Maternal Child Health Journal, 21,* 2219-2228. DOI 10.1007/s10995-017-2343-7

**Purpose:**
Identify factors that lead to adverse outcomes in African American women as described by local women, to then develop interventions to improve birth outcomes.
**Sample/Setting:**
A sample of women from Douglas county in North Omaha that were over 18 years of age and that had varying birth experience, time spent living in the community.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: A**

**Design**
**(Method/Instruments)**
Individual in-depth, in person, and telephone interviews were used to collect participants' perceptions of birth outcomes, neighborhood strengths and weaknesses. Therefore, this was a qualitative focus groups interview.

**Results:**
Women in this neighborhood have experiences with adverse birth outcomes and these experiences are not from a lack of awareness in the community. However, there is a lack of awareness of the wide spread racial disparities in birth outcomes in African American women and the efforts and resources to address this public health problem.
**Conclusion:**
This study reveals the power of direct conversations with women impacted by adverse birth outcomes because they must be primary partners in efforts to improve birth outcomes.

**Strengths:**
Provided an opportunity for the voice of a community of African American women to be heard This is helpful feedback for the range of service agencies at the local and state level that are working to address racial disparities
**Limitations:**
Participant recruitment and the use of the questions that have not previously validated in the African American population, therefore, there was selection bias because the women that participated were all seeking to be involved in the Connections Project.

**Author Recommendations:**
The recommendation from the author is that future local program development and research should take in to the account the results of this needs assessment to develop specific interventions aimed addressing issues raised by this subset of women that are impacted by adverse birth outcomes. Therefore, the women in this study feel that the main cause of adverse birth outcomes is from the lack of knowledge within the community.

**Implications:**
African American women would benefit from education that raises awareness on adverse birth outcomes within the African American community as well as healthy behaviors for pregnant women, their families, and their neighborhoods. Thru this awareness and education African American women would feel supported leading to less adverse birth outcomes.

**Source:** Hilmert, C., Parker Dominguez, P., Dunkel Schetter, C., Srinivas, S., Glynn, L., Hobel, C., Sandman, C. (2014). Lifetime racism and blood pressure changes during pregnancy: implications for fetal growth. *Health Psychology, 33(1),* 43-51. DOI: 10.1037/a0031160

**Purpose:** The researchers predicted an interaction such that larger increases in DBP combined with more racism exposure would predict lower birth weight. We consider why DBP is implicated and SBP is not in the discussion.
**Sample/Setting:** 42 U.S.-born African American pregnant women who participated in a study of stress and pregnancy at two major medical centers in southern California (Los Angeles and Orange counties)
**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: A**

**Design**
**(Method/Instruments)**
At each study visit, a research nurse measured the participant's blood pressure, questionnaires were completed, and trained interviewers conducted interviews. The Institutional review boards of the institutions involved with data collection approved of the study. All participants provided informed consent. The questionnaire was created to assess racism exposure of the participants.

**Results:** Simple slope analyses confirmed that for African American women who reported approximately two (+1 *SD* = 1.93) domains of childhood indirect racism exposure, adjusted birth weight declined 19.98 g for every 1 mm|Hg increase in DBP ($B = -160.65$, $p < .05$). For African American women who reported no exposure to childhood indirect racism, the association between birth weight adjusted for gestational age and change in DBP was not statistically significant ($B = 89.28$, $p > .30$). Thus, for this sample of African American women, combinations of maternal childhood indirect racism exposure together with prenatal change in DBP predicted birth weight adjusted for length of gestation.
**Conclusion:**
Consistent with the hypothesis, African American women who reported greater exposure to racism, especially indirect childhood exposure in the context of increases in DBP between 18- and 32-weeks' gestation, had infants of lower gestational-age adjusted birth weights. This effect appears to be because of restricted fetal growth rather than earlier delivery because timing of delivery was controlled. Consistent with our past research, this pattern was true for DBP, but not for SBP

**Strengths:**
The study was well conducted and the results supported the hypothesis
**Limitations:**
Not a large sample size and not representative to all African Americans
Not a randomized control trial

**Author Recommendations:**

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| The recommendations from the author is to have a larger sample size for the next study so that there is a better representation of African American women. |
| **Implications:**<br>Relative to other races, African Americans' disproportionate risk of having low birth weight (<2,500 g) infants is well documented but not well understood. Exposure to racism and other life stressors are a contributor to increased blood pressure to pregnant African American women, therefore, leading to low birth weight babies. Hence, this study supports that racism leads to adverse birth outcomes. |

**Source:** Khanani, I., Elam, J., Heam, R., Jones, C., & Maseru, N. (2010). The impact of prenatal WIC participation on infant mortality and racial disparities. *American Journal of Public Health, 100(S1),* S204-9. DOI:10.2105/AJPH.2009.168922

**Purpose:** The researchers assessed, the value of Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) services as a public health intervention seeking to improve birth outcomes and reduce racial disparities.
**Sample/Setting:** Reviewed data files from WIC participants in Hamilton County, Ohio. 18, 091 women were eligible. The participants were eligible because the women enrolled to WIC during the prenatal period and then had infant outcome records at the local hospitals between the periods of 2005 to 2007.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: A**

**Design**
**(Method/Instruments)**
The researchers used a retrospective cohort design. The retrospective design was used by obtaining data files containing WIC prenatal participant data for women residing in Hamilton County in 2005 to 2007 from the Ohio Department of Health, Bureau of Nutrition Services. The data elements included the mother's name, birth date, address, and zip code and the enrollment date in WIC prenatal services. The researchers compared the infant mortality rate (IMR) per 1000 live births and percentage of preterm births overall and by race for prenatal WIC versus non-WIC participants in Hamilton County, Ohio, from 2005 to 2008. Then used the c2 test to compare demographic characteristics, risk factors, and birth outcomes between the mothers participating in WIC prenatally and the comparison group of mothers not prenatally enrolled in WIC. The researchers analyzed 18,091 pregnant women who enrolled into WIC and the infants' birth outcomes.

**Results:** The results are IMR was lower for WIC participants than for non-WIC participants (8.0 vs 10.6; $p$=.04). For African Americans, the IMR of WIC participants was much lower than that of non-WIC participants (9.6 vs 21.0; p<.001).
**Conclusion:**
This study shows that women enrolled in WIC have reduced incidences of infant mortality rates, especially within the African American population. Therefore, WIC is a great public health intervention for health disparities seen in the African American population.

**Strengths:**
The study had strong and clear variables and data analysis.
Large sample size
There were significant findings
**Limitations:**

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| The study lacked a participant-specific measure outcome. Maternal behavioral risk factors were from birth records, not from interviews. Sometimes looking and analyzing the data there was mismatch and there was 302 infant's death that were mismatched<br>There were births that happened outside Hamilton County hospitals, therefore, they could not be used in the study |
| **Author Recommendations:**<br>A larger sample size could have been obtained if the researcher changed some qualifications to the eligibility of the study |
| **Implications:**<br>This article would be very helpful to my PICO question because this study shows the worth and effectiveness of WIC as a public health intervention in reducing negative birth outcomes for African American women in America. |

**Source:** Kilma, C., Norr, K., Vonderheid, S., & Handler, A. (2010). Introduction of centering pregnancy in a public health clinic. *Journal of Midwifery & Women's Health 54*(1), 27-34. DOI:10.1016/j.jmwh.2008.05.008

**Purpose:** To determine the effectiveness and satisfaction of *Centering Pregnancy* (group visits, health promotion information, peer support, self-management in prenatal care).
**Sample/Setting:** One hundred and ten predominantly low-income African American pregnant women received prenatal care in Centering Pregnancy groups.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level II**

**Quality: A**

**Design**
**(Method/Instruments)**
Focus groups of pregnant women, providers, and health center staff reported that the program benefited women despite implementation challenges such as scheduling changes. Therefore, one hundred and ten low-income African American went received care thru Centering Pregnancy groups that health care providers were trained on how to conduct. After the visits the participants filled out a questionnaire about the care that they received.

**Results:** Compared to women in individual care, women in Centering Pregnancy had significantly more prenatal visits, increased weight gain, increased breast-feeding rates, and higher overall satisfaction.
**Conclusion:**
This pilot project demonstrated that Centering Pregnancy can be implemented in a busy public health clinic serving predominantly low-income pregnant women and is associated with positive health outcomes.

**Strengths:**
The study showed that women benefited from Centering Pregnancy by having positive health outcomes
**Limitations:**
Not a randomized control trial
This is a pilot study

**Author Recommendations:**
More research should be conducted to see if Centering Pregnancy care is beneficial to more women and the effects that this has on positive birth outcomes.

**Implications:**
Midwives could use Centering Pregnancy care on African American women to help aid in lowering adverse birth outcomes.

**Source:**
Kramer, M. R., & Hogue, C. R. (2009). What causes racial disparities in very preterm birth? A biosocial perspective. *Epidemiologic Reviews, 31*(1), 84-98. doi:10.1093/ajerev/mxp003

**Purpose:**
To understand the etiology of the Black-White racial disparities in preterm birth.

**Sample/Setting:**
Very preterm birth (less than 32 weeks), in African-American women, as compared to non-Hispanic White women.
**Johns Hopkins Evidence Appraisal:**

**Strength: Level III**

**Quality: Good**

**Design (Method/Instruments)**
Review of the evidence for the biologic and social patterning of very preterm birth, with attention to leading hypotheses regarding the etiology of the racial disparity.
Authors searched MEDLINE, CINAHL, PsycINFO, EMBASE, and the Cochrane Database using the Medical Subject Heading (MeSH) term "premature birth" as well as "preterm" and "premature" as keywords and crossing them with the MeSH term "continental population groups" or "race" as a keyword. This search resulted in 1,459 citations between 1960 and February 2009.

**Conclusion:**
Growing evidence was found that supported the role of socially patterned maternal stress-possibly over the life course, as a cause of racial disparities in very preterm birth (less than 32 weeks).
Racial differences impact the natural tendency for an African American pregnant woman to deliver prematurely because of host inflammatory response or vascular and neuroendocrine dysfunction.

**Strengths:**
Large study size
**Limitations:**
Largely missing in the literature, with a few exceptions, are studies that informatively combine patterns in ways that increase our understanding and illuminate opportunities for effective intervention.

**Author Recommendations:**
Current literature is limited in that research on social determinants and biologic processes of prematurity has been generally disconnected. Improved etiologic understanding and the potential for effective intervention may come with better integration of these research approaches. Future studies should incorporate a rich causal framework while attending to outcome specificity, study design, and data sources.

**Implications:**
It is vital to consider and develop an awareness of challenges (social and biological) that women experience that may impact health and birth outcomes.

**Source:** Loewenberg Weisband, Y., Klenbanoff, M., Gallo, M., Shoben, A., & Norris, A. (2018). Birth outcomes of women using a midwife versus women using a physician for prenatal care. *Journal of Midwifery & Women's Health, 63(4),* 399-409. DOI:10.1111/jmwh.12750

**Purpose:**
The purpose of the study was to compare the frequency of birth interventions and maternal and neonatal outcomes between women who received prenatal care from a midwife and those who received care from a physician, among women who were low risk when they initiated prenatal care.
**Sample/Setting:** The study was conducted through the Ohio State University Wexner Medical Center (OSUWMC) 8779 women were included in the analysis and were women that were low risk pregnancies.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: A**

**Design**
**(Method/Instruments)**
They performed a retrospective cohort study of women giving birth at a large public hospital who had at least one prenatal visit before 20 weeks' gestation in the years 2012 through 2015. We classified women according to prenatal care provider type (midwife vs physician) at first prenatal visit and compared birth outcomes between the groups, using intent-to-treat analyses. We used modified Poisson regression to calculate adjusted risk ratios (aRRs) for common outcomes and logistic regression with Firth's bias correction to produce adjusted odds ratios (aORs) for rare outcomes. As a sensitivity analysis, we performed a matched propensity score analysis to account for potential confounding by indication.

**Results:** Midwives provided care to 8.2% of the women; physicians provided care to 91.8% of the women. Women in midwifery care had lower risks of cesarean (aRR, 0.66; 95% CI, 0.57-0.78) and preterm birth (aRR, 0.58; 95% CI, 0.42-0.79), with no increased odds of neonatal intensive care unit admissions, neonatal deaths, or severe maternal morbidity. Women in midwifery care had increased odds of postpartum hemorrhage and shoulder dystocia (aOR, 3.26; 95% CI, 1.40-7.58, and aOR, 1.80; 95% CI, 1.01-3.22, respectively); however, these did not remain significant in the propensity score analysis.
**Conclusion:** Among women with low-risk pregnancies, midwifery care was associated with substantially fewer preterm births and labor interventions.

**Strengths:** This study is the first to assess the potential reduction of labor interventions alongside the potential risk of increased adverse effects between women who received prenatal care from a midwife and women who received prenatal care from a physician and gave birth in the same US hospital.
**Limitations:**

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| There is limited research about the effects of Midwifery care on birth outcomes in the United States<br>There were women that were not adequately represented in the study which included women that have Medicaid insurance, or have a history of pregnancy complications or previous cesarean births compared with women who received care from physicians.<br>Not a randomized control trial |
| **Author Recommendations:**<br>More research among more hospitals should be conducted to compare birth outcomes between physicians and midwives within the United States. |
| **Implications:**<br>Although only 16.3% of women who saw a midwife for prenatal care had a cesarean birth, 30.5% of women who saw a physician for prenatal care had a cesarean birth ($p < .001$). The proportion of preterm births also was significantly lower among women who received care from a midwife compared with women who received care from a physician (5.3% vs 11.4%, respectively; $p < .001$). Therefore, women that receive care from a midwife are at a lower risk of preterm birth and this is beneficial to African American women in reducing low birth weight. |

**Source:** Mkandawire-Valhmu, L., Lathen, L., Balsch, M., Cotton, Q., Dressel, A., Antilla, J.,...Hess, A. (2018). Enhancing healthier birth outcomes by creating supportive spaces for pregnant African American women living in Milwaukee. *Maternal and Child Health Journal, 22, 1797-1804.* Retrieved from: https://doi.org/10.1007/s10995-018-2580-4

**Purpose:**
Implement a community-based health promotion intervention to improve birth outcomes for pregnant, low-income African American women, evaluate its effectiveness, and document its usefulness to inform development of future interventions.
**Sample/Setting:** The project involved a mentoring and supportive relationship between 28 volunteer mentors (Sister Friends) and 20 pregnant women (Little Sisters)
**Johns Hopkins Evidence Appraisal:**
**Strength: Level II**

**Quality: A**

**Design**
**(Method/Instruments)**
The project implementation and evaluation were informed by the life course perspective and a postcolonial feminist Framework. Thematic analysis was used to analyze ethnographic data from monthly meetings and interviews with pregnant Little Sisters and Sister Friends.

**Results:** Our findings showed patterns both in community spaces and spaces created during the MBP. Program spaces contrasted with everyday life spaces and allowed women to experience community support. Based on our analysis, we classify these spaces as: (1) community spaces lacking support, (2) safe spaces of belonging and understanding, (3) spaces that foster meaningful interaction, and (4) safe, supportive spaces for other women in the future.
**Conclusion:**
For future practice interventions should consider intentionally developing safe spaces to attain health goals. From a postcolonial feminist perspective, the voices of women who are at greatest risk for experiencing poor birth outcomes are crucial to the development of effective policies.

**Strengths:**
The study was able to show that women benefit from a support during pregnancy and delivery
**Limitations:**
The women that participated in the study had varied degrees of consistency leading to implication to data collections
Not a randomized control trial

**Author Recommendations:**
The study would benefit at looking deeper at the mechanisms of support for African American women that is needed through family support. Therefore, it would be beneficial at designing

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| effective community-based interventions, community building prerequisite to enhance social capital, and mobilize available resources. |
| **Implications:**<br>Midwives could create a supportive space for African American women during their pregnancy and delivery. Therefore, creating a safe space for these women will lead to less adverse birth outcomes. |

**Source:**
Mutambudzi, M., Meyer, J. D., Reisine, S., & Warren, N. (2016). A review of recent literature on materialist and psychosocial models for racial and ethnic disparities in birth outcomes in the US, 2000–2014. *Ethnicity & Health, 22*(3), 311-332. doi:10.1080/13557858.2016.1247150

**Purpose:**
To explore recent knowledge of the effects of materialist and psychosocial factors on differences in low birthweight (LBW) and preterm delivery (PTD) outcomes between Black and White mothers.

**Sample/Setting:**
Low birthweight (LBW) and preterm delivery (PTD) outcomes between Black and White mothers.

**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: High**

**Design (Method/Instruments)**
Search and review were conducted for studies that examined: (a) neighborhood-level deprivation as an indicator of material conditions, and (b) racial discrimination or occupational stressors as indicators of psychosocial stress. The outcomes of interest were LBW and PTD.

**Conclusion:**
Material and psychosocial factors significantly and negatively affected Blacks more than Whites, and were associated with increased adverse outcomes.
Through this review it was found that in comparison to White women, Black women are at higher risk of adverse outcomes due to both psychosocial stress and meso-level deprivation, after accounting for personal factors.

**Strengths:**
The method is limited in practice by the availability of valid variables (those that are strongly associated with the treatment and not directly or
Indirectly associated with the outcome).
**Limitations:**
offers potential to significantly reduce bias

**Author Recommendations:**
A better understanding of effects on health outcomes of material and psychosocial factors in Black women is needed. Further investigation into materialist and psychosocial factors, will allow us to better understand the factors driving PTD and LBW disparities in the US.

**Implications:**
Increases knowledge of the effects of materialist and psychosocial factors on differences in

low birthweight (LBW) and preterm delivery (PTD) outcomes.

**Source:** Mulrooney Eldred, S. (2019). Study the success of a north Minneapolis birth center. *MplsStPaul.* Retrieved from: http://mspmag.com/health-and-fitness/studying-the-success-of-a-north-minneapolis-birth-center/

**Purpose:**
This article looks at the effect that the birth center had in North Minneapolis with African American women and families.
**Sample/Setting:** Women that were patients at the Roots birth centers.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level V**

**Quality: A**

**Design**
**(Method/Instruments)**
This was an interview of the midwife, Rebecca Polston that manages the Roots birth center in North Minneapolis.

**Results:** In its three years of operation, with about 250 births logged, the birth center reports the following:

- A 4 percent C-section rate (compared to 31.9 percent nationally)
- A breastfeeding rate of 99 percent at one year (compared to 35.9 percent nationally)
- A 97 percent success rate for vaginal births after cesareans (compared to 60–80 percent nationally)
- A 0 percent pre-term birth rate for U.S.-born African-American mothers (compared to 14 percent of births to African-American women in the United States)

**Conclusion:**
The conclusion is that the Roots birth center has been able to create a safe space through the care of midwives for pregnant African American women to deliver a newborn and has improved birth outcomes.

**Strengths:**
This article shows a birth center with Midwives that is actively working on helping African American women have improved birth outcomes.
**Limitations:**
Not a randomized control trial
From the viewpoint of the birth center in North Minneapolis and is not a large sample size

**Author Recommendations:**
The recommendation is that more research should be done to examine the impact that midwives have on providing quality care to minorities in America and therefore improving health disparities.

**Implications:**

This supports that midwives can create a safe space for African American women to have babies and this improves birth outcomes. Midwives are able to provide quality care for women and can help with the health disparities seen with African American women.

**Source:**
Nuru-Jeter, A., Dominguez, T. P., Hammond, W. P., Leu, J., Skaff, M., Egerter, S., . . . Braveman, P. (2008). "It's the skin you're in": African-American women talk about their experiences of racism. An exploratory study to develop measures of racism for birth outcome studies. *Maternal and Child Health Journal, 13*(1), 29-39. doi:10.1007/s10995-008-0357-x

**Purpose:**
Review of how stress due to experiences of racism could contribute to African-American women's adverse birth outcomes.

**Sample/Setting:**
40 socioeconomically diverse African-American women of childbearing age in four northern California cities.

**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: High**

**Design (Method/Instruments)**
Six focus groups (5–10 women per group) with a total of 40 African-American women of childbearing age in San Francisco, Oakland, Berkeley, and Sacramento from May 2004 to April 2005.
Adult women (age 19 or older) with children under age 15, including pregnant women, who self-identified as African-American were eligible to participate. A semi-structured interview guide was developed by the "Measures of Racism Working Group," which included open-ended questions intended to engage women in freely discussing their experiences with racism. Each focus group was staffed by one facilitator and, for completeness and accuracy, two note-takers, all of whom were African-American women. When data collection was complete, all transcripts were read by an interdisciplinary team of six coders with expertise in epidemiology; clinical, social, and developmental psychology; cultural anthropology; social welfare; and health and social policy.

**Conclusion:**
Women reported experiencing racism (1) throughout the life course, with childhood experiences seeming particularly salient and to have especially enduring effects (2) directly and vicariously, particularly in relation to their children; (3) in interpersonal, institutional, and internalized forms; (4) across different life domains; (5) with active and passive responses; and (6) with pervasive vigilance, anticipating threats to themselves and their children.

**Strengths:**
Focus group was useful in obtaining detailed information about personal and group feelings, perceptions and opinions.
Provided broad range of information.
Opportunity to seek clarification was present.
**Limitations:**

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| This exploratory study includes the small size and that the Northern California convenience samples may not be nationally representative. This study did not aim to test hypotheses about racism's health effects or develop new measures; rather, it engaged women in verbalizing their experiences, to provide a basis for developing more adequate measures for birth outcomes research in the future. |
| **Author Recommendations:**<br>More reviews are needed of the racism experiences of childbearing African-American women to inform subsequent development of improved measures for birth outcomes research |
| **Implications:**<br>Great insight is provided on how racism as a lived experience, and emphasize the inherent complexities involved with measuring it and quantifying its effects on maternal and birth outcomes, with a subsequent opportunity for healthcare providers to modify delivery of care. |

**Source:**
Owens, T. C., & Jackson, F. M. (2015). Examining life-course socioeconomic position, contextualized stress, and depression among well-educated African-American pregnant women. *Women's Health Issues, 25*(4), 382-389. doi:10.1016/j.whi.2015.05.001

**Purpose:**
Explores how childhood and adulthood socioeconomic position (SEP) and socioeconomic mobility, as indicators of life-course experiences, impact the relationship between contextualized stress and depression among well-educated, pregnant African-American women

**Sample/Setting:**
101 African-American women in their first and second trimesters participated in a cross-sectional study that was conducted between 1999 and 2003 in metropolitan Atlanta
**Johns Hopkins Evidence Appraisal:**

**Strength: Level III**

**Quality: Good**

**Design (Method/Instruments)**
The Jackson, Hogue, Phillips Contextualized Stress Measure and the Beck Depression Inventory were administered to 101 well-educated, pregnant African-American women during their first and second trimesters. Bivariate associations and regression analysis were conducted to assess life-course SEP, mobility, and contextualized stress as predictors of depression. Based on the demographic data for childhood and adult SES, the SEP and mobility variables were created.

**Conclusion:**
Education is not as protective for the birth outcomes of African-American women as expected. Findings consistently reveal that well-educated African-American women experience worse birth outcomes than women from other racial and ethnic groups with less education, fewer economic and material resources, and limited access to health care.

**Strengths:**
Descriptive study, based on experiences
**Limitations:**
Small study size.
Study was cross-sectional and SES information could be subject to recall bias.

**Author Recommendations:**
Future considerations to include an examination of key components within the racial and gendered context that are more notable.

**Implications:**
This work has implications for examining depression and birth outcomes and multi-generational socioeconomic position.

**Source:**
Prather, C., Fuller, T. R., Marshall, K. J., & Jeffries, W. L. (2016). The impact of racism on the sexual and reproductive health of African American women. *Journal of Womens Health, 25*(7), 664-671. doi:10.1089/jwh.2015.5637

**Purpose:**
Describes racism and its impact on African American women's sexual and reproductive health to demonstrate how social determinants grounded in racism affect individual behaviors and interpersonal relationships, which may contribute to sexual and reproductive health outcomes.
**Sample/Setting:**
African American women

**Johns Hopkins Evidence Appraisal:**

**Strength: Level III**

**Quality: Good**
**Design (Method/Instruments)**
Use of a socioecological model was used to describe how individual, interpersonal, community, and societal factors shape population health, to provides a perspective to understand how these unique contextual experiences are intertwined with the daily lived experiences of African American women.

**Conclusion:**
Historical and contemporary contexts, race-based mistreatment has been shown to place African American women at increased risk for HIV/STIs, pregnancy-related complications, and early mortality. Moreover, widespread health implications of racism are evident and exist at the individual, interpersonal, community, and societal levels. In this regard, African American women appear to be situated in contexts in which racism is rarely avoidable.

**Strengths:**
Offers considerations that provide opportunities to promote health equity by reducing the effects of racism and improving African American women's sexual and reproductive health.
**Limitations:**

**Author Recommendations:**
More research focused on African American women is needed and should prioritize the role of racism and health disparities to sufficiently address the root causes of inequity. Implementation of culturally tailored interventions may improve African American women's health outcomes as well.

**Implications:**
Insight into how racism impacts the well-being of women, including sexual reproduction, has the opportunity to modify how women of color are cared for and highlights that midwifery led care can stand in the gap of the absence of well rounded, thoughtful care.

**Source:** Simon, C., Adam, E., Holl, J., Wolfe, K., Grobman, W., & Borders, A. (2016). Prenatal stress and the cortisol awakening response in African-American and Caucasian women in the third trimester of pregnancy. *Maternal & Child Health Journal, 20(10),* 2142-2149. DOI: https://doi.org/10.1016/j.biopsych.2018.06.023

**Purpose:**
This study's purpose is to look at the cortisol awakening response between African-American and Caucasian pregnant women.
**Sample/Setting:** 114 women (56 African-American and 58 Caucasian third trimester, 32-40 weeks gestation, pregnant women) and the study took place at two prenatal clinics associated with Northwestern Memorial Hospital. For women to be eligible to be a part of the study they had to be pregnant, English speakers, at least 18 years old, and less than 23 weeks gestation at time of enrollment.
**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: A**

**Design**
**(Method/Instruments)**
This study is a supplementary pilot study to the Stress in Pregnancy Study (SIPS), All the participants answered questions from various scales to assess different areas of stress (pg. 2144). External stress was measured by the Home Hardship Scale, the Stressful Life Events Scale, and the USDA food security scale. Depressive symptoms were evaluated by the Center for Epidemiologic Studies Depression Scale (CES-D). Participants took scales that measured buffers of stress and the scales that were used include, MOS social support scale, the State Hope scale, Rosenberg's Self-Esteem scale, and Pearlins Mastery Scale. Perceived stressors were looked at by Krieger perceived discrimination Scale, Misra Stress scale, Cohen's Perceived Stress scale and the prenatal 30 min. (pg. 2144). On top of the multiple scales that the women filled out, they also had to collect salivary samples over two days to measure cortisol levels.

**Results:** The results are that the women in our sample showed normative cortisol diurnal rhythms (high on waking, peak 30 min post-waking, lowest at bedtime), we found that African-American women had blunted (smaller) awakening responses compared to Caucasian women ($p<0.05$). However, there is an increased stress within African Americans due to perceived discrimination.
**Conclusion:**
These results complement the data that is already out there of racial psychosocial stress while a woman is pregnant.

**Strengths:**
The study had strong and clear variables and data analysis.
Collected cortisol data across 2 days, with three-time points of collection, reducing the influence of day-to-day variability in cortisol on our findings (pg. 2148)

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| Multiple different stress scales were used to properly assess stress<br>**Limitations:**<br>A small sample size of 114 women<br>A corresponding inability to meaningfully examine health outcomes<br>Lack of objective (electronic) monitoring of the exact timing of cortisol samples. |
| **Author Recommendations:**<br>Author recommendations are that additional research should study connections between racial disparities and biomarkers associated with chronic stress and pregnancy outcomes, including other hormonal markers, cytokines and measure of telomere length. While our results add to the small but growing body of literature showing ethnic disparities in cortisol rhythms, further research is needed to determine whether these results have clinical significance for pregnancy outcomes. |
| **Implications:**<br>This study looks at the health disparities that are with African-Americans and further identification and prevention of factors contributing to lower pregnancy cortisol awakening response may be a promising direction for efforts to improve maternal prenatal health and wellbeing. This is helpful to my study in looking at stress in African-American pregnant mothers which could be a factor in infant mortality. Prenatal stress has been linked to a variety of poor psychosocial, birth, and developmental outcomes for mothers and offspring. Cortisol levels increase in response to stress. |

**Source:**
Ward, T. C., Mazul, M., Ngui, E. M., Bridgewater, F. D., & Harley, A. E. (2013). "You learn to go last": Perceptions of prenatal care experiences among African-American women with limited incomes. *Maternal and Child Health Journal, 17*(10), 1753-1759. doi:10.1007/s10995-012-1194-5

**Purpose:**
Examines the experiences of racial discrimination during prenatal care from the perspectives of African American women in a low-income Milwaukee neighborhood.

**Sample/Setting:**
Highest risk for poor birth outcomes amongst women who self-identified as African American, eighteen years or older, with a child 1 year of age or younger, and who experienced at least one prenatal care visit in Milwaukee.

**Johns Hopkins Evidence Appraisal:**
**Strength: Level III**

**Quality: Good**

**Design (Method/Instruments)**
A qualitative approach reviewed transcripts from six focus groups with twenty-nine women and two individual interviews were analyzed to identify important emergent themes. Validity was maintained using an audit trail, peer debriefing, and two individual member validation sessions. Participants identified three areas of perceived discrimination based on: (1) insurance or income status, (2) race, and (3) lifetime experiences of racial discrimination.

**Conclusion:**
Findings suggested that African American women with limited incomes perceive many provider practices and personal interactions during prenatal care as discriminatory. Across all focus groups, an overarching theme of discrimination, or feelings of being treated differently, arose. Discrimination was focused on three main themes: discrimination based on: (1) insurance and/or income status, (2) race during prenatal care, and (3) race over their lifetime.

**Strengths:**
The use of focus groups in this study did facilitate a more comprehensive discussion of racism and discrimination that allowed the researchers to tease out discrimination based on insurance, income and attributed to racism. The groups allowed women to validate each other by laughing and commenting on experiences of others. They gave each other permission to "name" the phenomena and think and reflect on their experiences.
**Limitations:**
Due to the exploratory nature of this study, focus groups were not stratified by type of provider, location of prenatal care, or type of prenatal care, which could help determine how the method of care might mitigate experiences of discrimination.
A second limitation to this study was that provider race was not collected; thus, it is not clear if

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| racial concordance between patient and provider changes perceptions of discrimination.<br>It is not clear whether the focus groups moderated by a White moderator were limited or if they provided an opportunity for a more in-depth exploration of concepts and experiences. |
| **Author Recommendations:**<br>There is a need for a better understanding among providers and systems of care regarding how practices and personal interactions are perceived by the women being served, especially African American women with limited incomes, and further, how these perceptions may ultimately influence a patient's use of prenatal care and subsequently, birth outcomes. Recognizing and addressing African American women's perceptions and experiences in Milwaukee could be an important step in reducing the racial disparities in birth outcomes. |
| **Implications:**<br>Recognizing and addressing African American women's perceptions and experiences, allows for a space and dialogue on ways to reduce racial disparities in birth outcomes. |