African American Infant Mortality:  
The Relationship between Social Support and Maternal Perceptions of Stress

Latrese Annette Monden  
Northeastern Illinois University  
Mentor: Dr. Cynthia A. Barnes-Boyd  
University of Illinois at Chicago

Summer 2010

Abstract: There are significantly higher rates of adverse birth outcomes among African Americans than Caucasians. This creates a devastating national average of infant mortality rates among African Americans. Studies have investigated socioeconomic status, prenatal care, and maternal behavior as factors contributing to pre-term birth. However, the relationship of maternal perceptions of stress and social support to infant morbidity has yet to be fully explored. This creates room for additional exploration of how these factors contribute to our understanding of pregnancy outcomes for low-income African-American women. This study examines the relationship between social support and maternal perceptions of low-income Chicago Englewood residents who are participants in the Healthy Start Initiative (HSI) and members of HSI’s current three-year infant mortality study. Participants were interviewed and asked to share their experiences in relation to stress and social support. The data were used to identify the presence or absence of stress and social support during the prenatal stage of pregnancy. This research contributed to the development of an assessment tool utilized by the Healthy Start Initiative program. Results contributes to the ongoing investigation of the complex subject of African American infant morbidity and set the stage for a longitude study of how stress and social support contribute to African American infant mortality.

Keywords: African American Women/Maternal/Stress/Social Support/Infant Morbidity/Low Income
Introduction

The purpose of this study was to explore the hypothesis that, higher levels of stress and lack of social support can contribute to poor birth outcomes. However, through engaging the mixed qualitative methods we can 1) confirm that stress factors are prevalent among this high risk group 2) identify commonalities in stressors 3) coin a definition of perceived adequate social support; and 4) recommend future research, policies, and practices that can assist in narrowing disparities.

In 1964, Martin Luther King Jr. stated in his Stride Towards Freedom speech that, “The best way to solve any problem is to remove its cause. “The attempting to tackle the starting statistic of the severe racial disparities can be daunting. In spite of the uphill battle, the first step toward formulating a solution/intervention is to identify factors which lead to poor birth outcomes. National statistics reveal the overall U.S. infant mortality rate a record low. However, the rate of infant mortality among African Americans is double that of Caucasians. Directly, low birth weight (LBW) and very low birth weight (VLBW) in the United States (U.S.) have maintained a constantly high rate among African Americans. LBW is defined as the birth of an infant less than 2,500 grams (5.5 pounds). In the 2000 census, 36.4 million persons, 12.9% of the U.S. population, identified as Black or African American (U.S.Census, 2000) according to the Center of Disease Control (CDC), African Americans have 2.3 times the infant mortality rate than Caucasians. The infant mortality rate is the number of deaths of infants less than one year old (obtained from death certificates) per 1,000 live births in a population (obtained from birth certificates). However, we continue to struggle to narrow these large disparities and inequalities.
among minority groups. Despite, the large disparity obstacle, this study creates room of two factors that may contribute to decreasing infant death among African American.

In efforts to combat the disparity rates of African Americans infant mortality, conducting this exploratory study can heighten awareness and activism. Specifically, the current study will attempt to understand how social support and maternal perceptions of stress can contribute to infant mortality; directly reflecting the theory of Social Stagnation (Monden 2010). Social Stagnation is the progress of detrimental factors experienced during a life course by an individual, which in turn harms society as a whole. This theory shadows the concept of snowball effect, that inequality affects the nuclear family and society as a whole. An example of this is manifested when disparities and inequalities impact a life course of an individual in such a manner that personal improvement is never sought. Directly, racial barriers and discrimination prevent an individual from moving forward in human pursuit of success. Human productivity moves to laggard or ceases which cause society as a whole to lose a productive member. Thus creating a slow production rate as a society, this is detrimental to competitiveness within the world stage.
The Greater Englewood Healthy Start Initiative is implemented by the Chicago Department of Public Health in order to reduce the prevalence of infant mortality. Direct evaluation is conducted by the UIC Neighborhoods Initiative (UNI), Division of Community Health and focuses on the Englewood community. HSI services rendered to the Englewood community include a Case Management Program (CMP) which focuses on improving community health care systems, maternal and infant health care. In addition, the HSI assesses the Englewood community needs in enriching health care access of women and infants. This study contributes to the existing data collection tool utilized by the HSI, which identifies two factors that present poor birth outcomes. In order to improve the effectiveness of identifying stress and lack of social support among the HSI participants, which will be used in future evaluations.

Review of Literature

Healthy People 2010 state that eliminating health disparities is the main goal for the first decade of the twenty first century. Specifically, the 2010 report provides statistics on infant mortality rates, birth outcomes, prevention of birth defects, access to prenatal care, and a host of other health issues. It states that infant mortality rates measure a nation’s health and worldwide status. Despite medical breakthroughs and accessible health care, disparities in relation to infant mortality between African Americans and Whites still remain prevalent. These statistics address the valid concern toward investigating the factors that create this disparity. Furthermore, minimizing the gap between infant mortality rates among African Americans can equalize the
current inequalities within the prenatal stage of gestation. The prenatal stage is the nine month period before birth and gestation is defined as pregnancy. In an effort to contribute to current ongoing exploratory research, it is important to dissect all factors that can provide insight into this national social issue.

Hogue, Rowland, and Vasquez (2002) argue that infant mortality is a national disgrace and many United States citizens view the topic as a “minority issue.” During the years of 1980-1984, newspapers highlighted infant mortality which created a surge to respond and eliminate disparities. Data presented a decline in infant mortality rates by one-third from 1995-1999. These researchers also reveal that colleagues summarized that highly funded government programs would not save minorities from their own disastrous behavior. Disappointing analyses like these draw public interest away from assisting communities with high prevalence of infant mortality. Hogue, Rowland, and Vasquez (2002) did conclude that access and education are the keys to eliminating infant mortality. National awareness may spark United States citizens to battle this constant war in saving lives. Thus, this awareness can present a foundation for the equal rights to life in the prenatal stage for all infants. Disheartening statements and analyses concluding immutable doom in relation to African American infant mortality establish the validity of exploring maternal perceptions of stress and social support during the prenatal stage. Directly, this study explores how African American women are reflecting and experiencing stress and social support during this crucial developmental period of the fetus. In addition, how these experiences create a personal life course foundation which weighs in on birth outcomes.

The National Institutes of Health (NIH) summit on Health Disparities highlighted some of the factors of continual racial disparities among African American women in relation to pregnancy outcomes. The NIH summit argued that there may be a correlation between stress
during pregnancy and infant mortality. Though proven, this is biologically plausible. The NIH summit provided evidence that African American women suffer from multiple episodes of stress due to experiencing more poverty and a range of psychosocial events, such as lack of social support, divorce, job loss, and domestic violence. The NIH summit also discussed how neighborhoods affect health which can increase life course exposure to stress. Life course is the period of episodic experiences in one’s life. Over a period of a life course, people experience a system of events and incidents which affect mental and physical health. The NIH summit questions if racism should be considered as a health issue. However, the summit agreed to advocate for all individuals to have a “fair chance” from the beginning. The summit suggested that bold experiments must be made with promising interventions. It was concluded that these issues have no quick fixes and outcomes may lag by generations.

Moreover, Dominguez, Hobel, Mancuso, Rini, and Dunkel (2005) explored the relations of stress, SES, and birth outcomes in a sample of African American pregnant women. The study suggests that African American women were evasive regarding revelations of stress during pregnancy. In other words, culturally there is great expectation that a “strong black woman” skillfully shoulders life’s myriad demands. The availability of strong psychosocial resources, such as social support and mastery, has been shown to have beneficial effects on birth outcomes. (Dominguez et al., 2005) Their study expected lower SES to be related to poorer outcomes but it did not confirm that hypothesis. Although, researcher found that in relation to stress and poorer birth outcomes, researchers found partial support for their hypothesis (Dominguez et al., 2005). Specifically, with regard to gestational age, the more life events a woman experienced, the shorter the length of the pregnancy. These findings are independent of medical risk and weight gain. (Dominguez et al., 2005) This study concluded that the more life events, distress, and
intrusive thoughts reflecting on stressful life events the lower birth rate of the infant. Therefore, the factors of pregnancy weight gained, previous birth, or active use of harmful substances does not alter these low birth results.

Lu & Halfon (2003) conducted a literature review of longitudinal models of health disparities and presented a synthesis of two leading models using a life-course perspective. The general risk factors during pregnancy were then reexamined within the life course context. The results gathered presented evidence that maternal health prior to pregnancy may influence infant health outcomes. The researchers also introduced early programming and cumulative pathway mechanisms as factors in infant health. Early programming suggests that exposure and experiences during particular sensitive developmental periods in early life may encode the functions of organs or systems that become manifest in health and disease later in life. Equally important the researchers assert that exposure to stress hormones during sensitive periods of immune maturation in early infancy may also alter immune function. Thus, these factors can lead to increased susceptibility to infectious or inflammatory diseases later on in life. In fact, Lu & Halfon (2003) presented the hypothetical example of a woman experiencing maternal stress which negatively affected the HPA and immune system of her developing fetus. Moreover, higher stress reactivity and immune-inflammatory dysregulation can lead to the increase of a woman’s female offspring’s vulnerability to preterm labor and LBW later in life. (Lu & Halfon, 2003)

In addition, the cumulative pathway mechanism explains how wear and tear can add up over time to affect health and function. (Lu & Halfon, 2003) It has been proposed that chronic accommodations to stress result in wear and tear; “allostatic load” on the body’s adaptive systems. (Lu & Halfon, 2003) It follows that allostatic load over the life course should also affect
reproductive health. Women who are subjected to chronic and repeated stress may respond to stressors during pregnancy with higher output of norepinephrine and cortisol, which could increase CRH gene expression leading to preterm labor. Higher levels of glucocorticoids can also lead to relative immune suppression. This could increase the likelihood of chronic colonization of the genital tract by pathogens at conception and during early pregnancy (Lu & Halfon, 2003). The cumulative impact on the African American woman’s allostatic load is reproductive health manifested in the increasing rates of LBW and VLBW births with increasing age. The researchers concluded that eliminating disparities requires intervention and policy development that are more longitudinally and contextually intergraded than currently exists.

Collin, David, Dwyer, Handler, Symons, & Wall, (2000) discovered a correlation between exposure to racial discrimination and low birth weights in infants. This hospital-based study conducted in Chicago examined 25 cases and 60 controls. The participants were gathered from Children's Memorial Hospital and Cook County Hospital. Specifically, the women had no private medical insurance and a family income below $11,000. This study revealed that African American women's perceptions of racial discrimination within five different domains; "at school", "getting medical care", "getting service at a restaurant or store", getting housing", and "at work". Directly, the study found that impoverished African American women are vulnerable to the psychophysiologic impact of acute and chronic stress. Therefore, continual human exposure to racial discrimination presents stress that can be detrimental to pregnancy outcomes.

Dressler (1993) investigates disparities of infant mortality among African Americans compared to Caucasians in relation to segregation and racism. This researcher presents evidence that the increased rates of infant mortality among African Americans are linked to "black social isolation". Directly, "black social isolation" through residential segregation leads to a strong
decline in health status and access to quality care among African Americans. It highlights the theory that health can be linked to social conditions in life and work environments. Institutional discrimination as a result of residential segregation can lead to poorer nutrition, less access to medical services, and higher levels of stress. A Dressler (1993) state, social support is an important determinant of variations in health status. This relates that the impact stress may have on mothers within disadvantaged racially segregated communities.

On the other hand, Jackson (2007) provides a look into why the disparities in infant mortality are growing instead of narrowing among African American women. Directly, the article presents evidence that education and economic status have little to no effect on infant mortality among African American women. In an Atlanta focus group researchers explored stress in relation to pregnancy among African American women from diverse economical backgrounds. The topics of race and support were also investigated. In the findings, evidence revealed that women had limited access to support and overwhelming daily stressors. It was mentioned that race relations at work also contributed to the daily stressors of being over worked and underpaid. This study has opened the door for discussion of the true relevance of stress in relation to pregnancy. The study brings validity to the argument that stress may contribute to the high infant mortality rate among African American women.

Roberts (1997) presents exploratory research of low birth rates and neighborhood social environments in Chicago. To conduct his findings, Roberts uses Illinois Department of Public Health vital records and census data of Chicago (Roberts, 1997). In Roberts’s 1997 study, Englewood is reflected as a community with a heightened low birth weight. However, the surrounding communities’ birth weight rates are significantly moderate. The fluctuation of low birth rates presented in Roberts’ (1993) study creates questionable evidence that factors within
the affected communities impact low birth weight. Roberts states that present findings on traditional risk factors to explain social inequalities in maternal health appears both narrow and superficial (Roberts, 1993). As previously stated, current findings are limited in focusing on suggestive factors of infant mortality. Therefore, that statement has motivated this study to explore the relationship between social support and maternal perceptions of stress among African American women.

From this literature we gather that the current research has presented a strong link between infant mortality in relationship to stress and social support for African American women. Although not proven, the foundation of supporting factors that build this argument is evident. Indeed, it is clear that exploring these factors in relation to infant mortality can illuminate the possibilities of this arguments validity. Directly, the purpose of the current study is to explore the perceptions of stress and social support. In conducting this exploratory study, we can begin to identify and assess perceptions of stress and social support among African American women during the prenatal period. We can hypothesize from our foundation of literature that; African American women, who lack sufficient social support and experience continual stress during their life course, will present poor birth outcomes. In view of the time constraints of this project we will investigate assess and investigate detrimental commonalities of stressors and social support. Specifically, an assessment tool currently functioning in the Health Start Initiative is used to contribute to identify these factors and allot a period for intervention. The purpose of this study is to assist the Health Start Initiative in assessing these factors which can begin to decrease the statistical margin of adverse birth outcomes among low-income African-American women.
Methodology

Research Question

The current study attempts to answer the following questions: what is the relationship between social support and maternal perceptions of stress among low-income African-American women?

Design

The Healthy Start Initiative is evaluating the Chicago Department of Public Health infant mortality project in the high-risk community of Englewood. The current three-year infant mortality study is to improve access to health care and narrow racial disparities of infant mortality among low-income African Americans. This study pilot tested six closed ended and two open ended question. In addition, five questions were added from the HIS’s assessment tool that correlated to identifying the factors investigated by the research question. This combination of questions provided familiarity and fluidity that created a separate assessment of stress and social support. The HSI currently has an assessment tool of 82 questions which is utilized to evaluate the Chicago Board of Public Health’s three-year infant mortality program in the Englewood community. We used qualitative methods of three interviews. The prenatal participants were samples of convenience from the Healthy Start Initiative, low income, and residents of the Chicago Englewood community. All participants were interviewed and asked to share their experiences in relation to stress and social support (e.g., see Appendix 1). This study
collected data from the interviews of ten African American women. We gathered personal views of adequate social support and compared data from both qualitative methods and identified prominent factors. A ten dollar gift card was provided to the women who participated in this study. This data was analyzed to identify and assess the presence or absence of stress and social support during the prenatal stage. Creating and pilot testing new questions to an existing assessment tool; contributes to the effectiveness of examining how perceptions of stress and social support impact low income African American prenatal women. The following are the questions added to the existing tool utilized to assist the Healthy Start Initiative; assessing and identifying maternal perceptions of stress and social support:

Instruction: For these first set of questions, I am going to ask you about the kind of personal support you had during this pregnancy. By support I am referring to emotional support such as someone being with you or someone you can talk to do. However, you may also have things to say about other forms of support such as financial support. Please feel free to share whatever you feel is important to you.

1. Do you feel that you have the amount of support that you need at this time? For example, do you have someone you can talk to when you need to?

   a. Yes
   b. No
c. Prefer not to answer

2. Follow-up: Who would you say provides the most support for you at this time?

a. Mother
b. Father
c. Sibling
d. Grandparent
e. Significant Partner
f. Extended Family
g. Friend

3. Thinking about the supportive people you just described, do you feel you have someone you can share confide in if you need to?

a. Mother
b. Father
c. Sibling
d. Grandparent
e. Significant Partner
f. Extended Family
g. Friend
4. Follow-up: Do you have more than one person that you feel comfortable confiding in?

Instruction: For the next set of questions, I am going to ask you if you ever felt you have experienced stress during this pregnancy. By stress I am referring to your view of events that were unexpected and unmanageable during your pregnancy. For example like a loss of a job, loved one, or medical coverage. However, you may also have things to say about other forms of stress such as a breakup with a significant partner. Please feel free to share whatever you feel is important to you.

5. In general, how stressed do you feel most of the time? Would you say that you are….

a. Not at all stressed
b. Extremely stressed all of the time
c. Extremely stressed sometimes
d. Occasionally Stressed
e. Haven’t really thought about it
f. Prefer not to answer

Instruction: For the last set of questions, I am going to ask you if you ever felt you have experienced fear or anxiety during this pregnancy. By fear or anxiety I am referring to your view of events that are perceived as threaten or dangerous during your pregnancy. For example like experiences of inequality or neighborhood violence. However, you may also
have things to say about other forms of fear or anxiety such as unexplained nervousness or uneasiness. Please feel free to share whatever you feel is important to you.

6. Are you ever uneasy or fearful about doing every day things such as routine errands or doing things outside of the house?

   a. Yes
   b. No
   c. Prefer not to answer

7. Follow-up: Have you thought about why you might be uneasy or fearful?

   a. Yes
   b. No
   c. Don’t Remember
   d. Prefer not to answer

8. If you have, what do you think is the cause of your uneasiness or fear?
9. If you had a serious concern or if you felt uneasy or afraid, who is the first person you would contact?

   a. Mother
   b. Father
   c. Sibling
   d. Grandparent
   e. Significant Partner
   f. Extended Family
   g. Friend

Results

Data from the interviews were coded for themes relevant to the research question. The results of this project were from a sample of three women participating in the Health Start Initiative. However, the preliminary results show there is a strong correlation to maternal stress and lack of social support to low birth weight outcomes. Directly, preliminary results reveal that maternal stress results from single parenthood, financial worries, and concerns about personal safety of the family define major stressors. Participants reported to continual high levels of stress, limited social support, and having one person to rely on during times of hardship. It can be stated that
these findings support the hypothesis that the two investigated factors can make an impact on birth outcomes. In addition, these findings can contribute to the Health Start Initiative effectively improving assistance with identifying factors; which contribute to maternal stress and social support. Similarly, these findings will allow case managers and health care workers to offer services which may lift the burden of hardship.

Conclusion and Discussion

Perceptions of maternal stress and social support were the direct focus of this research. Directly, this is a brief exploratory study and does not investigate each factor that may contribute to poor pregnancy outcomes among African American women. These results contribute to the ongoing investigation of the complex subject of African American infant morbidity. These findings set the stage for a logical connection and longitudinal study of how stress and social support contribute to African American infant mortality. Qualitative research data collected reflect accounts and findings from a small sample of one selected community, stress factors may vary in different areas and racial groups and individuals. This research is geographically limited in obtaining a complete overview of all African American communities. The convenience participant sample from the Healthy Start Initiative; interviews and focus group may provide a bias in anticipated results.

This research is an overview from prenatal participant’s personal outcomes, behaviors, and private experiences. It cannot be generalized all African Americans women share similar perceptions of stress and social support. Also, it cannot be assumed that African American women have experienced more stress than their Caucasian counterparts. Directly, results present
multiple limitations will also be limited by the subjects’ ability to recall all information accurately and honestly respond to interview questions. Every individual has different factors of life course experience. The location of the selected study has specific demographics, which differs from other surrounding populations. Although, it is evident that multiple factors contribute to this study was confined to simply explore these two factors of maternal perceptions of stress and social support in the lives of three women. The nature of qualitative research is such that findings were of a local nature; that is, findings result from Greater Englewood participants and cannot be assumed to be generalizable to other populations. This study may present logical fallacies due to the time restraint, limited literature review, and research focus. Thus, the reason this study is coined exploratory and sets the stage for an in-depth detailed longitude study.

References


Appendix

All information and reports from participants will remain confidential. Compiling data from qualitative mix methods will hopefully supply commonalities that may link to the prevalence of the disparity. Thus, providing a conclusion; how these detrimental factors can present adverse birth outcomes among this high risk group.