

“WE’VE GOT TO FIRST LEARN THAT BREASTFEEDING IS FOR US”
A POSITIVE DEVIANCE INQUIRY OF THE LONG-TERM BREASTFEEDING
EXPERIENCES OF AFRICAN-AMERICAN WOMEN IN THE WIC PROGRAM

by

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(Under the Direction of Marsha Davis)

ABSTRACT

African-Americans have the lowest breastfeeding rates in comparison to other racial/ethnic groups in the United States. Few studies have examined the breastfeeding experiences of African-American women. The purpose of this qualitative research study was to explore the breastfeeding experiences of low-income African-American women using the Positive Deviance Approach. Positive Deviance is an asset-based model that works within resource poor communities to identify individuals who have achieved a desired health outcome, such as breastfeeding despite their risk factors (i.e. race and income). The Theory of Planned Behavior served as the conceptual framework for this study. Three research questions guided this Positive Deviance Inquiry: (1) How did mothers form the intention to breastfeed during pregnancy? (2) What enabled mothers to initiate and maintain breastfeeding during the first few weeks after birth? (3) What enabled mothers to continue breastfeeding for 6 months or longer? In the first study, 3 focus groups were conducted with 23 WIC breastfeeding peer counselors (PCs) to better understand breastfeeding in low-income African-American women. Three main themes emerged: Breastfeeding Intentions-“*I had no idea when I was pregnant*”, Breastfeeding

Initiation-“*Even if she doesn’t continue*”, and Breastfeeding Continuation-“*We’re still having a problem with our duration*”. In the second study, individual interviews were conducted with 11 African-American mothers identified as Positive Deviants, who were WIC recipients, had breastfed one child for at least 6 months. Four main themes developed: Deciding to Breastfeed-“*When I found out the benefits*”, Initiating Breastfeeding-“*In the beginning, it was hard*”, Breastfeeding Long-Term “*Dedication, patience, commitment, and sacrifice*”, and Gaps in Breastfeeding Support-“*Push the issue more.*” An additional theme emerged using data from both studies. *Historical & Socio-cultural Complexities* describes larger historical and socio-cultural variables impacting breastfeeding norms that are unique to African-American women. Findings from both studies indicate gaps in breastfeeding support that should be addressed using a socio-ecological approach. Despite low breastfeeding rates nationally, African-American women with lower-incomes are able to breastfeed with adequate social support and commitment. Lessons learned from Positive Deviants can be used in designing culturally-tailored breastfeeding interventions. Future research should examine the historical and socio-cultural complexities influencing African-American women’s breastfeeding behaviors.

INDEX WORDS: breastfeeding; African-American; women; qualitative; positive deviance;
 WIC

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DEDICATION

“Now to him who is able to do immeasurably more than all we ask or imagine, according to his power that is at work within us, to him be glory in the church and in Christ Jesus throughout all generations, for ever and ever! Amen.”

Ephesians 3:20-21 NIV

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If you are reading this as an aspiring doctoral student, I cannot testify enough of the goodness of God. You can embark on the marathon of a doctorate degree without God, but your journey will

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Philippians 1: 3-4, 9

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CHAPTER 1

INTRODUCTION

Statement of the Problem

Breastmilk is the optimal form of nutrition for infants. Many professional organizations have endorsed breastfeeding as the normative standard for infant growth and development (USDHHS, 2011). While the benefits of breastfeeding for both mothers and infants are numerous, breastfeeding rates are lowest in the African-American community (CDC, 2013). For African-American infants, the current breastfeeding rates of 58.9% initiation, 30.1% at 6 months, and 12.5% at 12 months are substantially lower than the *Healthy People 2020* targets (CDC, 2013). This rate is also 16.3% points lower than the initiation rate in the White community. The breastfeeding disparity between African-Americans and Whites is greatest in the southeastern states where the difference in breastfeeding initiation rates has been as large as 20% points or greater (CDC, 2010).

Although a lot of the published breastfeeding research has focused on low-income African-Americans (Ludington-Hoe *et. al*, 2002), the racial difference in breastfeeding practice is not explained by differences in socioeconomic status (CDC, 2010). Forste and colleagues (2001) found that African-American mothers were more than twice as likely to formula feed their infant than White mothers, even after controlling for socio-demographic and birth characteristics, and indicated that they preferred “bottle feeding.” A previous analysis of 2004 National Immunization Survey (NIS) data found that African-Americans had lower breastfeeding rates than Whites in every socioeconomic bracket, with the largest disparity between races in

rural areas (CDC, 2006). Additionally, African-American college graduates had a breastfeeding initiation of 52.0% compared to 64.2% among their White counterparts ($p < .001$) (CDC, 2006).

Ludington-Hoe and colleagues (2002) note that “the cultural norm that breastfeeding is not socially acceptable is a major deterrent” in increasing breastfeeding rates among African-Americans and eliminating the racial sensitive images in this community. One study reviewing how breastfeeding was framed in popular magazines noted that only 3.2% of African-American magazine articles portrayed disparity. The author also mentions there is a lack of breastfeeding role models and culturally breastfeeding and that a widely circulating parenting magazine does not exist for this audience (Frierichs *et. al.*, 2006). Other barriers to addressing this disparity in African-Americans include lack of knowledge of how to breastfeed, attitudes toward breastfeeding, and lack of familial and partner support are just a few of the barriers to breastfeeding, which may outweigh the benefits for many women (Mitra *et. al.*, 2004). Common factors associated with mothers deciding not to breastfeed or not continuing to breastfeed are social and cultural norms, the media, returning to work or school, the mother’s psychological health, guidance from health care providers, and hospital maternity-care practices (Kimbrow, 2006; Henderson *et. al.*, 2003; CDC, 2006, 2010).

Breastfeeding rates for African-Americans have increased substantially in recent years. In 2000, the breastfeeding initiation rate was 47.4%, with 16.9% of African-American infants breastfed at 6 months and 6.3% at 12 months. By the year 2008, breastfeeding initiation had increased by 11.5%, with rates at 6 months and 12 months increasing by 13.2% and 6.2%, respectively (all significant at $p < 0.01$) (CDC, 2013). Information from the *It’s Only Natural* campaign to promote breastfeeding to African-American families, suggest that the current breastfeeding initiation rate is around 62%, with 36% breastfeeding at 6 months (Office of

Women's Health, 2013). Thus, more African-American women are choosing breastfeeding as their infant feeding method.

Despite the increase in breastfeeding rates among African-Americans over the past decade, there is still a gap in the literature regarding what determinants contribute to this breastfeeding disparity. The Centers for Disease Control and Prevention (CDC) encourages public health professionals to “work toward reducing racial/ethnic disparities in breastfeeding” (CDC, 2010). Additionally, limited studies have focused on the experiences and outcomes of African-American women who do breastfeed. Asiodu & Flaskerud (2011) state “It is important for us to understand and describe qualitatively the perceptions and experiences of African-American women about breastfeeding as their rates are low and their voices are absent in much of the lactation literature.” More qualitative research is needed to better understand the process of breastfeeding, including decision-making and experiences in African-American women from their perspective. Research should acknowledge the local knowledge of African-American women and assess their existing community resources and supports around breastfeeding (Fowles 2007). This is suggestive of an asset-based research approaches (also called strength-based research) which emphasize the need to readdress the balance between meeting needs and nurturing the strengths and resources of people and communities (Morgan & Ziglio, 2007). If we can learn the success strategies of African-American mothers who are breastfeeding, public health professionals can better educate, empower and support more African-American women to do the same.

One asset-based approach to fill the knowledge gap is Positive Deviance. The Positive Deviance approach involves identifying uncommon health behaviors that improve health in resource poor communities to inform the development of community health programs (Marsh,

2004; Walker et al, 2007). The traditional problem solving approach, commonly used in public health, is from a needs-based perspective, and asks questions such as “What is wrong here? What is needed?” Positive Deviance uses an asset-based approach and asks “What is going right here? What are the existing community resources, and how can they be utilized?” (Sternin, 2002). Core assumptions of this approach include that wisdom and resources already exist within communities, and the communities, therefore, should be involved in discovering solutions to their own problems. This sense of ownership ensures long-term commitment and sustainability of any developed solutions.

According to Sternin (2002), Positive Deviance approach is appropriate to use where the problem or behavior of interest is widespread or is already the norm. Positive Deviance is also appropriate when the long-term goal is behavioral change in current prevalent practices. Positive Deviance is useful when a small number of individuals in the target population already exhibit the desired behavior. As stated previously, although more African-American women are choosing to breastfeed, current breastfeeding rates fall short of national objectives. Yet 30.1% are able to breastfeed to 6 months. How are some African-American women able to continue breastfeeding for 6 months or longer durations? Lastly, Positive Deviance focuses on low-resource communities. Women who are from low-income families are also less likely to breastfeed (CDC, 2006). Are there women who are both African-American and low-income who are able to breastfeed for 6 months or longer durations? Using the Positive Deviance approach may be a useful strategy for addressing racial disparities in breastfeeding.

Purpose of the Study

Therefore, the purpose of this qualitative study was to explore the breastfeeding experiences of low-income African-American women using the Positive Deviance approach.

Three research questions guide this Positive Deviance Inquiry. Specifically:

- (1) How did mothers form the intention to breastfeed their children during pregnancy?
- (2) What enabled mothers to initiate and maintain breastfeeding during the first few weeks after birth?
- (3) What enabled mothers to continue breastfeeding for 6 months or longer?

Public Health Implications

Learning lessons from African-American women who have successfully breastfed can be used in breastfeeding interventions and campaigns targeting this population. African-Americans in the United States have higher rates of diabetes, obesity, and other chronic diseases.

Breastfeeding has many health benefits and improved rates can help decrease disproportionate burden of disease facing African-Americans. Findings from this study can aid public health professionals in implementing effective interventions to decrease the breastfeeding disparity between African-American women and those of other races. Decreasing the breastfeeding disparity will subsequently decrease the disparity in infant morbidity, and result in improved infant and maternal health for African-American women, and the United States at large.

Subjectivity Statement

I, the researcher for this study, am a well-educated African-American who became interested in breastfeeding due to my lack of exposure to breastfeeding as a child. I am married without children. I do not have a family history of breastfeeding, except for two younger cousins who decided to try breastfeeding their small children. My home-state, Louisiana, has some of the lowest breastfeeding rates in the Nation (CDC, 2013), and experiences great health disparities such as infant mortality, obesity and cancer (Louisiana Department of Health & Hospitals, 2012).

While growing up in Baton Rouge, Louisiana in the 1990s and early 2000s, I seldom ever saw women breastfeeding. It was not practiced nor discussed in my family or really on television. I come from an African-American middle class family, and my parents grew up in poverty during times where breastfeeding was still the norm. Neither I nor my sister was breastfed because my father encouraged my mother not to breastfeed, from fear of her being exposed in public.

During my undergraduate studies in nutrition at Louisiana State University, I took a course on Nutrition of the Life Cycle, and became fascinated with breastfeeding. I decided during my graduate studies in public health, to explore the literature on breastfeeding as I focused my research on maternal and child health. I was saddened, yet not shocked to find that, not only did Louisiana have some of the lowest breastfeeding rates nationally but African-American women did as well.

Examining breastfeeding from the socio-ecological model, if African-American women have supportive interpersonal networks (family and friends), organizations (local businesses, non-profits), communities (school, work, healthcare providers), and public policy (national, state, and local legislation), breastfeeding rates will increase and the maternal and child health of African-Americans will improve. The literature is full on data on health disparities on how minority women, like me, are at increased risk for adverse pregnancy outcomes. Increasing breastfeeding among African-American women could decrease infant mortality, childhood obesity and prevent the incidence of breast cancer.

When I originally wrote the proposal for this research, I had little knowledge of Black Feminist Thought. I knew it was important to allow African-American women to share their own stories on successful breastfeeding, given the overwhelmingly negative tone on breastfeeding

and African-American women in the published literature. It was until after I begun collecting data that I realized just how powerful and deep these stories were. Several scholars whose work I admired and was inspirational to this research use Black Feminist Thought. I struggled with whether, as a Black woman, I needed to include this perspective. I never labeled myself as a “feminist”. The word actually carried a negative connotation to me. Yet, I now know the ideals and values that I bring to my research are very much feminist in nature. I am still learning about feminist and Black feminist theories as they pertain to my research interests in racial disparities in breastfeeding and maternal and child health in general. Since, my study as already designed around Theory of Planned Behavior (of which I am more familiar), I decided to explain Black Feminist perspective may be useful for future research on breastfeeding in African-American women.

As the American culture has become more open and supporting of breastfeeding, I encourage my friends to breastfeed and have made the decision with my husband that our children will be breastfed. I am passionate about health disparities affecting the African-American population and embarked upon this study to work toward eliminating disparities at the beginning of the life cycle. I agree with the World Health Organization (2003), that “virtually all mothers can breastfeed provided they have accurate information, and support within their families and communities and from the health care system”, including African-American mothers.

Definitions

Definitions of the terms and concepts central to this study are presented here.

African-American- defined for this study as a self-identified person native to the United States with African ancestry, which is often untraceable to a specific African country. This term is often used interchangeably with Black, which can also refer to a person of African ancestry native to another country.

Breastfeeding- defined for this study as the feeding of a mother's own breast milk to her infant, which could have occurred by either direct feeding at the mother's breast or by feeding expressed breast milk from a bottle or other method. Mothers providing their infants both breastmilk and formula or other liquids are also considered to breastfeed.

Abbreviations & Acronyms

CDC-Centers for Disease Control & Prevention

NIS-National Immunization Survey

PC-peer counselor

USDHHS-United States Department of Health & Human Services

WHO-World Health Organization

WIC- Special Supplemental Nutrition Program for Women, Infants and Children

CHAPTER 2

LITERATURE REVIEW

Introduction

This chapter presents a review of literature relevant to the proposed study exploring the breastfeeding experience of African-American women participating in the WIC program. Firstly, the benefits of breastfeeding will be discussed, along with breastfeeding recommendations set by professional health organizations. Demographic and psychosocial factors influencing breastfeeding practices will then be presented. Next, an overview of the literature on breastfeeding and African-American women will highlight what is known about the topic and identify knowledge gaps to be filled by future research. The chapter concludes with an explanation of why Positive Deviance can be used to research breastfeeding disparities and provides the conceptual model guiding this study.

Breastfeeding Benefits

Numerous studies and public health campaigns have highlighted the health and developmental benefits for infants fed breastmilk in comparison to infant formula. Breastfeeding not only has a positive effect on cognitive function later in life, but also provides protection against some diseases later in life, such as celiac disease and cancer (Schack-Nielsen & Michaelsen (2006). Breastfeeding is also associated with a reduced risk of obesity later in life (Owen et al 2005). Other health benefits for infants, include reduced risk for type 1 and type 2 diabetes, sudden infant death syndrome (SIDS), atopic dermatitis, and asthma (Turck, 2007). In terms of maternal health benefits, women with a history of breastfeeding have a reduced risk for

type 2 diabetes, breast and ovarian cancers (Turck, 2007). Additionally, longer durations of breastfeeding may have a protective effect against maternal postpartum depression (Turck, 2007). The *Surgeon General's Call to Action to Support Breastfeeding*, describes economic benefits, such as saving about \$1,500 on infant formula in the infant's first year, and higher productivity for employers and employees due to less time off to care for ill children (U.S. DHHS, 2011b). It also gives examples of beneficial environmental effects, "generally requires no containers, no paper, no fuel to prepare, and no transportation to deliver, and it reduces the carbon footprint by saving precious global resources and energy."

Breastfeeding Recommendations

The American Academy of Pediatrics (2012) recommends infants be exclusively breastfeed until 6 months of age and that breastfeeding continue with appropriate complementary foods until age one or beyond. Other prominent health professional organizations that have endorsed breastfeeding with similar recommendations include the American College of Obstetricians and Gynecologists, American College of Nurse-Midwives, Academy of Nutrition and Dietetics, and American Public Health Association, (U.S. DHHS, 2011b). On an international level, the World Health Organization (WHO) recommends infants be exclusively breastfed until age six months for "optimal growth, development and health" (WHO, 2003). From then on, WHO recommends introducing appropriate complementary foods while breastfeeding continues until two years of age or older. WHO believes that with the right knowledge and social support, all mothers can learn how to breastfeed (WHO, 2003).

In the national health goals outlined for Maternal Infant and Child Health, *Healthy People 2020* includes objectives on improving breastfeeding rates in the United States. These objectives are to have 81.9% of women breastfeed in the early postpartum period, 60.6%

breastfeeding at 6 months, and 34.1% breastfeeding at 1 year. Additionally, in terms of exclusive breastfeeding, objectives are to have 46.2% of women breastfeed exclusively through 3 months, and 25.5% through 6 months. Other objectives related to improving breastfeeding rates include increasing worksite lactation support programs, reducing infant formula supplementation within the first 2 days of life, and increasing the number of Baby-Friendly facilities to provide the recommended care for breastfeeding mothers and babies (U.S. DHHS, 2010).

The *Surgeon General's Call to Action to Support Breastfeeding* of 2011 highlights that despite the benefits of breastfeeding there are a lot of areas to be addressed for mothers to reach their breastfeeding goals. It outlines action steps that can be done by mothers & their families, communities, the health care system, employers, researchers and the public health sector. Additionally, the Call to Action notes that the key barriers to breastfeeding for mothers are Lack of Knowledge, Embarrassment, Lactation Problems, Employment and Child Care, Poor Family and Social Support, Health Services, and Social Norms (U.S. DHHS, 2011).

Factors Influencing Breastfeeding Initiation & Duration

According to the most recent data available from the NIS (2010), early postpartum breastfeeding rates in the U.S. increased from 70.9% in 2000 to 76.5% in 2010. Thus, the United States achieved the previous *Healthy People 2010* goal of 75% of all mothers nationwide initiating breastfeeding. Additionally, between 2000 and 2010, breastfeeding rates increased at 6 months from 34.2% to 49.0%, and at 12 months from 15.7% to 27.0%. Current rates of exclusive breastfeeding are 37.7% at 3 months, and 16.4% at 6 months. This data indicates breastfeeding rates continue to increase during the early postpartum period, and at both 6 and 12 months postpartum (U.S. DHHS, 2011a).

Despite the increase national trends in breastfeeding, initiation and duration rates differ among certain subpopulations. Biological factors shown to affect breastfeeding include maternal obesity, method of delivery, parity, physical challenges, maternal substance use, insufficient milk supply or infant health problems (Thulier & Mercer, 2009). However, these challenges occur among all populations of women. When considering breastfeeding rates in the United States by socio-demographic factors, mothers who are younger, unmarried, non-Hispanic Blacks (African-Americans), WIC recipients, less educated and socioeconomically disadvantaged demonstrate lower rates of breastfeeding (U.S. DHHS, 2010b). These factors will now be examined in more detail.

Demographic Factors

Race/ethnicity

Research has shown associations between breastfeeding and race and ethnic background of the mother. Data from the 2007 NIS has shown similar breastfeeding trends by race/ethnicity, with Hispanics having the highest prevalence of breastfeeding and African-Americans having the lowest. For, the year 2007, breastfeeding initiation rates were 56.2% among African-Americans, 74.4% among Whites, and 81.2% among Hispanics (NIS, 2007). According to a report published by the CDC (2013), breastfeeding initiation rates in 2008 were 58.9% among African-Americans, among 75.2% whites, and 80.0% among Hispanics. Breastfeeding rates at 6 and 12 months increased significantly among all three of the aforementioned racial/ethnic groups between 2000 and 2008.

The findings reported by the 2007 NIS are consistent with research studies exploring associations between breastfeeding practices and race/ethnicity. In a study conducted by Hurley et al (2008) on breastfeeding behaviors in a low-income sample, Hispanic mothers were both

more likely to initiate breastfeeding than African-American and white mothers and to breastfeed for longer durations. Similarly, Forste (2001) found that race was a strong predictor of breastfeeding initiation even after controlling for other socio-demographic factors and birth characteristics. Black women were 40% less likely to breastfeed than women who were non-black.

Socioeconomic Status

Women of low socioeconomic status also have subpar breastfeeding rates. According to the NIS for 2009 births, only 67% of mothers with less than a high school education and 66.1% of high school graduates reported breastfeeding, compared to 88.3% of mothers who were college graduates. Additionally, women living below 100% poverty level had a breastfeeding rate of 67.0%, while 84.4% of those at $\geq 350\%$ poverty level breastfeed (U.S. DHHS, 2010b). Another factor influencing both breastfeeding initiation and duration is maternal employment, which is the norm for many women of childbearing age in the United States. In 2012, 57% of mothers with infants were employed, with 36.5% employed full-time (35 hours or more) (Bureau of Labor Statistics, 2013). Mothers employed outside the home are another group that tends to have lower breastfeeding rates. According to the CDC (2012), working women are less likely to initiate breastfeeding, and those that do initiate breastfeed for shorter durations than women who are not working. Using a national sample of 228,000 mothers, Ryan, Zhou and Arensberg (2006) compared rates of breastfeeding initiation and duration to six months postpartum between women employed full time, part time, and those not employed outside the home. Breastfeeding initiation in the hospital was 65.5% for full time mothers, 68.8% for part-time, and 64.8% for not employed. Breastfeeding at 6 months was 26.1% for full-time mothers, 36.6% for part-time, and 35% for not employed. Employment status was a significant predictor of breastfeeding at 6

months postpartum. Mothers who were not employed were twice as likely to continue breastfeeding at 6 months as those employed full-time.

WIC program

Studies have also shown a negative association between breastfeeding and participating in the WIC Program. The WIC program provides prenatal education to mothers on both breastfeeding and formula feeding. WIC program guidelines allow mothers to receive infant formula if she decides not to breastfeed. Breastfeeding mothers on the other hand, receive an enhanced supplemental food package for one year postpartum along with breastfeeding support, breast pumps and other services. The option of free infant formula has been reported to discourage breastfeeding among this population and therefore have a negative effect on breastfeeding rates of WIC participants (Thulier 2009). NIS data indicate that only 67.5% of women receiving WIC breastfeed, compared to 77.5% of women who are eligible but not participating in WIC, and 84.6% of ineligible women (NIS). Ryan & Zhou (2006) compared breastfeeding rates between WIC participants and non-participants from 1978 to 2003 using the Ross Laboratories Mothers Survey. During that time period, WIC participants had breastfeeding initiation rates on average of 23.6 percentage points less than non-participants. WIC status was the strongest determinant of breastfeeding for mothers of infants 6 months of age, with non-participants twice as likely to breastfeed as WIC participants.

Other Demographic Factors

Other factors that influence breastfeeding rates include the mother's age, marital status, place of residence. Younger mothers are less likely to breastfeed than their older counterparts. Rates of ever breastfeeding were 59.7% among women under age 20, 69.7% for women between the ages of 20 and 29, and 79.3% for ages 30 and older (NIS). These findings were consistent

with previous results of the National Health and Nutrition Examination Surveys (NHANES) which indicated that mothers age 30 and older had significantly higher breastfeeding rates than younger mothers (McDowell et al., 2008).

Research studies have also shown that married women also breastfeed for longer durations. According to 2007 NIS data, only 61.3% of mothers who were unmarried breastfed compared to 81.7% of married women. The report also indicates that married women breastfeed longer, with 51.6% breastfeeding at 6 months and 27.5% at 12 months, compared to 25.5% of unmarried women breastfeeding at 6 months and 11.9% at 12 months (NIS, 2007). Using data from the Fragile Families and Child Wellbeing Survey, Gibson-Davis & Brooks-Gunn (2007) examined the association between breastfeeding initiation and relationship status (married, cohabitating, romantically involved but not cohabitating, and non-romantically involved). The authors found that married mothers were more likely to breastfeed than unmarried mothers, even after adjusting for other socio-demographic factors.

In terms of place of residence, 75.5% of women living in metropolitan areas compared to 66.4% of those living in more rural areas initiate breastfeeding (NIS, 2007). Similar findings were reported in North Carolina. A study conducted in North Carolina found breastfeeding initiation rates ranged from 49.8% in rural counties to 62.1% in urban counties (Lynch et al, 2012). Additionally, 65.4% of women in mixed-urban counties (defined as neither urban nor rural) initiated breastfeeding. Breastfeeding rates also differ by region regardless of sociodemographic characteristics, with rates lowest in the Southern region of the United States and highest in the Western region (Ryan, Zhou & Gaston, 2004).

Psychosocial Factors

Breastfeeding Intention

Prenatal intention to breastfeed is related to actual breastfeeding behavior. One national study using Pregnancy Risk and Monitoring System (PRAMS) data discovered an association between prenatal intention to breastfeed and both breast feeding initiation and duration (Ahluwalia, Morrow & Hsia, 2005). Among the women who indicated before delivery that they planned to breastfeed, 98.6% initiated breastfeeding, with 80.6 % continued breastfeeding for more than 4 weeks. Among the women reporting they might breastfeed, 68.5% initiated breastfeeding, with 41.6% breastfeeding for greater than 4 weeks. However, only 2% of those who stated they did not intend to breastfeed actually initiated breastfeeding, with only 1.1 % breastfeeding for more than 4 weeks.

Intention to breastfeed during pregnancy does not always translate to breastfeeding after birth. A recent report using data from the Infant Feeding Practices Study II concluded that women are not meeting their own breastfeeding goals. Perrine and colleagues (2012) describe how mothers' prenatal intentions to breastfeed exclusively differ from their actual breastfeeding practices postpartum. Of the 1,457 women who prenatally intended to exclusively breastfeed, over 85% intended to exclusively breastfeed for 3 months or more. Despite their intentions, only a third of mothers achieved their intended exclusive breastfeeding duration. While mothers who were obese, smoked, and had longer intentions to breastfeed were less likely to meet their goal, mothers who were married and multiparous were more likely to meet their exclusive breastfeeding intention.

Breastfeeding Self-efficacy

Several studies have examined breastfeeding self-efficacy (BSE), or a woman's perception of her ability to breastfeed her child (Dennis, 2006) as a predictor of breastfeeding

behavior. This concept is often described as breastfeeding confidence. A prospective survey of 300 pregnant women in Australia revealed that mothers with high BSE scores were significantly more likely to breastfeed at 1 week and 4 months postpartum than those with low BSE (Blyth et al, 2002). This finding also held true for exclusive breastfeeding. In a study of 694 pregnant women participating in the Mississippi WIC program, Mitra et al (2004) found breastfeeding confidence to be a significant predictor of breastfeeding. A small descriptive study of 63 women near Toronto found that those with significantly higher BSE levels observed breast-feeding role models through pictures and videotapes, or received praise from either their partners or their own mothers (Kingston, Dennis & Sword, 2007). The study also indicated that mothers with significantly lower BSE levels had experienced physical pain or received professional assistance with breast-feeding difficulties.

Due to the importance of BSE on breastfeeding outcomes, numerous breastfeeding interventions have aimed at improving BSE to improve low-income women's intentions to breastfeed (Mitra et al, 2004). Wilhelm and colleagues (2006) conducted an intervention to determine whether motivational interviewing could improve breastfeeding self-efficacy, and therefore increase mothers' intentions to breastfeed for months. A longitudinal experimental two-group design was implemented with the intervention group receiving motivational interviewing and the other serving as a control group (Wilhelm, et al 2006). Breastfeeding duration was the primary outcome. During the first 6 months, there were no significant differences in breastfeeding duration. However, more women in the intervention group breastfed to 6 months (32% vs. 25%).

Noel-Weiss, Bassett, and Cragg (2006) developed a 2.5 hour prenatal breastfeeding workshop for first-time mothers and their partners, during the last trimester of their pregnancy.

They hypothesized that the prenatal breastfeeding workshop would increase immediate postpartum BSE, and hopefully increase breastfeeding duration. One hundred and ten (110) primiparous women with intentions to breastfeed were randomized into two groups. Both groups received usual prenatal care and the intervention group attended the prenatal breastfeeding workshop. However, mean BSE scores were significantly higher in workshop attendees at both weeks 4 and 8 compared to non-attendees. At week 8, rates of exclusive breastfeeding were higher for attendees (78% compared to 58%) while weaning rates were lower (5% compared to 29%). This workshop proved effective for increasing BSE and rates of exclusive breastfeeding.

Social Support

Support provided by significant others is another major influence on breastfeeding outcomes. Mothers are less likely to breastfeed if they do not have the encouragement and support of others around them. This support system includes the infant's father, family members, and health professionals.

Research has shown that the father of the child is instrumental in a women's decision to breastfeed. A study by Reeves et al (2006) in Florida mothers explored whether mothers' social support system influenced their decision to breastfeed. In response to the item 'The person I received THE MOST support to breastfeed my baby was,' 30.9% of women indicated the baby's father and 19.5% indicated their own mothers. Perceptions on social support differed by race. Whites, Hispanic/Latinos, and American Indian/Native Americans were more likely to indicate that they received the most support from the baby's father, while Black/African-Americans and Asian/Pacific Islanders were more likely to indicate their mothers. In a qualitative study of 19 mothers, Nickerson et al (2012) explored the different ways fathers expressed support of breastfeeding. Mothers reported breastfeeding either being a mutual decision or a decision that

the father left up to the mother. Fathers benefited from breastfeeding classes and education, and provided both emotional support, such as encouragement, and physical support, such as getting necessary supplies. One interesting challenge to breastfeeding was fathers being uncomfortable about breastfeeding in public. Breastfeeding programs have expanded efforts to include fathers in the education on breastfeeding. Stremler & Lovera (2004) reported on a ‘peer dad’ support program for partners of women participating in the Texas WIC program. Preliminary data indicated an increase in breastfeeding rates in clinics that piloted the program.

As mothers continue to breastfeed long-term they may encounter declining support from others. Rempel (2004) explored the factors influencing decisions of women breastfeeding 9-month old infants. The researcher found that as participants continued breastfeeding, they perceived less approval of their breastfeeding from their support system. This perceived approval strongly affected their intention to continue breastfeeding.

Breastfeeding & African-American Women

Despite increasing breastfeeding initiation and duration rates for all women over the past decade, the CDC (2013) notes that African-American women and infants consistently have the lowest breastfeeding rates. The breastfeeding rates among this population are substantially below the *Healthy People 2020* objectives. Between 2000 and 2008 breastfeeding initiation rates among African-Americans increased 11.6 percentage points, from 47.4% to 58.9%. Breastfeeding at 6 months increased from 16.9% to 30.1%, while breastfeeding at 12 months went up from 6.3% to 12.5%. Although these increases are great public health achievements, the gaps in breastfeeding rates between African-Americans and other racial/ethnic groups is still daunting. The largest increases in breastfeeding initiation and duration at 6 months were greatest among African-American infants during this time period. Yet, for 2008 births, there was a 16.3

percentage point difference between African-American and Whites for breastfeeding initiation and 16.5% percentage point gap for breastfeeding at 6 months. The recent report by the CDC (2013) concluded that “black [African-American] mothers might face unique barriers to meeting breastfeeding goals and might need additional support to start and continue breastfeeding.”

The barriers that any mother faces when deciding to initiate or sustain breastfeeding are many. However, barriers to addressing the breastfeeding disparity in African-Americans include lack of knowledge of how to breastfeed, attitudes toward breastfeeding, and lack of familial and partner support (Mitra *et. al*, 2004). These are just a few of the barriers to breastfeeding, which may outweigh the benefits for many women.

McCann, Baydar & Williams (2007) found African-American women were less knowledgeable about the benefits of breastfeeding and to agree more with statements about barriers to breastfeeding instead of breastfeeding benefits. When asked the statement “You know a lot about breastfeeding,” only 42% of African-American women agreed, compared to 63% of Whites, and 58% of Hispanics. In addition, African-American mothers had the lowest agreement with statements “Breastfeeding alone gives a *new* baby all it needs to eat” and that breastfeeding helped women lose weight. Only 40% of African-American mothers agreed that breastfeeding is easier than bottle feeding. Cricco-Lizza (2006) found that low-income African-American women reported receiving limited breastfeeding education and support from their physicians and nurses during pregnancy and after birth in the hospital. Similarly, Liberatos & McIntyre-Daniel (2012) found over 25% of college-educated African-American women reported their health care provider did not discuss infant feeding methods with them. Another one-third had already decided on an infant-feeding method before their health care provider raised the issue.

Another barrier, perhaps posing a larger concern than knowledge, attitudes, and beliefs, are social support and the social norms around breastfeeding in African-American communities. The cultural norm among African-Americans is that breastfeeding is not socially acceptable, which makes efforts to increase their breastfeeding rates and eliminate the racial disparity a complicated matter (Ludington-Hoe et al, 2002). Robinson & VandeVusse (2009) asked breastfeeding African-American participants their opinions of why other African-American mothers don't breastfeed. These reasons included lack of maturity, decreased education, laziness, selfishness, lack of attention in the media, and breasts viewed as sexual objects.

African-American mothers have been found to indicate a preference for bottle feeding, which refers to use of infant formula (Forste 2001). Several qualitative studies have reported that formula-feeding is the norm for most African-American women and that the opinions of friends and family members could encourage or discourage women to breastfeed (Cricco-Lizza, 2004; Lewallen & Street, 2010). There is also a lack of breastfeeding role models and culturally sensitive images in this community (Frerichs et al 2006); (Ludington-Hoe et al, 2002). In a cross-sectional study with women from different races/ethnicities, beliefs about whether others approve or disapprove of breastfeeding were found to be the biggest predictor for African-American women to exclusively breastfeed (Bai, Wunderlich, & Fly, 2011).

Very few studies have examined characteristics of women, especially African-American women, who are able to breastfeed despite the social and cultural barriers to breastfeeding (Ma & Magnus, 2011). The majority of research done on breastfeeding and African-American women is quantitative research studies (Robinson & VandeVusse, 2009), with primarily cross-sectional designs. However, the few studies examining breastfeeding from the perspectives of African-American women have used qualitative research methods (Mc-Carter-Spaulding, 2007; Corbett,

2000; Lewallen, 2010). Qualitative methods are useful in providing a holistic perspective on a given phenomenon and on examining individual's experiences, such as breastfeeding.

Qualitative methods are also important in generating theory.

Mc-Carter-Spaulding (2007) conducted a focus group study with eight Black women about their breastfeeding experiences. However, only one participant identified as American, while four were of West Indian/Caribbean descent, and three were African. Participants were also middle class and well educated. These findings may not be transferable to African-American women, especially those of lower incomes and education levels. Additionally, only one focus group was conducted and therefore not enough data was collected to reach saturation.

An ethnographic field study was conducted by Corbett (2000) with 10 women about infant feeding styles of low-income Black women. Interviews were conducted throughout the infant's first year of life. Six women intended to breastfeed at hospital discharge, but only five were breastfeeding at two weeks postpartum, and two breastfed past six months. However the strategies and supports utilized by these two women were not explored in detail. The author only describes the patterns of breastfeeding, decision-making process, and knowledge, attitudes and beliefs.

Lewallen (2010) conducted a focus group study with 15 African-American women to explore initiating and sustaining breastfeeding in this group. The author noted that the sample had a longer mean duration of breastfeeding than many other African-American mothers, with an average of 7 months duration for the first baby, and 5 months duration for the second. However, most of the women in this study had 1 to 3 years of college education. Information on what enables some African-American mothers to breastfeed long-term can be useful for breastfeeding education and promotion programs. "If we can assist some low-income black women to have

successful breastfeeding experiences, they in turn can be role models for a new style of infant feeding” (Corbett, 2000, p80). Additional research is needed to highlight successful and long-term breastfeeding experiences of African-American women and findings from these experiences can be used to educate others.

Positive Deviance

Traditionally, the concept of *deviance* has referred to when individual engage in behaviors that go against social norms in a negative way. *Social norms* guide our behavior in society and are “those elements of culture which prescribe (encourage) or proscribe (prohibit) behavior” (Scarpatti & McFarlane, 1975, p2). Social norms are based on our societal values and beliefs and therefore can differ based on our group memberships, such as race/ethnicity, religious, class, gender, age and so forth (Scarpatti & McFarlane, 1975). Norms greatly influence our health behaviors, both negatively and positively (DiClemente et al, 2013).

It is usually assumed that deviance involves a rejection of norms, or “allegiance to norms that conflict with other, more well-established norms and it is also defined...as negative in the sense that is behavior that is morally condemned and punished.” (Yiannakis & Melnick, 2001, p363). Deviance in our society is often linked to topics like crime, juvenile delinquency, immorality, corruption, drug abuse, and mental illness (Scarpatti & McFarlane, 1975). However, not all actions or behaviors that are contrary to social norms are negative. Scarpatti & McFarlane (1975) assert “Deviance may be either positive or negative, since its essential element is variation from a norm” (p22). This leads us to the concept of positive deviance.

If we view deviance from the normative perspective, we can define *Positive Deviance* as a behavior labeled in a superior sense due to its departure from the norm (Heckert, 1997). Simply speaking, it is deviating from the norm in ways that results in favorable outcomes.

Positive deviance is based on the premise that there are individuals in communities that have already solved the community problems facing everyone else, although they have the same resources (Sternin, & Sternin, Pascale, 2010). These individuals are called *positive deviants* and they “employ uncommon, beneficial practices that allow them and their children to have better health as compared to their similarly impoverished neighbors” (Marsh & Schroeder, 2002). Statistically speaking, they are outliers, positively deviating from social norms. For example, mothers dwelling in slums yet are able to keep their children well-nourished while other children in the same community suffer from malnutrition.

Operationalizing Positive Deviance

Interpersonal level theories of health behavior acknowledge that individuals are influenced by their social environment. The attitudes, beliefs, and norms of the people in this social environment, which includes family members, friends, and health professionals, impact the individuals own cognitions and behavior. Given that the social environment impacts individual behavior, it therefore also impacts health (Glanz & Rimer, 2005). Although Positive Deviance in itself is not a theory, rather a methodological approach, it has a theoretical basis.

The field of organizational psychology has plenty to say about positive deviance as a construct. According to Spreitzer & Doneson (2005), individuals are more apt to engage in positive deviant behaviors if their environments empower them psychologically. They state that empowerment “enables employees to participate in decision making, helping them to break out of stagnant mindsets to take a risk and try something new” (Spreitzer & Doneson, 2005). Similarly, when individuals are empowered, they are more likely to perform behaviors that depart from the norm in a positive way.

Some would argue that positive deviance overlaps with two other albeit different concepts, peer pressure and resilience. Peer pressure can be defined as the social pressure an individual feels from their peer group to engage in certain behaviors, or conform to certain norms to find acceptance by the group. Deviance, peer pressure usually has a negative connotation. The literature on peer pressure mainly focuses on children, adolescents, and young adults regarding social pressures to engage in risky-behaviors (negatively deviant), such as underage drinking, smoking, or unsafe sexual behaviors. Positive deviance differs from peer pressure in this sense that individuals engage in behaviors that deviate from the norm, rather than conform to the group norm. However, positive deviance could also occur if there is peer pressure towards positive behaviors such as abstinence from drinking, and performing well in school. Resilience is defined as the ability to bounce back from adversity, or hardiness. Friedman et al (2008) argues “Resilience, for example, is more about personality traits and the effects of external social factors such as social support and involvement in activities whereas Positive Deviance is more about strategies and practices that are protective.”

Contexts for Positive Deviance

In 2002, the *Food and Nutrition Bulletin* published a supplemental issue called “The Positive Deviance Approach to Improve Health Outcomes: Experience and Evidence from the Field.” This issue highlights several examples of research using the Positive Deviance approach to address various health issues around the world, mainly in Vietnam. The preface opens with this statement, “Positive deviance refers to a phenomenon that exists in many resource-poor communities” (Marsh & Schroeder, 2002). Perhaps this is the reason why Positive Deviance is popular in developing countries. Examples highlighted in this issue include a Positive Deviance-informed Health approach to addressing child malnutrition in Leogane, Haiti, Save the

Children's child nutrition program in Viet Nam using the Positive Deviance approach, research using Positive Deviance to identify model newborn care practices for intervention development in Haripur, Pakistan.

Although plenty of the Positive Deviance literature in a health context focuses on child malnutrition in developing countries, other resource-poor settings can benefit from this research approach. Ideas that come to mind are low-income communities, and health care clinics and non-profit organizations with limited funding, personnel and resources. Some health care settings are also using Positive Deviance to inform best practices, to use resources more efficiently and improve health outcomes. Krumholz et al (2011) illustrated an example of how the Positive Deviance approach could be applied to improve the care heart attack patients received at our nation's hospitals.

Characteristics of Positive Deviants

What makes some individuals more likely to be positive deviants for a behavior than others? To answer this question, consider a research example from Vietnam. Dearden and colleagues (2002) examined what factors influenced health behaviors in caregivers of young children using the Positive Deviance approach. They compared attitudes and beliefs, social norms, facilitators and barriers and self-efficacy in caregivers that practiced ("doers") and did not practice ("non-doers") healthy behaviors (feeding children protein rich foods, washing children's hands, and taking ill children to health clinic). Compared to non-doers, doers reported more favorable attitudes and beliefs, received more encouraging advice from family members, and had more facilitators and less barriers, and higher self-efficacy regarding the healthy behaviors.

Breastfeeding Research Using Positive Deviance

Positive Deviance has been used before to research breastfeeding trends. Dearden and colleagues (2002) conducted an assessment of barriers to exclusive breastfeeding among 120 mothers of young infants in northern Viet Nam. Mothers returning to work were 14 times more likely to not breastfeed exclusively. However, they discovered four mothers were able to exclusively breastfeed despite working. The lessons learned from these mothers provided a basis for intervention strategies in Viet Nam to increase rates of exclusive breastfeeding for mothers working in rural settings.

There are several reasons why the Positive Deviance approach would make a great research fit for breastfeeding disparities in African-American women. Positive deviance research has traditionally focused on the uncommon yet successful health behaviors of persons from low-resource contexts (Marsh & Schroeder, 2002). African-Americans have lower breastfeeding rates than Whites in every socioeconomic bracket, with disparities even present between college graduates (CDC, 2006). Yet, low-income African-American women in particular have even lower breastfeeding rates. Using Louisiana PRAMS data, Chin and colleagues (2008) reported a significant difference in breastfeeding initiation rates for Black women by household income, with those in the lowest-income bracket being more likely to not breastfeed. Similarly, prenatal participation in the WIC program, which targets women of low-income households, was associated with lower breastfeeding initiation in Black women.

The traditional approach to addressing the breastfeeding disparity has been from a needs-based or deficit perspective, which asks questions such as “Why are not more African-American women initiating breastfeeding? What is wrong here? How can we help African-American women to breastfeed more?” Positive Deviance approaches the same problem from an asset-

based perspective. Using the same breastfeeding statistics that frame the disparity, Positive Deviance asks questions such as, “How are some African-American women successfully able to breastfeed? What is going right here? What is already working? What are the existing community resources, and how can they be utilized?” (Sternin, 2002). Core assumptions of this approach include that wisdom and resources already exist within communities, and the communities, therefore, should be involved in discovering solutions to their own problems. This sense of ownership ensures long-term commitment and sustainability of any developed solutions.

In addition, only one published study was found that used the concept of Positive Deviance in African-American mothers. Ma & Magnus (2011) explored characteristics of positive deviants for breastfeeding among African-American and White WIC-enrolled first-time mothers using data from the Louisiana PRAMS. They found that about 20% of African-American mothers were positive deviants. Factors statistically significantly different between positive deviants and the rest of the sample included race, Medicaid status, marital status, vaginal bleeding during pregnancy, salaried prior to delivery, size of household, breastfeeding behaviors in hospital after delivery, and currently working or schooling. Additional factors associated with breastfeeding initiation in African-American mothers were having a low birthweight infant and urban residence (Ma & Magnus, 2011). A limitation of this study is that analyses were done with an existing cross-sectional dataset, and therefore could only identify associations and were limited in the characteristics of positive deviants that could be analyzed. Qualitative research is needed to supplement the previously mentioned strategy to “get comprehensive nuances of positive deviants’ characteristics among breastfeeding WIC participants” (Ma & Magnus, 2011), particularly among African-American women.

Conceptual Model

This qualitative study was also guided by the Theory of Planned Behavior (TPB), which was used to frame the research questions and to interpret study findings. According to TPB, human behavior is a function of three things: attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991).

Attitudes are the personal evaluations of the behavior that result from the beliefs about the positive and negative outcomes of the behavior. Subjective norms are the beliefs about whether key people approve or disapprove of the behavior and can assess the pressure individuals are under to perform or not perform the behavior (Conner & Sparks, 1996). Perceived behavioral control is the belief that one has, and can exercise, control over performing the behavior. This concept is similar to the concept of self-efficacy (Conner & Sparks, 1996). These key variables of the TPB lead to behavioral intention, the perceived likelihood of performing a behavior. According to the TPB, the greater the intention towards performing the behavior, the greater the likelihood the behavior will happen. Demographic variables, personality traits, and environmental influences are considered external variables and assumed to influence the behavioral beliefs, normative beliefs and control beliefs that in turn influence intention and behavior (Conner & Sparks, 1996; Lawton et al, 2012). According to Bai et al (2011), “Examination of these constructs and their underlying beliefs rather than broad demographic variables is expected to lead to a better understanding of the dynamics of the behavior (p258).”

A number of studies have used the TPB to study breastfeeding behavior, using various research methodologies. Most of these are cross sectional studies that either only measure breastfeeding intentions or use the TPB to examine breastfeeding behavior postpartum (Lawton et al 2012). For example, Bai, Wunderlich & Fly (2011.) conducted a cross-sectional study with

236 mothers to explore how mothers of different races/ethnicities decided to continue exclusive breastfeeding for 6 months under the TPB. The researchers also determined important predictors of intention to exclusively breastfeed and their underlying beliefs. The study found similar intentions to continue exclusive breastfeeding for 6 months across racial/ethnic groups, yet the importance of each theoretical construct (attitude, subjective norm, and perceived behavioral control) differed by group. Attitudes were the most influential predictors for white mothers, while perceived behavioral control was most important for Latina mothers. For African-American mothers, subjective norm was a stronger predictor of intention than attitudes. Another example of a study using the TPB was conducted by Khoury et al (2005). The study examined factors associated with breastfeeding initiation among low-income mothers as part of the national Loving Support Makes Breast-feeding Work breastfeeding campaign for the WIC program. Attitudes and subjective norms were associated with breastfeeding initiation, but not perceived behavioral control.

The conceptual model for this study (Figure 2.1) is adapted from the TPB to research breastfeeding behavior, specifically initiating breastfeeding and continuing breastfeed for 6 months or longer. The three research questions pertaining to this study are also included in the model. The intention to breastfeed is a function of breastfeeding attitudes, breastfeeding norms, and breastfeeding self-efficacy. Breastfeeding attitudes are based on the beliefs about the advantages and disadvantages of breastfeeding. Breastfeeding norms are the beliefs about whether people in their social network and community, such as family, friends, healthcare providers, and employers, encourage or discourage breastfeeding. For the conceptual model, perceived behavioral control has been replaced with the construct of breastfeeding self-efficacy, which refers to a woman's confidence in her ability to breastfeed. Ajzen (1991) notes that

perceived behavioral control is compatible with Bandura’s construct of self-efficacy, a person’s confidence in their ability to perform a behavior. Based on the review of the literature, it is believed that attitudes, norms, and self-efficacy toward breastfeeding all influence breastfeeding intention. However, it is also believed that there is an interchange between these separate constructs. Breastfeeding self-efficacy not only influences the intention to breastfeed, but whether a woman is confident enough in her ability to initiate and even continues breastfeeding for longer durations.

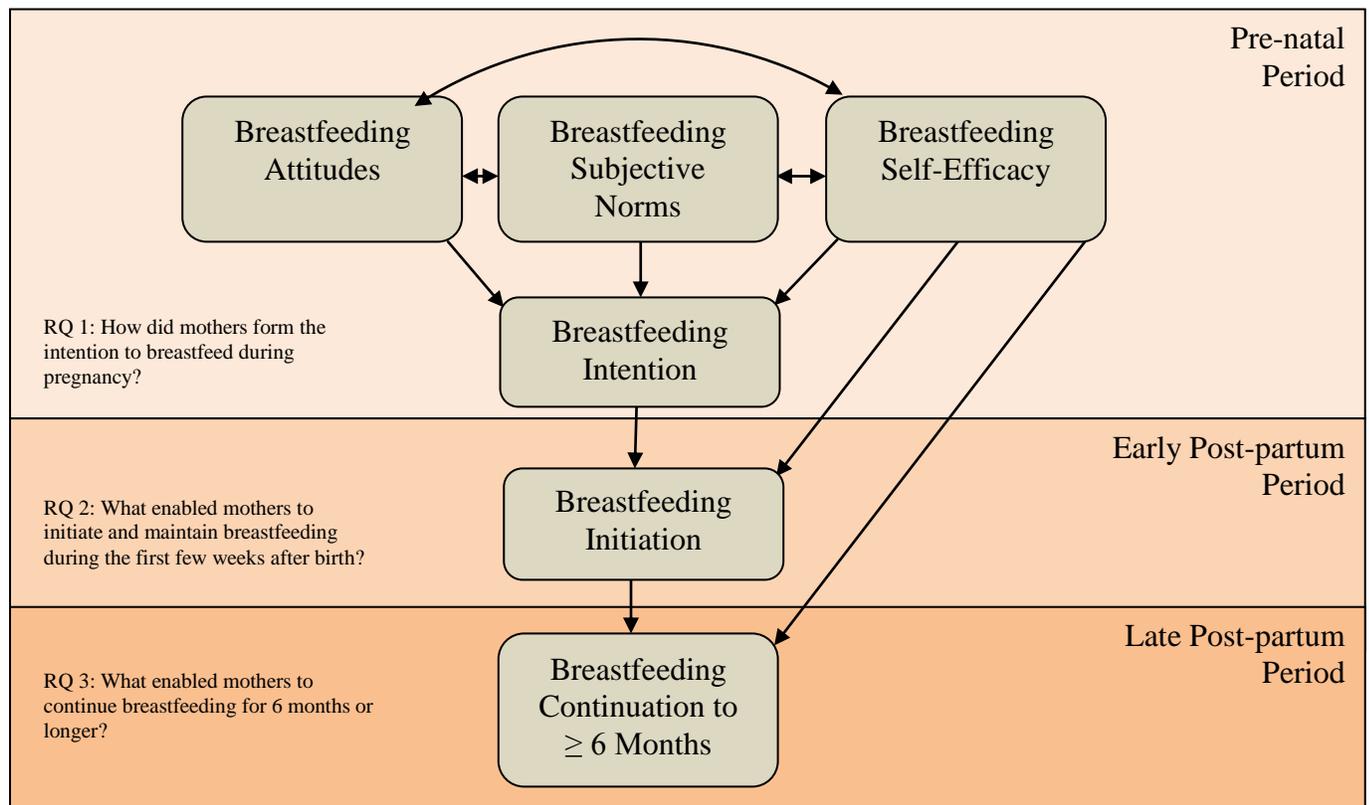


Figure 2.1 Study Conceptual Model

Summary

Breastfeeding has numerous benefits for both mother and child. Several professional health organizations have endorsed breastfeeding as the optimal form of nutrition for infants. A variety of demographic and psychosocial factors influence breastfeeding initiation and duration. However, African-American women are especially at risk for not breastfeeding. Racial disparities in breastfeeding practices continue to perplex the public health community. There are gaps in the literature regarding the actual breastfeeding experiences of African-American women, low-income in particular. Additional qualitative studies are needed to gain a better understanding of African-American women's breastfeeding experiences and the contexts surrounding their decisions to breastfeed. The Positive Deviance approach is an innovative method that focuses on individuals who are succeeding despite the odds they face in resource-poor communities or unfavorable settings/environments. Positive Deviance is also a useful research tool in addressing health disparities. In the next chapter, the details for how this study used Positive Deviance to explore breastfeeding experiences of low-income African-American women are presented.

CHAPTER 3

“WE’RE STILL HAVING A PROBLEM WITH OUR DURATION”: WIC PEER COUNSELORS’ PERCEPTIONS OF BREASTFEEDING IN LOW-INCOME AFRICAN-AMERICAN WOMEN¹

¹ Gross, T.T. and M. Davis, A.K. Anderson, J.N. Hall, K. Hilyard. To be submitted to *Journal of Human Lactation*

Abstract

Background: African-American women have the lowest breastfeeding rates among all racial/ethnic groups in the United States. Despite the overall increases in their breastfeeding rates in the past decade, there are gaps in the literature about their breastfeeding experiences. This research was conducted as part of a larger qualitative study exploring the long-term breastfeeding experiences of low-income African-American women. **Objectives:** The goal of this qualitative study was to understand breastfeeding decisions, norms and practices of low-income African-American women from the perspective of breastfeeding peer counselors (PCs). **Methods:** Three focus groups were conducted with 23 PCs from the WIC program in a Southeastern state. Theory of Planned Behavior guided the focus group questions. All focus group discussions were audio-recorded, professionally transcribed, and analyzed using thematic analysis. **Results:** Forty-eight percent were African-American. 78.2% were married, and 56.5% had some college education and 30.4% had a college degree. Three main themes emerged to describe the factors influencing breastfeeding in low-income African-American women: Breastfeeding Intentions-“*I had no idea when I was pregnant*”, Breastfeeding Initiation-“*Even if she doesn't continue*”, and Breastfeeding Continuation-“*We're still having a problem with our duration*”. **Conclusions:** Low-income African-American women breastfeeding decisions are impacted by numerous factors. Findings from this study suggest a need to broaden public health approach to breastfeeding promotion in this population by moving beyond individual characteristics to examining historical and socio-cultural factors underlying breastfeeding practices in African-American women.

Keywords

Breastfeeding, African-American, WIC, qualitative, peer counselors

Well Established

Although breastfeeding trends in African-American women have improved in the past decade, current rates do not meet *Healthy People 2020* breastfeeding objectives. There are gaps in the literature on the breastfeeding experiences of African-American women.

Newly Expressed

WIC PCs expressed gaps in support to promote long-term breastfeeding in African-American women with lower incomes. Since it was described as “rare”, future research should focus the long-term breastfeeding experiences of African-American women who are successful to inform interventions.

Introduction

African-American women have the lowest breastfeeding rates in the United States of all racial/ethnic groups. For African-Americans, the breastfeeding initiation rate is 58.9%, 30.1% at 6 months, and 12.5% at 12 months (CDC, 2013). Although breastfeeding trends in the African-American community have improved significantly over the past decade breastfeeding rates are substantially lower than the *Healthy People 2020* objectives of 81.9% initiation, and 60.6 % and 34.1% at 6 months and 12 months respectively (CDC, 2013).

Although more African-American women are choosing breastfeeding as their infant feeding method, there is a gap in the literature regarding breastfeeding experiences in this population (Spencer & Grassley, 2013; Robinson & VandeVusse, 2009). Asiodu & Flaskerud (2011) states “It is important for us to understand and describe qualitatively the perceptions and experiences of African-American women about breastfeeding as their rates are low and their voices are absent in much of the lactation literature.” Thus, more qualitative research is needed

to better understand the process of breastfeeding, including decision-making and experiences in African-American women from their perspective.

One behavioral theory commonly used in describing breastfeeding decision-making is the Theory of Planned Behavior (TPB) (Ajzen, 1991). According to TPB, the greater a woman's breastfeeding intention, the greater the likelihood she will breastfeed. Breastfeeding intention then is a function of her personal beliefs about the positive and negative outcomes of breastfeeding (*attitudes*), her beliefs about whether key people approve or disapprove of breastfeeding (*subjective norms*), and her beliefs that she has, and can exercise, control over breastfeeding (*perceived behavioral control*). *Given 58.9% of African-American women initiating breastfeeding, what influences their decision to breastfeed?*

Breastfeeding rates significantly decrease between initiation and six months. Yet, some African-American women are breastfeeding for longer durations (CDC, 2013). *If 30.1% of African-American women are breastfeeding at 6 months, what enables these mothers to be successful?* In addition, women who are low-income are less likely to breastfeed (CDC, 2010). Similarly, there are also regional disparities in breastfeeding in the United States, with rates in Southern states lagging behind those in other regions (CDC, 2010). *What enables some low-income, African-American women to initiate breastfeeding and to successfully breastfeed 6 months or longer in the South?*

One resource for breastfeeding support used by many low-income women is the *Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)* program. WIC participation has been reported to have a negative association with breastfeeding initiation and also breastfeeding duration (Jensen 2012). However, the WIC program has increased its breastfeeding promotion efforts in recent years, by including the Breastfeeding Peer Counseling

Program. A WIC Breastfeeding Peer Counselor (PC) is a “paraprofessional support person who gives basic breastfeeding information and encouragement to WIC pregnant and breastfeeding mothers.” (WIC, 2011) To be a WIC PC, a woman must have successfully breastfed at least one child for six months or longer and be either a current or previous WIC participant. Several studies have noted the important and positive role of community breastfeeding PCs, from WIC and other programs, in improving breastfeeding rates of low-income women (Anderson et al, 2005; Chapman et al, 2010; Gross et al, 2009; Raisler, 2000) *What can PCs add to our knowledge about breastfeeding in low-income African-American women?*

As part of a larger qualitative study exploring the long-term breastfeeding experiences of low-income African-American women from the WIC program (Gross, 2014), we desired the perspective of WIC breastfeeding PCs who serve this population. PCs were selected in that they were seen as gatekeepers to low-income breastfeeding African-American women in their communities. Not only do PCs professionally support this population through the WIC program, but also as “peers” who have breastfed their own children. Therefore, it was believed they can share dual perspectives on the facilitators and barriers to breastfeeding during their care for low-income African-American women. The aim of this qualitative study was to understand the breastfeeding norms and behaviors of low-income African-American women and the larger context influencing their breastfeeding decisions through the perspective of WIC breastfeeding PCs.

Methods

A focus group design was employed for this study because it allowed researchers to gain perspective of multiple PCs who have had various experiences supporting African-American

women to breastfeed (Krueger & Casey, 2000). During June-July 2013, focus groups were conducted with WIC breastfeeding PCs at three health departments in a Southeastern state.

Sample selection and recruitment

Purposive sampling was used to allow selection of participants “whose input will illuminate the questions under study” (Patton, 1990, p. 169). Breastfeeding coordinators for the WIC program in local health districts were contacted via e-mail to introduce the study and invite their PCs to participate. Not every WIC office in this Southeastern state had the Breastfeeding Peer Counseling program. Three breastfeeding coordinators expressed interest in the study and provided study information to the WIC PCs under their supervision. Recruited focus group participants were women who are currently employed as a WIC breastfeeding PC, have African-American mothers on their caseload, and have been employed as a PC for at least a year. All participants provided written informed consent before being recruited and the study was approved by the University of Georgia Institutional Review Board on Human Subjects. A total of 23 PCs participated in the three focus groups. (Two focus groups had eight participants, and the last group had seven.)

Focus guide and facilitation

Three focus groups were held with WIC breastfeeding PCs that work with African-American mothers on their caseloads. Each focus group had 7-8 participants (Krueger & Casey, 2000). The lead researcher moderated the focus groups and had a note taker to observe group discussions and interactions and take notes. TPB was used to develop the focus group discussion guide (see Figure 3.1). The focus group guide was first reviewed by three experts who have worked with WIC on breastfeeding. Then a mock focus group was conducted with female public health graduate students to help the lead researcher and notetaker improve moderating skills and

pilot focus group questions. Each focus group lasted approximately 90 minutes. As a scheduling convenience for PCs, each focus group was conducted immediately following a scheduled WIC staff meeting at their respective health department. Upon obtaining informed consent from each participant, the focus group commenced and was audio-recorded with permission and transcribed within 48 hours of the interview by a professional transcription company. At the end of the focus groups, each participant completed a brief demographic form and received a \$20 gift card to a local retailer as an incentive for participation. The focus groups with PCs were also useful in refining interview questions and recruiting participants for the subsequent phase of the study (Gross, 2014).

Opening

- *As an opening activity, I would like for each of you to take a card in front of you and complete this statement. “As a WIC breastfeeding peer counselor, I get to _____.”*

Introductory question

- *What is the first thing that comes to mind when you hear the phrase “African-American mothers and breastfeeding?”*

Key questions

- *How do African-American mothers come to the intention to breastfeed their children during pregnancy?*
- *Please describe what enables mothers to initiate and maintain breastfeeding during the first few weeks after birth?*
- *What enables mothers to continue breastfeeding for 6 months or longer?*

Ending question

- *I want to better understand the breastfeeding decision-making and breastfeeding experiences of African-American mothers from low-income families. Is there anything that I missed? Is there anything else that you would like to share?*

Figure 3.1 Outline of Focus Group Guide

Data analysis

The lead researcher used thematic analysis to analyze the data. According to Braun & Clark (2006), thematic analysis is “a method for identifying, analyzing and reporting patterns

(themes) within data” (p.77), and can either be conducted in an inductive or deductive manner. Given the TPB formed the conceptual basis for this research, data were analyzed deductively in order to code parallel to theory constructs. The lead researcher familiarized herself with the data by reviewing audio files and notes from the focus groups. Transcripts were double-checked for accuracy with the audio-file. Mind maps were also created to help the lead researcher draw connections between ideas expressed by participants (Burgess-Allen, & Owen-Smith, 2010). Brief memos were used to explain why each passage was considered important to the research objective to aid in building categories (Groenewald, 2008). Repeating ideas were grouped into themes.

Results

Twenty-three women participated in one of three focus groups. Table 3.1 outlines the demographic characteristics of these participants. Each focus group consisted of seven to eight participants. Most of the focus group participants were Black/African-American (47.8%), married with a mean personal breastfeeding duration being 13.74 months. The average length of employment with WIC as a breastfeeding PC was about four years. Three main themes emerged from the focus groups discussions. *Breastfeeding Intentions* discusses the many factors that influence low-income African-American women in deciding whether to breastfeed. *Breastfeeding Initiation* describes the process of initiating breastfeeding after birth and the hospital support and resources that are helpful. *Breastfeeding Continuation* answers the question what enables them to successfully breastfeed 6 months or longer. Figure 3.2 illustrates how the themes are related.

Table 3.1 Focus Group Sample (n=23)	
Age (year)	35.17±SD (Range: 25-50)
Race	
Black	47.8%
White	26.1%
Hispanic/Latino	36.4%
Other	8.7%
Relationship Status	
Married	78.2 %
Cohabiting	4.3%
Single	13.0%
Divorced	4.3%
Education level	
High school diploma	8.7%
Some college	56.5%
College degree	30.4%
No. of children (mean)	3.3 (Range: 1-10)
Length of BF (mean)	13.74 mos. (Range: 1- 60 mos.)

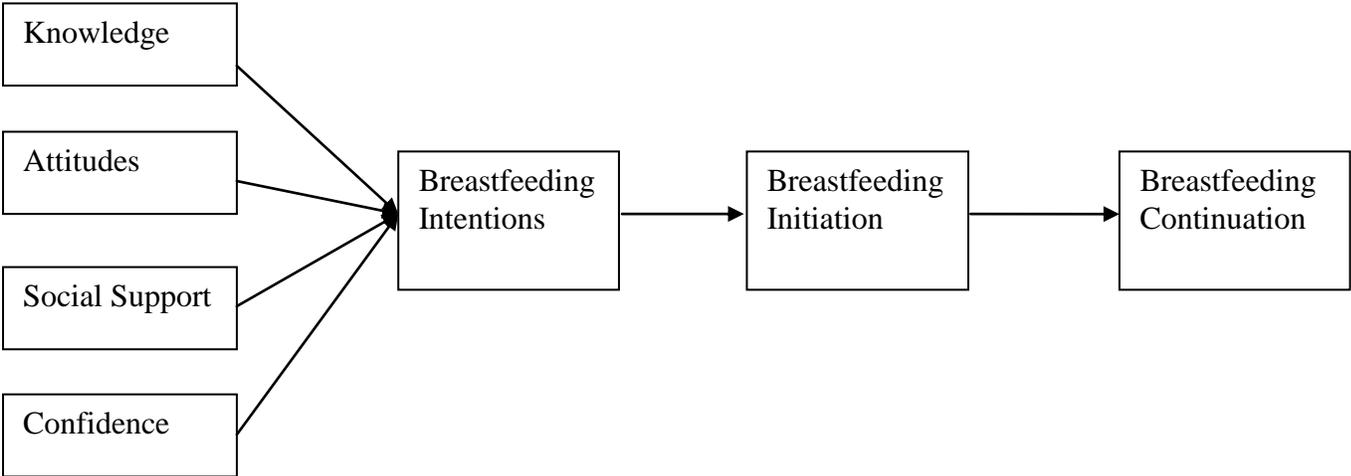


Figure 3.2 Focus Group Thematic Diagram

Breastfeeding Intentions--*“I had no idea when I was pregnant”*

PCs proudly said WIC’s expanded breastfeeding promotion has resulted in more African-American women considering breastfeeding. Yet, deciding an infant feeding method was believed not to be a priority during pregnancy. For low-income African-American women, the focus is more on successfully making it through pregnancy. PCs encourage women that they “don't have to make a decision today at five months pregnant”, but to equip them with information to guide them make the best infant feeding decision. Often, this decision is not made “until the last minute”, either late in pregnancy or during labor and delivery. PCs described the following factors as influencing African-American clients’ decisions to breastfeed, which are parallel to Theory of Planned Behavior constructs.

Knowledge

PCs described a knowledge deficit regarding why breastfeeding is superior to formula. A lot of African-American women don’t understand that “formula’s not the same” as a mother’s breastmilk, and need more education on the difference between formula and breastmilk. Women also need to understand the process of how their bodies make breastmilk to lessen anxiety about having low milk supply. Another knowledge gap identified was the connection between health benefits of breastfeeding and longer breastfeeding durations.

Attitudes

PCs described negative breastfeeding attitudes of their African-American clients. “They don’t think it’s normal.” African-American women “don’t see other black women in their community” breastfeeding. They have grown up normalized to formula feeding. Some women tend to believe infants prefer formula to breastmilk. In turn, formula feeding is seen as “normal” and simpler. Breastfeeding is seen as challenging, because “their responsibilities outside of motherhood are grand and great... a lot of them see it as maybe an impossibility. Although they

realize the breastfeeding benefits, “the obstacles outweigh, overshadow the benefits.” So formula is perceived as fitting in better with their lifestyle. Since African-American women aren’t normalized to breastfeeding, and have busy lifestyles they also believe breastfeeding is only for stay-at-home mothers and White women. The media and internet were critiqued for “not doing us justice” in promoting positive images of African-American breastfeeding women. Other attitudes that PCs discussed related to negative body image and public breastfeeding. Some African-American women “think breastfeeding is nasty and the thought of a baby being on their nipples, their breast, really disgusts them.” Breasts are seen as objects “for sex and not nutrition.” This affects attitudes on breastfeeding in public, something most African-American women are not comfortable doing. The mindset is that “breastfeeding is something that needs to be done in private.” This leads African-American breastfeeding mothers to be out of the public eye. “You’ll never know, they breastfeed because they hide themselves.”

Social Support

Many African-American families were described as discouraging breastfeeding. Within their families there is a lack of breastfeeding history. “It’s not that the families are just out to just be negative,” they just believe formula feeding will be easier, and families have experience caring for formula fed infants. The infant’s grandmother and father were seen as the most influential persons to support or discourage an African-American woman in breastfeeding. “When you speak about the African American culture - The ones, our strongholds, are going to be our significant others and our moms.” PCs felt African-American women were not being supported enough by healthcare providers in their quest to breastfeed. “If the doctor does not mention it,” women will not initiate a discussion on breastfeeding. PCs also shared that doctors do not have as much breastfeeding education as midwives which could be part of the problem.

“Even pediatricians and OB-GYNs need education about breastfeeding.” WIC was viewed as the primary source, and often only source of breastfeeding education for low-income African-American women. PCs shared their African-American clients have often said “you’re the only support I have” to breastfeed.

Confidence

PCs said if mothers feel they have too many barriers to breastfeeding, “it’s going to bring down their confidence.” Many African-American women come to WIC having heard breastfeeding “horror stories” which adds to their uncertainty. “There is a grey area where breastfeeding might work, breastfeeding might not work.” It’s part of the PCs role to increase the mother’s breastfeeding self-confidence. PCs encourage women “just to try” breastfeeding but also to make personal breastfeeding goals centered on their lifestyle. Since WIC offers free breast-pumps, women may believe pumping is the only way they can breastfeed successfully. Breast-pumps give them a “sense of security” until they experience initiating breastfeeding in the hospital. PCs expressed they don’t see a lot of African-American women with the kind of confidence “come hell or high water” they can still breastfeed.

Breastfeeding Initiation-“Even if she doesn’t continue”

The current focus on African-American women is increasing breastfeeding initiation rates and providing prenatal education even if a mother chooses not to breastfeed. According to PCs, breastfeeding rates in their low-income African-American clientele have greatly improved in the past 10 years. PCs were hopeful that in the next 10 years breastfeeding will be more normalized and African-American women’s breastfeeding rates will continue to improve. Several PCs agreed that “Even if she doesn’t continue, I know, I bet when she has her next baby she is probably going to breastfeed much longer.” In other words, if a woman does not breastfeed her

first child very long, perhaps she will breastfeed her next child for a longer duration. However, at the hospital when nurses ask women how they intend to feed their infant, they feel pressured to make a decision. By presenting the option to formula feed or breastfeed, PCs exclaimed this induces anxiety about whether African-American women can actually breastfeed. Many women who express a prenatal decision to breastfeed, do not always initiate breastfeeding. Challenging birth experiences, such as Cesarean delivery, infant jaundice, or blood transfusions, can inhibit breastfeeding initiation.

PCs were adamant that although more hospitals are moving toward baby-friendly practices, hospitals continue to provide subpar breastfeeding support to African-American women. This leads to PCs “putting out fires” when doing home visits to help their clients maintain or reestablish breastfeeding after introducing formula to their infants. Some smaller hospitals in rural areas do not have 24-hour lactation support. Hospitals were perceived as quick to supplement infants with formula and also to send African-American mothers home with “6 pack of formula, just in case.” Yet, one PC thought NICU doctors did promote breastfeeding of premature infants. “The doctors have been telling “If you want to take this baby home you need to do it” ... I have more African-American moms who breastfeed because of that than anything else.”

Pumping was described again as a “lifesaver” for African-American women choosing to breastfeed. Several PCs shared they go against WIC protocol to get clients breast-pumps early to help them continue breastfeeding. African-American women believe it will be easier to pump breastmilk from the beginning if they have plans to return to school or work. Having access to a breast-pump “will solidify the fact of whether she is going to breastfeed at all, let alone long-term.”

Breastfeeding Continuation-“*we’re still having a problem with our duration*”

Despite reporting increases in African-American women initiating breastfeeding, and breastfeeding for longer durations, PCs described breastfeeding for six months or greater as “rare.” Since breastfeeding is not normalized for most African-American women, PCs added that they need to know it’s “okay to breastfeed for longer than six months.” However, many women are intimidated by breastfeeding recommendations to exclusively breastfeed for six months or breastfeed for at least one year. PCs viewed these as important recommendations, but felt many external and socio-cultural factors need to be overcome in order for low-income African-American women to achieve them. Instead, they encourage clients to look at their personal life situations and schedules, and “take it day-by-day and see how far you go and don't put a goal.”

When asked, what enables mothers to breastfeed six months or longer, all three focus groups echoed “support.” African-American women who allowed themselves to be “vulnerable” and receive breastfeeding help within the first few weeks are usually successful in the long-term. However, this may be contrary to the “strong black women image” that African-American women are taught to portray. For example, one African-American PC stated:

A black woman will rarely reach out for help. She got to be down with a nipple falling off her body before she can reach out. And *if* she calls you... She would just rather go to formula and keep it moving. So, pride is our enemy.

This also related to PCs questions why some African-American clients won't return their calls and statements that the “worst nipple cases”, meaning breast health complications for incorrect breastfeeding, were from African-American clients.

Other factors enabling long-term breastfeeding are longer durations of exclusive breastfeeding and strong mother-infant bonding. “Free resources”, such as those provided by

WIC are also important. PCs felt that their breastfeeding services, although free, were underutilized.

Being a stay-at-home mom was expressed as enabling long-term breastfeeding, yet PCs know this is not the reality for most of their African-American clients. Workplace and school support were critical enablers of breastfeeding beyond six months. However, PCs said “they're scared to ask their employers” about breastfeeding accommodations fearing being terminated or having their work-hours reduced. Many women work in the fast-food industry or retail earning minimum wage pay without benefits. This requires them to return to work usually within six weeks after birth. Having daycare providers that are baby-friendly is also important for those returning to work.

PCs believed that if mothers could breastfeed to six months, it becomes easier since they have a “natural” routine and can introduce other foods to the infant’s diet. Weaning challenges were another reason why African-American women continue beyond six months. “No matter how badly they want to stop breastfeeding the baby won't let them.”

Discussion

This is the first study to our knowledge that ascertained the unique perspectives of WIC PCs regarding the barriers and facilitators of breastfeeding in the low-income African-American women they serve. PCs shared their clients have gaps in breastfeeding knowledge, negative breastfeeding attitudes, limited social support, and low breastfeeding confidence which all impact intentions to breastfeed. Several previous studies have reported similar findings on factors influencing breastfeeding intentions of African-American women (McCann, Baydar, & Williams, 2007; Khoury, Moazzem, Jarjoura, Carothers, & Hinton, 2005; Frerichs, et al, 2006); Ludington-Hoe, 2002; Robinson & VandeVusse, 2009)). PCs are focused on encouraging more

African-American mothers to initiate breastfeeding, whether they breastfeed long-term or not. Although described as “rare”, long-term breastfeeding was linked to social support, free resources, and work and school accommodations. A similar focus group study was conducted by Furman & Dickinson (2013) of community health workers (CHWs) who support African-American mothers in Cleveland through a program called Moms First. CHWs mentioned similar barriers to breastfeeding (low knowledge and self-efficacy, lack of social support, negative attitudes and cultural norms, and limited access to breastpumps and lactation support) described by PCs in this study. However, the CHWs in the Furman & Dickinson study differ from WIC PCs in that they have not received extensive training in breastfeeding support nor were hired based on their history of successfully breastfeeding.

The findings of this study present several implications for practice. PCs discussed several gaps in breastfeeding support. Additional breastfeeding education during pregnancy is needed to discuss why health experts state breastfeeding is best and how breastfeeding is nutritionally superior to infant formula. To help change negative attitudes and cultural norms, African-American infants’ fathers and grandmothers should be included in breastfeeding education programs as much as possible as they are the key people influencing women’s breastfeeding decision. In addition, health care providers should be targeted with continuing education on how to encourage and support African-American mothers to breastfeed. Similarly, hospitals need to move toward more Baby-Friendly practices so that African-American mothers do not receive mixed messages about breastfeeding as the optimal form of infant nutrition. To encourage longer durations of breastfeeding African-American mothers will need comprehensive support from employers, school settings and day care providers. Lastly, the media can enhance these suggestions by promoting positive images of African-American women breastfeeding. Given the

number of African-American women enrolled in the WIC program, PCs play an important role in their breastfeeding success.

One important implication for research is regarding the TPB. As an individual level theory, the TPB did not explain all of the emerging patterns in the data. There were several discussions on issues of history and culture which influence low-income African-American women. Recently, other studies have examined the role of culture (Lewallen & Street, 2010; Fisher & Olson, 2013) but few have examined the role of history. A few African-American PCs in this study brought up unique historical issues, such as when African slaves were wet-nurses during slavery and poor African-American women couldn't afford formula when it was first introduced (see Gross, 2014). Exploring these variables may better explain the breastfeeding practices of African-American women. Future research should explore underlying historical and cultural factors that serve as barriers or facilitators to breastfeeding in African-American women.

Limitations

This study was conducted with small, non-representative sample of WIC PCs in a Southeastern state and results may not be transferable to other populations. PCs provided their perspectives on breastfeeding behaviors of their African-American clients. If focus groups were conducted with low-income African-American women themselves, findings may have been different. However, this study is unique in viewing WIC PCs as community experts and assessing their knowledge of the contextual factors surrounding breastfeeding decision of African-American women to inform future research.

Conclusion

Although more African-American women with lower incomes are initiating breastfeeding, they need additional support to continue breastfeeding to the durations

recommended by health experts. Given that long-term breastfeeding is “rare” in this population, future research should examine the successful long-term breastfeeding experiences of low-income African-American women.

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CHAPTER 4

“DEDICATION, PATIENCE, COMMITMENT, AND SACRIFICE”: EXPLORING LONG-TERM BREASTFEEDING IN AFRICAN-AMERICAN MOTHERS IN THE WIC PROGRAM USING THE POSTIVE DEVIANCE APPROACH ¹

¹ Gross, T.T. and M. Davis, A.K. Anderson, J.N. Hall, K. Hilyard. To be submitted to *Journal of Human Lactation*

Abstract

Background: According to the CDC (2013), 30.1% of African-American infants are breastfed at 6 months. However, few studies have explored the successful breastfeeding experiences of African-American women who successfully breastfeed at 6 months or longer durations.

Objectives: The goal of this qualitative study was to explore the long-term breastfeeding experiences of low-income African-American women using the Positive Deviance approach.

Methods: African-American women with breastfeeding experience were recruited through Special Supplemental Nutrition Program for Women, Infants and Children WIC breastfeeding peer counselors. Eligibility criteria included: age 18 or older, currently participating in the WIC program, have breastfed one child for at least six months, in the past two years. Semi-structured in-depth interviews were conducted with participants. The interview protocol was guided by the Theory of Planned Behavior. Interviews were audio-recorded and professionally transcribed. Transcripts were then analyzed for emerging themes using thematic analysis in Nvivo software.

Results: Eleven women were interviewed. Mean age was 29 years, 54.5% married, 54.5% had some college education. Mean number of children was 3, with mean length of breastfeeding 10.5 months. Four main themes developed: Deciding to Breastfeed-*“When I found out the benefits”*, Initiating Breastfeeding-*“In the beginning, it was hard”*, Breastfeeding Long-Term *“Dedication, patience, commitment, and sacrifice”*, and Gaps in Breastfeeding Support-*“Push the issue more.”*

Conclusions: African-American women in this study were able to breastfeed to durations within Healthy People 2020 objectives. Findings can inform practice and research efforts to improve breastfeeding rates in this population using lessons learned from successful women.

Keywords

Breastfeeding, African-American, WIC, qualitative, Positive Deviance

Well Established

African-American women have the lowest breastfeeding rates in the United States of all racial/ethnic groups. However, breastfeeding trends among this population continue to increase.

Newly Expressed

African-American women can successfully breastfeed long-term with adequate social support and dedication. Positive Deviance is a useful asset-based approach to acknowledge successful breastfeeding experiences of low-income African-American women and to learn ideas for future breastfeeding promotion interventions in their communities.

Introduction

It has been well established that breastfeeding is optimal form of nutrition for infant growth and development. Although national breastfeeding trends continue to improve, mothers who are African-American continue to breastfeed at lower rates than mothers of other racial/ethnic groups (CDC, 2013). The traditional approach to addressing this disparity has been from a needs-based or deficit perspective, which asks questions such as “Why are only 59% of African-American women initiating breastfeeding? What is wrong here? “Deficit models tend to define communities and individuals in negative terms, disregarding what is positive and works well in particular populations” (Morgan & Ziglio, 2007). Continually using a deficit approach in breastfeeding research encourages focus on the Black-White disparity and less focus on the significant improvements in breastfeeding trends among African-Americans over the past decade (CDC, 2013). The published body of literature provided a solid knowledge base on the prevalence of breastfeeding in this population as well as the attitudes, norms, and self-efficacy beliefs that African-American communities have towards breastfeeding. However, there is a paucity of research addressing breastfeeding in African-American women that 1) gives voice to

their own breastfeeding experiences and 2) highlights the assets, strengths or resources they hold that can better inform breastfeeding interventions. The research presented here helps to fill these gaps.

Given that the current breastfeeding rate for African-American women is 30.1% at 6 months and 12.5% at 12 months (CDC, 2013), more research is needed to ask, “How do African-American women describe their own breastfeeding experiences? What can we learn from African-American women who have successfully breastfed for longer durations to inform future breastfeeding interventions?” The majority of published research on African-Americans and breastfeeding is quantitative research (Robinson & Vandevusse, 2009). More qualitative research is needed to better understand breastfeeding in African-American women since “their voices are absent in much of the lactation literature” (Asiodu & Flaskerud, 2011).

Research on breastfeeding in African-American women needs to acknowledge women’s local knowledge on health behaviors and utilize their existing community resources (Fowles, 2007). These are key aspects of asset-based research approaches (also called strengths-based research) which emphasize the need to readdress the balance between meeting needs and nurturing the strengths and resources of people and communities (Morgan & Ziglio, 2007). One example of an asset-based framework is the Positive Deviance approach (Sternin, 2002). Applying Positive Deviance methodology, we developed this study to explore the breastfeeding experiences of low-income African-American women who breastfed their children for six months or longer. In turn, the lessons learned can be useful in designing community breastfeeding initiatives that are culturally-tailored and utilize local knowledge and resources.

Overview of Positive Deviance

Positive Deviance involves identifying uncommon health behaviors that improve health in resource poor communities to inform the development of community health programs (Marsh et al, 2004; Walker et al, 2007). The Positive Deviance approach was developed in the 1970's by nutrition experts and has been used in various international settings to address various health issues, such as condom use, family planning, pregnancy outcomes, and child health (Marsh et al, 2004).

In contrast to the deficit-perspective traditionally used in public health, Positive Deviance uses an asset-based approach and asks “What is going right here? What are the existing community resources, and how can they be utilized?” (Sternin, 2002). A core assumption of this approach is wisdom and resources already exist within low-resource communities. Therefore, communities should be involved in discovering solutions to their own problems. Table 4.1 lists the six steps in the Positive Deviance approach.

Table 4.1 Steps of the Positive Deviance Approach
1. Define the problem, perceived causes, and community norms
2. Identify individuals in the community who already exhibit the desired behavior
3. Discover the unique practices/behaviors that enable the Positive Deviants to find better solutions to the problem than others in the community
4. Design and implement interventions that enable others in the community to access and practice new behaviors
5. Determine the effectiveness of the intervention
6. Disseminate the intervention to a wider constituency

Positive Deviance has been used before to research breastfeeding trends (Dearden et al, 2002). Only one published study has applied the concept of Positive Deviance to breastfeeding in African-American mothers. Ma & Magnus (2011) explored characteristics of positive deviants for breastfeeding among African-American and White WIC-enrolled first-time mothers using

secondary data from the Louisiana PRAMS. Ma & Magnus (2011) concluded qualitative research is needed to “get comprehensive nuances of positive deviants’ characteristics among breastfeeding WIC participants” particularly among African-American women.

The aim of this qualitative study, therefore, was to explore the breastfeeding experiences of low-income African-American women using the Positive Deviance approach. The research questions to be answered are as follows:

- (1) How did mothers form the intention to breastfeed during pregnancy?
- (2) What enabled mothers to initiate and maintain breastfeeding during the first few weeks after birth?
- (3) What enabled mothers to continue breastfeeding for 6 months or longer?

Methods

This research was conducted as part of a larger qualitative study conducted over two phases (Gross, 2014). In Phase 1, focus groups were conducted with WIC breastfeeding peer counselors (PCs) to gain their perspective on breastfeeding in low-income African-American women they serve. The findings informed Phase 2, described here, in which individual interviews were conducted with low-income African-American women from the WIC program. The Theory of Planned Behavior (TPB) (Ajzen, 1991) was used as a conceptual framework for this study which states a woman is more likely to breastfeed if she has a strong intention to breastfeed.

Sample selection and recruitment

Participants were recruited using flyers distributed to WIC breastfeeding peer counselors and their health clinics in three local health districts in a Southeastern state. This is an example of snowball sampling (Patton, 1990). This helped to establish rapport and build trust with the

participants. Additionally, this is compliant with maintaining client privacy according to HIPAA legislation.

Criterion sampling is a type of purposive sampling of cases that meet specified criteria (Patton, 1990). To be eligible for individual interviews, women had to be age 18 or older, self-identify as African-American, currently or previously participated in the WIC program (proxy for low-income), currently or previously breastfed one of their children for at least six months, and the breastfed child is age 2 or younger at the time of the interview. A total of 11 participants were interviewed. This sampling method and the sample size are appropriate as the objective is not to generalize the findings, but to explore the breastfeeding experiences of low-income African-American women.

Interview guide and facilitation

Interviews lasted approximately 1.0 hour. Interviews for each participant were conducted on an agreed upon date at a location where both the researcher and the participant are comfortable and free of distractions, such as homes or private spaces in libraries and coffee shops. Before each interview, the researcher re-explained the purpose of the study and informed the participant of the interview process. Upon obtaining informed consent, each interview was audio-record with permission and transcribed within 48 hours of the interview by a professional transcription company. At the end of the interview, each participant completed a brief demographic form and received a \$20 gift card to a local retailer as an incentive for participation.

The semi-structured interview guide approach was used. This approach is intended to ensure that the same general areas of information are collected from each participant, provides more focus than the informal conversational approach, but still allows a degree of flexibility in obtaining the information from the participant (Cohen & Crabtree, 2006). Interview questions

were refined after a small pilot study with two African-American women and one Nigerian woman who previously participated in the WIC program. Focus groups conducted in Phase 1 of the study also helped refine questions and create new questions. The TPB guided the interview questions shown in Figure 4.1.

Interview Questions*

- ***Opening Question:*** *In as much detail as possible please describe your most recent experience breastfeeding.*
- *I want you to think back to your pregnancy. Please describe what motivated you to breastfeed when you were pregnant.*
- *I want you to think back to when you gave birth to your baby. Please describe your experience initiating breastfeeding after birth.*
- *Now think back to the first few weeks after you had your baby. What was your breastfeeding experience like during this time?*
- *Please describe what helped you continue breastfeeding for 6 months or longer?*
- *If you had the chance to give advice on how to help African-American mothers to breastfeed, what advice would you give?*
- ***Closing Question:*** *I want to better understand the breastfeeding experiences of African-American mothers from low-income families. Is there anything that I missed? Is there anything else that you would like to share?*

*Additional probing questions were used to expound on information relevant to the key questions

Figure 4.1 Interview Guide

Data analysis

The qualitative data collected during the interviews were imported into Nvivo software and analyzed using thematic analysis (Braun & Clark, 2006). This method is useful for

identifying patterns, or themes, within qualitative data. To familiarize herself with the data, the lead researcher listened to audio-recordings and reviewed field notes. Initial codes were generated by first coding by hand to develop a codebook for Nvivo analysis. Data were analyzed deductively using the TPB as a guide in developing themes.

Trustworthiness was addressed by piloting the interview guide, conducting an expert review with three women who have worked in breastfeeding for the WIC program in various states (Given & Saumure, 2008). The interview protocol was also revised based on findings from Phase 1 of the study. Additionally, member checks were conducted by asking participants if they agreed with what majority of participants already expressed and also reviewing what they shared for accuracy at the end of the interview (Sandelowski, 2008).). Each participant chose a pseudonym for confidentiality. This study was approved by the University of Georgia Institutional Review Board.

Results

Interviews were conducted with a total of 11 women. Table 4.2 outlines the demographic characteristics of these participants. Interestingly, the average length of breastfeeding for each child was 10.45 months. Table 4.3 includes a brief profile of each participant. Each participant's breastfeeding experience was unique, yet there were also many commonalities. There was an overall narrative that "person to person, everybody's different", illustrating breastfeeding experiences varied with each child. Nine mothers had breastfed multiple children, and described how their breastfeeding confidence and routine changed from their first child to every other child. Using TPB as a guide, three main themes emerged: *Deciding to Breastfeed, Initiating Breastfeeding, and Breastfeeding Long-term*. An additional theme, *Gaps in Breastfeeding Support*, emerged regarding how African-American women could be better supported throughout

the breastfeeding process.

Table 4.2 Interview Sample (n=11)	
Age (mean)	29.1y±SD (Range: 23-35)
Relationship Status	
Married	54.5%
Cohabiting	36.4%
Single	9.1 %
Education level	
High school diploma	9.1%
Some college	54.5%
College degree	36.4%
Current work status	
stay at home	36.4%
full-time	18.2%
part-time	9.1%
WIC PCs	27.3%
No. of children (mean)	3.1 (Range: 1-5)
Length of BF (mean)	10.45 mos. (Range: 1- 18 mos.)

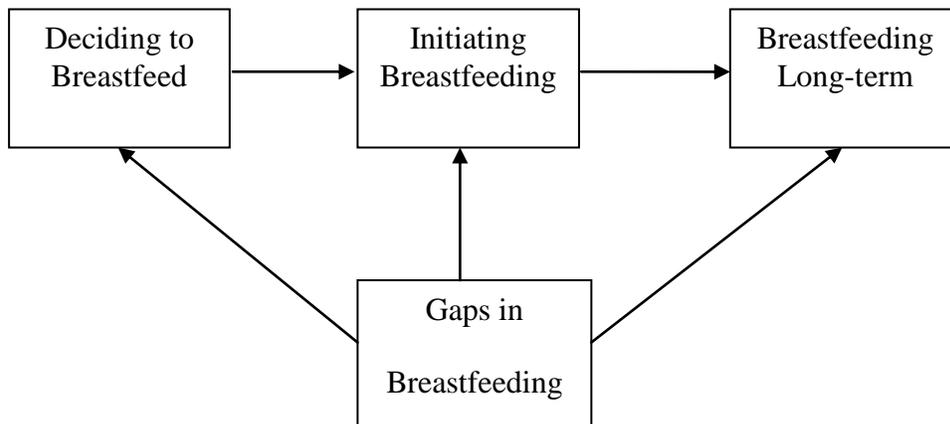


Figure 4.2 Interviews Thematic Diagram

Table 4.3 Positive Deviant Profiles					
	Age	No. Child	Work Status	Avg. BF (mo.)	Description of Story
1. Zipporah	28	2	At home	15	HELLP syndrome with 1st baby caused preterm labor and NICU stay; tandem breastfeeding
2. Ibbie	23	2	At home	12	Latching issues with first baby; Post-partum depression with 2 nd baby; described Muslim faith
3. Kandy	30	3	Part-time	10	Former teen mom who used foot pump with 1 st baby; now works in a pharmacy
4. Mariah	32	1	At home	16	Single, stay-at-home mom; Baby had heart defect and NICU stay
5. Renatta	32	5	WIC PC	9.8	Infant health complications caused breastfeeding difficulty with 5 th baby; new WIC PC
6. Shanta	23	2	Full-time	10	First time breastfeeding with 2 nd baby; Works full-time at night; pumps before work;
7. Amy	34	4	Full-time	9	Abstained from smoking while breastfeeding; Used grandma's remedies for breast complications
8. Trina	24	4	Student	5.6	Breastfed first baby as a teen mom; Recently weaned 1 year old and is now BF 6 week old
9. Tee	31	3	At home	11	Difficult bonding with 1 st baby due to work; Current toddler uninterested in weaning
10. Eve	35	3	WIC PC	8.5	Tried breastfeeding first baby as a teen mom; Mother unsupportive; WIC PC
11. Keke	28	5	WIC PC	8	Cousin inspired to breastfeed; Accidentally breastfed first baby while drunk; WIC PC
<p>-HELLP- Hemolysis, Elevated Liver enzymes, and Low Platelet count; life-threatening pregnancy complication considered to be a variant of preeclampsia -NICU- neonatal intensive care unit</p>					

Deciding to Breastfeed -“When I found out the benefits”

Participants described how they made a decision to breastfeed their first child. Four participants said their mothers had breastfed them, and four others said another family member had breastfed (i.e. sister, aunt, cousin). Ibbie was normalized to breastfeeding, even pretending

to breastfeed her dolls as a child. “I already planned if I ever have kids that’s just what I’m going to do.” Eight women specifically mentioned their husbands/partners supported their decision to breastfeed. Although participants’ mothers were generally viewed as supportive, Eve encountered challenges with her mother. “I think because she didn’t breastfeed and my other sisters didn’t breastfeed, I was kind of the black sheep. Here I was with this new thing, breastfeeding.” Kandy was also the first one to breastfeed in her family. As a teen mother with her first child, she replied I did it more as a convenience because I knew how much a can of milk was and not being able to work and no child support,” Cost and convenience weren’t commonly cited as main factors in deciding to breastfeed, yet was mentioned as benefits mothers later appreciated.

Learning about the benefits of breastfeeding during pregnancy was influential for many participants, with infant health benefits and mother-infant bonding frequently mentioned. In terms of maternal health benefits, “most people are concerned about their size and weight after having a baby”. Ten women discussed their desire to “lose weight” gained during pregnancy as important to their breastfeeding decision. WIC was described as giving reliable breastfeeding information. Pregnancy books, Lamaze classes, and the internet were other sources of information. Zipporah described attending several breastfeeding classes at her hospital which made a difference. “When I found out the benefits it was just no doubt.” During pregnancy Mariah already knew she wanted to breastfeed. Upon learning her son had a heart defect, she said it “pushed me even harder to make sure I breastfeed him.” Although participants learned breastfeeding was best, four described being unsure at delivery of their first child. During birth for her first child, Amy said “Yeah, I was real nervous. Weighing my options, swaying whether

I should or shouldn't. So undecided.” Either having hospital staff educate them on breastfeeding or having infants with formula digestion issues influenced their decision to breastfeed.

Once participants had experience breastfeeding their first child, they chose breastfeeding for their other children. Almost all described how breastfeeding improved their children's health and helped develop a strong mother-infant bond. For the second child, mothers shared, “you've got it down pat”. They “did more research” and were better informed on breastfeeding benefits as well as on breastfeeding techniques. One exception was Shanta, who did not breastfeed her first child. After her first baby had issues digesting formula and developed eczema, she considered breastfeeding her second child. Once she got to the hospital, her second-born experienced difficulty latching. Frustrated, Shanta tried formula which her infant didn't digest well. In the end, she went back to breastfeeding, saying “I'll just go ahead and try to breastfeed.”

Initiating Breastfeeding—*“In the beginning, it was hard.”*

In their stories of initiating breastfeeding, each participant described breastfeeding challenges ranging from latching difficulties due to inverted nipples or low milk supply to postpartum depression or HELLP Syndrome (life-threatening pregnancy complication considered to be a variant of preeclampsia). The majority of the women reported sufficient lactation support at their hospitals. However, four women described receiving formula samples and another expressed receiving a breastfeeding survival kit sponsored by Similac. Participants noted differences in breastfeeding support between midwives and OB/GYNs, with midwives providing more education and encouragement to breastfeed. All participants echoed that their WIC PC was helpful, expressing comments such as “really encouraging”, “so supportive”, and “heaven sent.” Renatta successfully breastfed her first four children, yet her fifth child was difficult. Shortly

after birth, her fifth child was hospitalized for a urinary tract infection. She shared, “I didn’t meet a peer counselor until the fifth one, when I actually needed help.”

The first few weeks after birth are critical for maintaining breastfeeding. Several mothers experienced engorgement and mastitis. All participants mentioned pumping, sharing their ups and downs of learning how to use a breast-pump and establishing a routine. Although pumping was a necessary strategy for most mothers, pumping was seen as “extra work, . . . an added chore” while feeding from the breast was more convenient. Tee shared “My body didn't make enough for pumping. Even if I tried I'd probably get an ounce of milk. I think she was getting more by nursing the breast versus me trying to pump it out.” Several relied on pumping as a strategy to fit breastfeeding into their busy schedules. Trina described “I was working with the first two. I was working full time and going to school full time... What I learned is, you feed them before I would leave to go to school or before I go to work. That was helpful.”

Breastfeeding Long-term-“*Dedication, patience, commitment, and sacrifice*”

One of the main interests of this study was how participants were able to successfully breastfeed to 6 months and beyond. In their stories, participants noted breastfeeding becomes easy by 6 months because “by that time, you [are] so in tune with your body and the baby.” By 6 months, mothers have an established routine and are confident in their ability to breastfeed. In addition, at 6 months, infants are able to have other foods at age 6 months which also simplified breastfeeding. Another main factor in their ability to breastfeed long-term was having a good support system. This support system included husbands/partners, mothers, sisters, aunts, cousins, PCs, employers, and childcare providers. Regarding employment, few positive deviants worked full-time while breastfeeding. Being a stay-at-home mom was mentioned as playing a large role in the breastfeeding success of several participants. Mothers described seeing their healthy

infants and experience a strong mother-infant bond also encouraged them to continue breastfeeding. Many participants shared with their infants developed teeth as the time to start weaning.

Despite the benefits of breastfeeding, participants echoed that breastfeeding takes “dedication”, “patience”, “commitment”, and “sacrifice” as a mother. Keeping the focus on the well-being of their infant was a strategy to overcome breastfeeding challenges. Amy said “it’s a little frustrating but I know it’s benefiting the baby. Then I know it won’t be forever.” Ibbie added, “I do want to go back to school...but I think a natural way of breastfeeding is hindering me a little bit.” Although challenging, participants agreed breastfeeding was a point of pride as a mother. For example, Mariah proudly shared, “It makes me feel great. I feel like I have really succeeded in parenting by breastfeeding.”

Since breastfeeding is demanding, mothers described how they “develop tricks of the trade” to be successful. Each mother found a routine and strategies that worked for them. Three mothers described co-sleeping with their infants to make breastfeeding easier during the night. Another accommodation mentioned by several participants was breastfeeding and pumping in their cars. Two noteworthy examples are that of Trina and Keke. Trina used an herb, Fenugreek, to increase milk supply and requested a breast-pump as a baby shower gift. She also “decided to go to school online” so she could be home with her children. For Keke, when her infant was constantly eating but not getting full off her breastmilk, she would “give him a few spoonfuls of cereal and then breast feed” as encouraged by her pediatrician. She also would leave a shirt for her mother to wear when caring for her infants, so they would recognize her scent. Thus, positive deviants were both resourceful and determined throughout their breastfeeding journeys.

Gaps in Breastfeeding Support-“*Push the issue more*”

Since there was an agreement that there are “not a lot of us”, participants were asked for advice on how to better support other African-American women to breastfeed. Firstly, women expressed few prenatal conversations about breastfeeding with their health care providers, namely OB/GYNs. Keke explained, “It's a don't ask, don't tell situation. You don't ask me, I'm not going to give you any information about it.” Working as a pharmacy tech, Kandy felt pharmacists were more helpful in answering her breastfeeding questions than her physician's office. Secondly, participants encouraged baby-friendly hospital policies, such as not giving free formula samples, only supplementing formula with mother's consent, and allowing birth to progress naturally. Renatta was “very angry” when her hospital supplemented formula without her consent. “They gave her formula when they knew I was exclusively breastfeeding.” Thirdly, they suggested more breastfeeding support groups targeting African-American women. Only one participant attended a breastfeeding support group, and Eve's experience was not positive. “I did not feel comfortable. I knew the people who are teaching, leading the support group but the group of women were all Caucasian women and it seemed very clique-ish.”

Another suggestion was to increase the number of African-American WIC PCs and lactation consultants to “role model” breastfeeding. Providing “more public places where moms could breast-feed” was shared by several participants as many of them experienced breastfeeding or pumping in public bathrooms. Other suggestions including having breastfeeding campaigns using prominent African-American celebrities, increasing positive print and digital media images of African-American women breastfeeding, and using churches and radio stations to promote breastfeeding. Zipporah concluded “Knowing where to go to get help and the support that you need to be successful at doing it” is key.

Discussion

This is the first known study to apply the Positive Deviance approach to long-term breastfeeding in low-income African-American women. Using in-depth interviews allowed participants to describe their breastfeeding experiences in their own words. We set out to learn how mothers formed breastfeeding intentions during pregnancy. From their descriptions on *Deciding to Breastfeed*, mothers were motivated to breastfeed because of infant health benefits, maternal weight loss, bonding, family history of breastfeeding, and having support from their own mothers and partners. Other studies have found similar factors influenced breastfeeding intentions in African-American women (McCann, Baydar, & Williams, 2007; Khoury, Moazzem, Jarjoura, Carothers, & Hinton, 2005; Frerichs, et al, 2006); Ludington-Hoe, 2002; Robinson & VandeVusse, 2009)). We also wanted to learn what enabled mothers to initiate and maintain breastfeeding during the early postpartum period and more importantly, what enabled them to continue breastfeeding beyond 6 months post-partum. *Initiating Breastfeeding* came with a variety of challenges, yet hospital lactation support and their WIC breastfeeding PC helped them overcome these challenges. Developing their breastfeeding routine usually involved pumping, which came with its own tests and trials. *Breastfeeding Long-term* is easier as mothers have established a routine and can give infants other foods. Social support, infant health, bonding and breastfeeding strategies were enabling factors along with mothers' personal commitments to continue breastfeeding beyond 6 months. Previous qualitative studies on the breastfeeding experiences of African-American women describe similar findings (Bentley et al, 1999; Corbett, 2000; Cricco-Lizza, 2004; Lewallen & Street, 2010; Robinson & Vandevusse, 2009)

Findings from this study have several implications for practice using a socio-ecological approach. It is imperative that future breastfeeding promotion efforts are both culturally-tailored

and culturally-sensitive to African-American women. Several participants expressed ambivalence in breastfeeding decisions with their first child. At the individual level, prenatal breastfeeding education should improve and include skills building for using breast-pumps, a common strategy for African-American mothers. Information on maternal health benefits, such as weight loss, should also be included in breastfeeding education. Healthcare providers were mentioned as not discussing breastfeeding. At the interpersonal level, physicians and other healthcare providers should initiate discussions on breastfeeding during pregnancy and express their support at birth. Since pharmacists were mentioned as supportive, more efforts to include them as part of African-American women's breastfeeding support network. In addition, WIC PCs were very helpful in providing support. Perhaps they could help facilitate breastfeeding support groups for African-American women in collaboration with faith-based organizations. At the community an organizational level, hospitals can increase Baby-Friendly practices and hire African-American women in lactation support. Few participants worked full-time, illustrating the difficulty of maintaining breastfeeding while working. Therefore, Employers can create a breastfeeding supportive workspace by supporting women's decisions to breastfeed prenatally and having designated lactation rooms and allowing breaks for breastfeeding mothers. In addition, public spaces such as grocery stores and shopping centers should have designated spaces where mothers can breastfeed or pump in private. Lastly, the media can promote breastfeeding by featuring positive images of breastfeeding African-American women in websites and magazines and feature prominent celebrities who support breastfeeding.

Limitations

There are several limitations to this study, including a limited geographic location of the sample, the small sample size, and the use of purposive sampling. This study was conducted in a

Southeastern state with a small purposive sample of low- income African-American women. Participants may differ from the general population of African-American women, those in the WIC program, and women of other racial/ethnic groups as well as those of other income levels. Therefore, the results of this study are not generalizable to a larger population. However, purposeful sampling is common in qualitative research and focuses on sampling information-rich cases that are relevant to the research purpose (Patton, 1990).

Despite the limitations, this study is innovative in researching breastfeeding disparities in African-American women from an asset-based perspective using the Positive Deviance Approach. In addition, it is one of few qualitative studies focusing on African -American mothers and their breastfeeding experiences. Lastly, the participants in this study although being both African-American and participants of the WIC program breastfed their children for longer durations as suggested by Healthy People 2020. By being a qualitatively driven study, it adds to the literature an in-depth analysis on this very complex topic. Findings from the interviews should fill gaps in knowledge about breastfeeding decision making among African-Americans.

Conclusion

Low-income African-American women are able to successfully breastfeed if provided with breastfeeding education and social support from pregnancy and birth, to the late-postpartum period. In order for breastfeeding rates in this population to continue, future breastfeeding efforts should incorporate an ecological approach, targeting factors at each level of behavioral influence.

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Chapter 5

DISCUSSION

The aim of this qualitative study was to explore the breastfeeding experiences of low-income African-American women using the Positive Deviance Approach. The conceptual model for this research was guided by the Theory of Planned Behavior. Three focus groups with WIC breastfeeding PCs and 11 individual interviews with African-American women from the WIC program were conducted as part of this research. This chapter discusses the combined findings of this Positive Deviance Inquiry and provides several implications for research and practice and recommendations for future research.

Overview of Positive Deviance Inquiry

Recall that the Positive Deviance Approach consists of six components. The first was to “Define the problem, perceived causes and community norms”. Three focus groups were conducted with 23 WIC breastfeeding PCs as formative research and to gain entrée into the communities where African-American breastfeeding mothers were recruited from. The primary goal of the focus group study was to better understand breastfeeding practices of African-American women in the Georgia WIC program, which WIC PCs serve as clients. Given that the second component of the Positive Deviance Approach is to “Identify individuals in the community who already exhibit the desired behavior”, a secondary goal of the focus groups was to build rapport with the WIC breastfeeding PCs and to give them recruitment flyers to help identify African-American women who are considered Positive Deviants for this research. WIC PCs shared their unique perspectives on the barriers and facilitators of breastfeeding in African-

American women with low-incomes whom they serve. The third component of the Positive Deviance Approach, called the Positive Deviance Inquiry, is to “Discover the unique practices/behaviors that enable the Positive Deviants to find better solutions to the problem than others in the community.” Individual interviews were conducted with 11 women. The purpose of the interview study was to explore the breastfeeding experiences of African-American women from low-income households, which were recruited from the Georgia WIC program. To be considered a Positive Deviant for the scope of this research, African-American women had to have breastfed one or child for at least 6 months, have a breastfed child age 2 years or younger, and currently participating in the WIC program. In the next section is a discussion of the three main themes emerging from the overall study which are parallel to the research questions.

Summary of Findings

The focus groups with PCs allowed breadth by providing contextual information on the various factors surrounding breastfeeding decisions in African-American women with low-incomes. The interviews allowed depth by focusing in on the successful breastfeeding experiences of those identified as Positive Deviants.

Research Question 1: Breastfeeding Intentions

How did mothers form the intention to breastfeed during pregnancy? PCs described *Breastfeeding Intentions* are impacted by gaps in breastfeeding knowledge, negative breastfeeding attitudes, limited social support, and low breastfeeding confidence. In *Deciding to Breastfeed*, Positive Deviants were motivated to breastfeed because of infant health benefits, maternal weight loss, bonding, family history of breastfeeding, and having support from their own mothers and partners.

Research Question 2: Breastfeeding Initiation

What enabled mothers to initiate and maintain breastfeeding during the first few weeks after birth? In the theme *Breastfeeding Initiation*, PCs describe their current focus is on encouraging more African-American mothers to initiate breastfeeding, whether mothers continue breastfeeding long-term or not. Hospitals are not supporting African-American enough with breastfeeding. In addition, pumping is a “lifesaver” for women to breastfeed. *Initiating Breastfeeding* came with a variety of challenges for the Positive Deviants, yet hospital lactation support and a WIC breastfeeding PC helped them overcome these challenges. Developing their breastfeeding routine usually involved pumping, which came with its own tests and trials.

Research Question 3: Breastfeeding at 6 months

What enabled mothers to continue breastfeeding for 6 months or longer? Although described by as “rare”, *Breastfeeding Continuation* for 6 months or longer was linked to African-American women having social support, free resources, and accommodations at their work and school settings. PCs describe that early breastfeeding support and longer durations of exclusive breastfeeding also enable long-term breastfeeding. Similarly, Positive Deviants shared that *Breastfeeding Long-term* becomes easier as mothers have established a routine and can give infants other foods. Social support, infant health, bonding and breastfeeding strategies were enabling factors along with mothers’ personal commitments to continue breastfeeding beyond 6 months.

Notes on Themes

Table 5.1 offers a comparison of the main findings with the research questions and the theoretical constructs from Theory of Planned Behavior and the Positive Deviance Approach. The barriers and facilitators of breastfeeding mentioned in focus groups by PCs were very

consistent with factors Positive Deviants described in their personal breastfeeding experiences.

Gaps in Breastfeeding Support from the interview findings has applications to each research question and was similar to PCs descriptions of barriers to breastfeeding in focus groups.

Table 5.1 Comparison of Findings by Theme			
	Breastfeeding Intention	Breastfeeding Initiation	Breastfeeding ≥ 6 months
Research Question (Theory Construct)	1. How did mothers form the intention to breastfeed during pregnancy? (Theory of Planned Behavior)	2. What enabled mothers to initiate and maintain breastfeeding during the first few weeks after birth? (Theory of Planned Behavior)	3. What enabled mothers to continue breastfeeding for 6 months or longer? (Positive Deviance)
Focus Group Findings	<ul style="list-style-type: none"> - Knowledge gaps - Negative attitudes - Limited social support - Low confidence 	<ul style="list-style-type: none"> -Focus is on initiation more than continuation -Subpar hospital support -Pumping 	<ul style="list-style-type: none"> -Longer durations are rare -Support is critical -Early breastfeeding help -Free resources -Workplace & school accommodations
Interview Findings	<ul style="list-style-type: none"> -Family history - Learned infant health benefits -Maternal weight loss -Mother & partner support -Some ambivalence 	<ul style="list-style-type: none"> -Initial challenges - Sufficient hospital support - Helpful WIC PC support -Pumping 	<ul style="list-style-type: none"> - Determination, patience, commitment & sacrifice -Becomes easier - Good support system -Personal breastfeeding strategies

Figure 5.1 is a revised conceptual model illustrating how themes from each study are connected. An additional theme emerged in the focus groups and was supported by the interviews that did not fit with the original conceptual model based on the Theory of Planned Behavior. *Historical & Socio-cultural Complexities* describes larger historical and socio-cultural variables impacting breastfeeding norms that are unique to African-American women. Since this theme was not included in the Focus Group and Interview manuscripts, it will be described here.

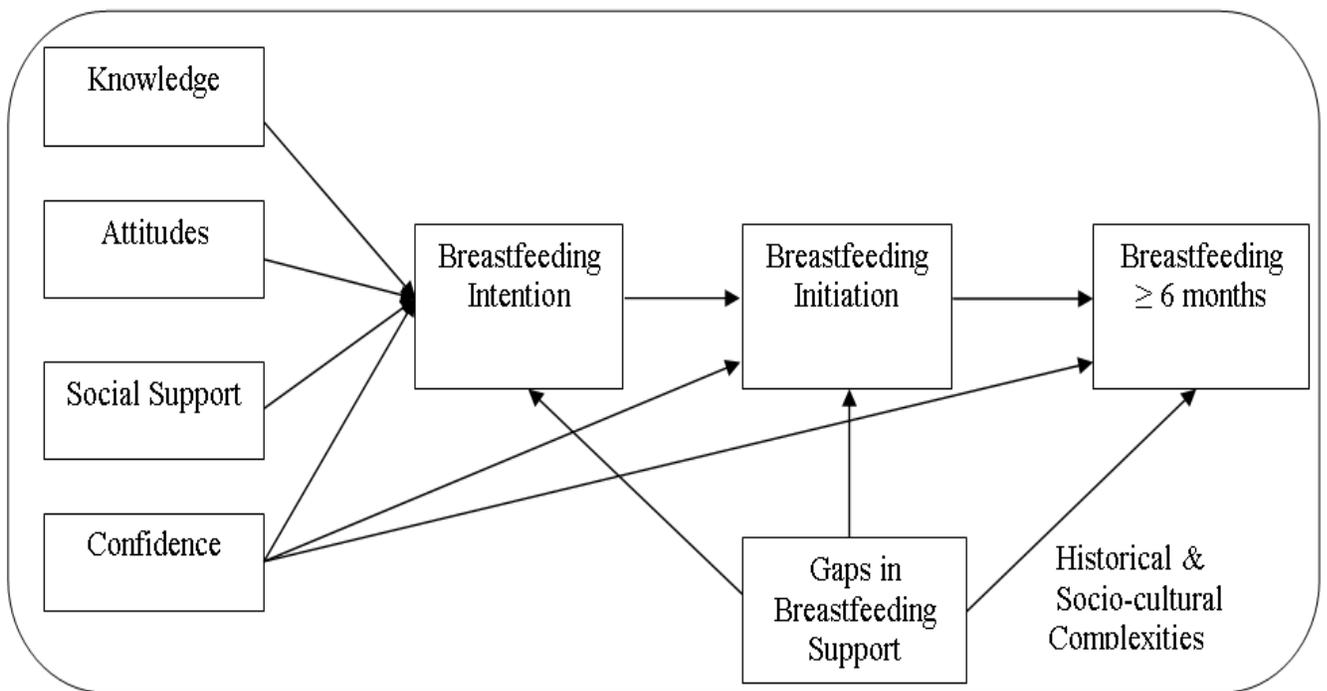


Figure 5.1 Revised Conceptual Model

Historical & Socio-cultural Complexities

Throughout the focus group discussions another theme emerged illustrating the larger historical and socio-cultural complexities surrounding breastfeeding and African-American women. Two subthemes emerged, Negative Images “We used to even wet nurse back in slavery” and Duality of the Breasts-“For sex not nutrition”.

Negative Images-“We used to even wet nurse back in slavery”

There is a stigma of breastfeeding in African-American history which dates back to when African slaves, called “*mammies*”, served as wet-nurses for their owner’s children. One African-American PC stated, “When you Google breastfeeding with black women” you will find images of *mammies*. This derogatory image is considered a hindrance breastfeeding promotion to African-American women, particularly in the South. At the beginning of each focus group, PCs were asked to describe what first came to mind when they hear African-American women and breastfeeding. Another African-American PC shared her intriguing thoughts:

Slavery. And to be honest I do because a lot of black women... they use it as an excuse. ...“I don’t want to be seen as a mammy. It’s sad and this is the South. They still think that way. And a lot of black women, their grandparents chose to formula feed simply because, “Well, my grand..., my old mama said, she got tired of being this White woman’s mammy.” ... And that’s what I hear.

A White PC added when searching for images of African-American women breastfeeding, “you come up with someone from Africa ...not someone that looks like you.” Her reference is to National Geographic type images of “bush” women in Africa baring their breasts and nursing their children.

In the individual interviews, similar statements were made regarding the history of breastfeeding and formula. Although slavery wasn’t commonly mentioned in the interview discussions, there were similar descriptions of cultural issues that make breastfeeding an unpopular choice for infant feeding for African-American women.

Zipporah had this to say in reference to images of breastfeeding African-American women in the media:

You don't see a lot of black women breastfeeding in the media, especially not in America. I think, too, if you do ... it's a woman over in Africa that's she half naked and living in the jungle; maybe some people over here equate that with that or think that something wrong with that. That it is some kind of way is derogatory towards them.

Mariah however, felt that breastfeeding was part of their African heritage and should be embraced. She also referred to the history of formula being introduced in America and how breastfeeding was associated with being poor.

I think we forgot about what black people had to do back in the days and I think we forgot about where our heritage come from is Africa. I think we forgot about what they do and they still do. It's very common there...They breastfeed. I think we forgot about that being over here. We forgot about our culture in breastfeeding and how big of a part or a role it's been because that's all we could do. Back then it was about money plus two, having to buy formula milk and stuff, back then it was about that. Even now today, even we have jobs and things, I still think we've gotten away from that breastfeeding. But it's not just for poor people to breastfeed, for black people to breastfeed.

Several participants mentioned that formula feeding is more convenient for most African-American women due to work or school, especially for younger mothers. Renatta, who is a new WIC PC mentioned the intersection of several factors make promoting breastfeeding to African-American women different than other women. "I think it has to do with income. It has to do with education. Also, you find that it plays a role with age." Eve expressed that "other things have become the black woman's baby", meaning that mothers often focus their decisions on what's best for them rather than their children.

Duality of the Breasts - “for sex not nutrition”

Breasts have dual functions, for sexual pleasure and child nutrition, which can be conflicting for African-American women desiring to breastfeed. Negative body image and its connection to breastfeeding were expressed in the focus groups. For African-American women, the media portrays their bodies as sexual. One African-American PC shared: “Look on the videos and see ladies half-naked, dancing around. Heck, you can walk down the street and you can see women looking like that.” She added that this was seen as acceptable but seeing a mother breastfeeding is considered disgusting. In turn, breasts are seen as objects “for sex not nutrition” and breastfeeding is “nasty.” PCs noted that a history of sexual assault and “being molested as a young girl” could also be an underlying factor for some African-American women’s negative attitudes towards breastfeeding.

The sexuality of breasts was also mentioned. Breasts are often referred to as “titties” among African-Americans, confirming the belief of breasts as sexual objects as PCs described. This was confirmed by participants in individual interviews. Here is an example Kandy shared towards the end of her interview of her teenage daughter’s embarrassment by her public breastfeeding:

That’s it. They don’t see them as feeding objects. They see them as *titties*. Their pleasure...That’s what they’re ... they’re there to look at. They don’t see it as a food supply, is what I think. Especially with the younger generation coming up, because my daughter looked at me when I was breastfeeding him. Like I said, she’s about to be 15 now. She was just like “that just looks like it hurts,” because she was too little to remember the second baby. She was just like “momma! eww, you’ve got to do this in public momma. Is it really necessary for you to pull it out in public”? I was like, “your

brother is sitting her and screaming. What else do you want me to do?" She was just like oh, okay. "I don't think they look at them as a potential food supply. I just think they just think its part of the body.

Another term also used to refer to breasts is "boobs." In this excerpt from Tee, she describes the pressures of weaning and having her body back to herself.

He's 13 months. I said at a year he's coming off of me. He won't go. He whines a lot because he's like, "Momma I want my boob". I call it boob, but "I want my boob" you know. He's constantly under me. He's attacking me. If I'm sitting down on the floor doing something, this guy will come and lift my head up and go at my chest and start like, "Come on, give it to me" you know. He's getting too big to be sucking on me right now. Now, it's like get off of me.

Although these two interview participants had a comical-tone in these passages, they illustrate some of the common language used to describe women's breasts. This cultural attitude, along with that of breastfeeding is not normal, leads mothers to refrain from breastfeeding in front of family members and in public. Thus, there are a host of historical and socio-cultural variables that need to be considered in how to better encourage and support breastfeeding in African-American women.

Implications

The Positive Deviance Approach also includes phases to design activities or interventions from what was learned from the Positive Deviance Inquiry. During interview discussions women had intriguing suggestions for ways to improve breastfeeding promotion and support to their fellow African-American sisters. Some of these ideas have been described in the literature, while others appear to be unique. Scholars suggest breastfeeding promotion transition from a 'blaming

the mother' approach (Dozier, 2010) to an application of the socio-ecological model (Bentley et al, 2003). Although this researched used the TPB to frame the study, findings illustrate that additional support and intervention is needed beyond African-American mothers themselves. The TPB is an individual or intrapersonal level behavior theory. The socio-ecological model has a broader perspective on the multiple levels that shape and influence an individual's health behaviors. The levels of the socio-ecological model include the individual, interpersonal, community/environment, organizational, policy, and lastly media. This model "provides direction for the multiple interventions needed to increase rates and duration of breastfeeding" (Tiedje et al, 2002). Here, several suggestions from Positive Deviants themselves will be shared using the socio-ecological model (Figure 5.1) for breastfeeding in African-American women (Bentley, Dee & Jensen (2003).

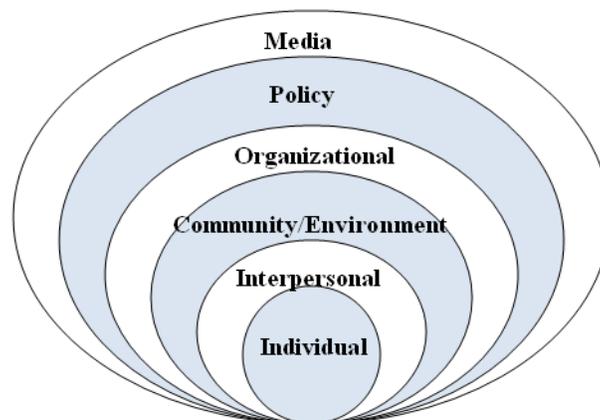


Figure 5.2 Socio-Ecological Model

Individual

Individual characteristics that influence breastfeeding behavior include knowledge, attitudes, beliefs, skills, and self-efficacy. This seems to be the level of influence highlighted in the majority of published studies on African-American women focus on, such as their breastfeeding intentions. Positive Deviants shared suggestions on how to improve African-

American women's breastfeeding knowledge, change their attitudes, and improve their confidence.

Several participants encouraged women to just try breastfeeding so they could at least know they tried if breastfeeding does not work out. Personal goal setting was suggested instead of focusing on breastfeeding recommendations. This was also mentioned by the PCs in the focus group. For example, commit to breastfeeding until returning to work or school or supplementing with formula when mothers are away from the baby. Breastfeeding recommendations were expressed as intimidating and frightening for women. Cricco-Lizza (2004) discussed that African-American women enrolled in the WIC program experienced a significant amount of life stress and multiple responsibilities. Despite professional breastfeeding recommendations, this suggests that breastfeeding should not be approached with a one-size fits all mindset, and African-American women have to strike the right balance between breastfeeding and other life responsibilities.

One participant took a step back and reflected on the birthing process itself. She suggested not having a lot of people around during delivery to reduce the noise and distractions while dealing with the pain delivery brings. This particular participant advocated for a natural birthing process and had midwives deliver her three children and was very satisfied with the care she received. Her midwives, and those of others in the interview study, were very encouraging of breastfeeding. Another participant mentioned how doulas, or labor support persons, can also be supportive during the birthing process and encourage breastfeeding. Using Minnesota PRAMS data, a study by Kozhimannil et al (2013) demonstrated that 92.7% of African-American women on Medicaid with doula support initiated breastfeeding compared to 70.3% of those on Medicaid without doula support. African-American women may need education on their options in terms

of health-care providers and doula labor support and the ways that providers view childbirth and breastfeeding.

Other suggestions included ensuring mothers that asking for and receiving breastfeeding help or support is not a sign of weakness. Maternal health benefits were also mentioned as potential motivators for African-American women. In the focus groups, PCs mentioned that women often know the benefits of breastfeeding for the infant but want to know what are the benefits or them. Mothers in the interviews all mentioned weight loss as a benefit that may be attractive to African-American mothers. Since, African-American women are more likely to retain weight postpartum (Headen et al , 2012), increasing information on how breastfeeding promotes maternal weight loss should be included in prenatal education. In addition to maternal weight loss, participants also saw breastfeeding as an opportunity to improve their own health and diet. Mothers quit smoking, drank more water, and consumed more fruits and vegetables. In turn, they were able to successfully nourish their children. Thus, breastfeeding can be promoted to African-American women as a part of a healthier lifestyle.

Pumping was mentioned by each mother during the interviews, with some relying on this strategy more than others. African-American women return to work sooner than women of other racial/ethnic groups. To incorporate breastfeeding into their lifestyle, many will have to pump. The Affordable Care Act makes provisions for breaks for pumping breastmilk (Office of Women's Health, 2013). However, one participant, who was also a PC, said women need education on how to best use a 15-minute break to pump. She also advised new mothers to proceed with caution when pumping because of the extra work involved. During the prenatal and early postpartum period including education and skills training on how to properly use a breast-pump, and store expressed milk will be important for African-American women.

Interpersonal

The interpersonal level consists of family, friends, peers, health care providers and other in the individual's social network. The attitudes and support of these key persons will affect the individual's health behavior. All women agreed that a supportive network helped them continue breastfeeding.

The mothers of African-American women are key in their breastfeeding support. Reeves et al (2006) found that African-American women mentioned receiving the most support from their mothers. Majority of participants mentioned having their mother's support in their breastfeeding decisions. However, in the focus groups and in one interview the concept of grandmother's guilt emerged. This concept suggests that infants' grandmothers may feel guilty that they didn't breastfeed their daughter who now wants to breastfeed, and they don't have the knowledge or skills to support their daughter's breastfeeding decision. In turn, grandmothers may say comments or do actions to encourage formula because of the demands and challenges of breastfeeding. Grandmothers should be included in prenatal education and support groups for African-American women given their critical role in breastfeeding support.

In addition to grandmothers, the infant's father plays a key role in breastfeeding support. The Positive Deviants overall mentioned great support from their partners. Yet, as PCs discussed in the focus groups, this may not be the case for all African-American women. The mother's relationship status with her infant's father influences her decision to breastfeed. At a recent breastfeeding summit on breastfeeding in African-American women, an African-American father expressed his disappointment and frustration that he was ignored during prenatal visits. He discussed how to tailor advice to fathers on breastfeeding support based on their relationship status (i.e. Married, separated, in a relationship, but not living together) and also work schedule.

PCs shared that they like when fathers are present at WIC appointments and try to make a point to include them in breastfeeding education and answer their unique questions. The Texas WIC program piloted a ‘peer dad’ support program for partners of breastfeeding women Stremler & Lovera (2004). This may be another way to encourage fathers to support breastfeeding.

Perhaps the gap in interpersonal support mentioned the most by participants was with health care providers. Midwives were regarded as pro-breastfeeding while OB/GYNs typically did not discuss anything about breastfeeding prenatally. This is interesting given that most professional health organizations have position statements in support of breastfeeding. (USDHHS, 2011). PCs believed OB/GYNs do not discuss breastfeeding because they have limited education or experience with breastfeeding themselves, especially male OB/GYNs. A study by Dusdiekder et al (2006) found that OB/GYNs were the least likely to report being strong breastfeeding advocates in comparison to family practitioners and nurse-midwives. This study also shared that family practitioners and OB/GYNs were more likely to have free formula samples available at their offices. Low income mothers, such as women participating in the WIC program, were more likely to receive formula packs from the hospital than higher income mothers in one study (Langellier, Chaparro, & Whaley, 2012). Several studies have suggested that healthcare providers are missing an opportunity to discuss breastfeeding prenatally and also postpartum with African-American women (Cricco-Lizza, 2006; Lewallen & Street, 2010 ; Robinson & VandeVusse, 2009). In a study with a sample of primarily African-American women on WIC, Cross-Barnett et al (2012) found only 49% of women described some prenatal breastfeeding education from their OB/GYN. The same study found mixed breastfeeding support also from women’s pediatricians. Future opportunities providing culturally-sensitive, breastfeeding education and training to healthcare providers are key in promoting breastfeeding

to African-American women. Healthcare providers should also be encouraged to partner with WIC PCs and other support persons in the community.

One participant currently employed part-time as a pharmacy tech, mentioned her pharmacist was a reliable source of breastfeeding information. She asked questions about which medications would transfer over through her breast milk to her infant. Interestingly, pharmacists are seldom mentioned in the literature as support persons for breastfeeding women. Edwards (2014) stated that pharmacists have low breastfeeding knowledge but positive breastfeeding attitudes. Pharmacy practices varied with most guided by personal experience. However, a position statement by the American Pharmacists Association could not be found in support of breastfeeding. Ronai and colleagues (2009) found that 85% of pharmacists in a survey felt at least somewhat comfortable counseling breastfeeding women. Healthcare providers and pharmacists should collaborate to prevent medication use from being a barrier to breastfeeding.

Community/Environment

The community level consists of extended social networks such as in the neighborhood, hospital, health department, workplace, and school settings. Positive Deviants responses indicated several opportunities for interventions at the community level. Firstly, there were hospital practices mothers described which have been shown to negatively impact breastfeeding. Several mentioned receiving free formula bags or breastfeeding kits sponsored by infant-formula companies. In addition, mothers also mentioned preferences of rooming in and not supplementing with formula. Research on maternity practices at hospitals and other birthing facilities are quite clear that newborns rooming-in encourages breastfeeding while providing formula bags and formula supplementation do the opposite (CDC, 2011). Baby-friendly practices have shown favorable breastfeeding outcomes with African-American women (Phillip et al,

2001; Mohrbacher, 2011). PCs noted differences in lactation support between rural hospitals and those located in more urban communities. Regardless of geography and size, hospitals should move towards maternity practices that promote breastfeeding with or without the Baby-Friendly hospital designation. Participants also encourage hospitals to expand breastfeeding classes during pregnancy and postpartum, and employ African-American lactation consultants.

Faith-based organizations, namely African-American churches were also highlighted for their potential influence on breastfeeding in African-American women. Burdette & Pilkauskas (2012) found an association between frequent religious service attendance and breastfeeding initiation. Participants suggested that churches could host breastfeeding monthly support groups and educational sessions for pregnant women considering breastfeeding. African-American churches have successfully implemented health interventions promoting physical activity, nutrition and HIV awareness (Thomson et al, 2013; Brown & Tabi, 2013; Baruth & Wilcox, 2013). In North Carolina, a coalition of churches has started collaborating on a project to support breastfeeding mothers in their congregations. Community organizations, such as coalitions and health departments, can work together with churches and other faith-based groups to better promote breastfeeding in African-American mothers.

Other suggestions at the community level were to increase breastfeeding friendly spaces in public settings where mothers could nurse in private (i.e. Malls, grocery stores, college campuses), promote breastfeeding to African-American women in hair salons, train childcare providers on proper storage and preparation of pumped breastmilk, and to advocate for accommodations for teen mothers at their high schools.

Organizational

The organizational level consists of larger institutions such as the La Leche League, American Academy of Pediatrics, and American College of Obstetricians and Gynecologists. Although participants did not specifically address these institutions, their suggestions at other levels of the socio-ecological approach have implications for larger organizations. The Surgeon General's Call to Action to Support Breastfeeding lists several professional health associations as recommending breastfeeding for the first 12 months of life. However, both interview and focus group participants suggest that health care providers' actions in practice are maligned with the position statements of their professional associations. Although the American Academy of Pediatrics is often cited for its position in favor of breastfeeding, pediatricians usually do not have contact with mothers until after delivery. OB/GYNs were targeted as not discussing breastfeeding prenatally with patients and lacking breastfeeding education. One participant wondered if OB/GYNs thought it was part of their job description to discuss breastfeeding and its benefits during prenatal care and childbirth. However, the position statement for the American College of Obstetricians and Gynecologists' position statement (2007) on breastfeeding clearly states:

In addition to providing supportive clinical care for their own patients, obstetrician–gynecologists should be in the forefront of fostering changes in the public environment that will support breastfeeding, whether through change in hospital practices, through community efforts, or through supportive legislation. The advice and encouragement of the obstetrician–gynecologist during preconception, prenatal, post-partum, and interconception care are critical in making the decision to breastfeed.

Healthcare providers of women and infants should reevaluate their current practices to follow the recommendations set forth by their profession and seek continuing education and training on breastfeeding as needed.

Policy

The policy level consists of local and federal laws that support breastfeeding. However, “Laws supportive of breastfeeding practices cognitively suggest improvement in breastfeeding practices, but empirical evidence is lacking in African-American” populations. (Smith-Gagen et al, 2014). Although not asked of every participant, several did mention in their interviews about knowing their rights as a breastfeeding mother. PCs expressed that women may know their rights as far as the Affordable Care Act, but are scared to talk to their employers about breastfeeding accommodations. Given the provisions of pumping breaks and space accommodations by the Affordable Care Act are relatively new, the impact of this policy on African-American women should be evaluated. Additionally, some participants mentioned being fortunate enough to stay-at-home with their children, while others mentioned the challenges of returning to work, as early as 6 weeks postpartum. Research has specifically shown that African-American women who return to work before 12 weeks were more likely to cease breastfeeding (wean) than women who were able to stay-at-home or return to work after 12 weeks (McCarter-Spaulding, Lucas, Gore, 2011). Perhaps some African-American women don’t even choose to initiate breastfeeding their infants knowing they will soon return to working. Maternity leave policies allowing a minimum of 12 weeks could increase breastfeeding duration for working African-American women.

Another important source of policy support is the WIC program. Although the WIC program has expanded its breastfeeding promotion efforts, it still has a reputation as a free formula program in the African-American community. PCs described this reputation makes their

job to promote breastfeeding challenging. PCs also described that although free, their services were underutilized by WIC participants. Several scholars have argued that there is a disconnection between WIC's position on breastfeeding support and how it allocates its funds. The breastfeeding PC program has shown effectiveness in supporting African-American women to breastfeed. However, not every WIC program site has the PC program. In addition, a study in North Carolina found that WIC program sites serving areas with a greater African-American population were significantly less likely to offer breastfeeding support services at their clinics (Evans et al, 2011). The national WIC program should reassess how it could change its reputation as a free formula provider and continue to increase its breastfeeding program. The recent change to the food package has shown mixed success (Wilde et al, 2012; Whaley et al, 2012). However, only one participant in this study specifically mentioned that the expanded food package for breastfeeding mothers was an incentive to breastfeed.

Media

The media level of influence is important to breastfeeding promotion because it affects social norms, which can influence the other levels of the socio-ecological framework (Bentley et al, 2003). The study findings from both the focus groups and interviews are consistent with McCarter-Spaulding (2007), which also found that African-American women desired more images of real women breastfeeding. Since the media is currently doing an insufficient job in promoting breastfeeding to African-Americans, "some people, even black people, might think black women don't breast feed." Therefore, any media messages promoting breastfeeding are perceived to target other women because they are not centered on African-American cultural norms.

Positive deviants had several suggestions for ways to improve media promotion of breastfeeding to African-American women. One example was using notable celebrities, such as Beyoncé in breastfeeding campaigns, and breastfeeding-related walks and concerts. Several studies have described a lack of exposure to other breastfeeding African-American women who could serve as role models (Corbett, 2000; Lewallen & Street, 2010). Another suggestion was including breastfeeding information in magazines targeting African-American women, such as *Ebony* and *Essence*. Frierichs et al (2006) reviewed how breastfeeding was framed in popular magazines noted only 3.2% of African-American magazine articles portrayed breastfeeding. The researchers also noted a widely circulating parenting magazine does not exist for this audience. There were also several discussions that there are not a lot of African-American women on websites promoting breastfeeding. Lack of media attention on breastfeeding from media catering to African-American women was also described by Robinson & Vandevusse (2009). Failure by the media to promote breastfeeding to African-American women sends messages not only to the mothers but also others in their support system that breastfeeding is not a cultural norm.

Social media was mentioned by several participants in their interviews as well as by PCs in focus groups. Because African-American women lack connection with others women who breastfeed, they are turning to Facebook, mommy blogs, and YouTube for information and support from women like them. Interventions that include a social media interface to promote breastfeeding support to African-American women can also help change cultural norms about breastfeeding in general. One suggestion is to use positive deviants in online settings to outreach to other African-American women to share their breastfeeding stories. This could be in a peer-to-peer format or even through pre-recorded testimonials and webinars.

News stations and African-American radio stations were mentioned of channels to promote breastfeeding information or breastfeeding-related events and conferences. One participant related breastfeeding awareness to anti-smoking awareness, noting that now everyone knows the dangers of smoking. Similarly, the media has an important role in changing cultural norms on breastfeeding. Participants suggested having more commercials, like the Luv commercial featuring a White breastfeeding mother, and also TV shows incorporating breastfeeding African-American women.

The *It's Only Natural* social marketing campaign commenced just prior to the start of this study in April 2013. This Office for Women's Health (2013) initiative aims to promote breastfeeding as a normal and natural feeding option for African-American women and their families. It has successfully included messages framed from an asset-based (or strengths-based) approach that African-American women do breastfeed. For example, one poster says "More than half of African-American women breastfeed their babies." Similarly, the infographic says "More and more moms are breastfeeding" and depicts the increasing breastfeeding trends for the nation side-by-side with African-American mothers (Office for Women's Health, 2013). This campaign includes partnerships with organizations at various levels, website with information and testimonials from African-American women who have breastfed, fact sheets and posters, and radio PSAs. Although this campaign appears to be designed from the perspective of African-American mothers, it has only been in effect for a year. No published reports evaluating its impact were found. It will be interesting to see if by combining media and partnerships if the campaign will be effective. Interestingly, on the fact sheet it doesn't describe maternal weight loss as a benefit of breastfeeding, which each of the Positive Deviants described as a motivating factor in their decision to breastfeed.

Limitations

There are several limitations to this study, which include limited geographic location of the sample, the small sample size, and the use of purposive sampling. This study was conducted in Georgia with a small purposive sample of African-American women with low incomes. The most obvious criticism about purposive sampling is sampling bias and that the sample is not representative of the entire population. WIC PCs were recruited through their supervisors on a first-come, first-serve basis. There were several other PCs interested in participating however their experience working with African-American breastfeeding clients was limited. Interview participants were recruited through the WIC program which has federal guidelines regarding income eligibility. (In other words WIC participation was used as a proxy for low-income). There may be African-American women with breastfeeding experience who had low-incomes and were not enrolled in the WIC program.

In addition, about half of the PCs were Black (or African-American). It was decided that a mixed race sample of PCs could provide a variety of perspectives on breastfeeding in African-American women in WIC program. Had the focus group sample been 100% African-American perspectives could have differed. In addition, two-thirds of the PCs were married and most had some college education or a college degree. Thus, the PCs in the focus group study may differ from the larger group of women employed as WIC PCs.

Similarly, over half of the interview participants were married, and the vast majority had some college education or a college degree. For Georgia women, reporting WIC participation on the PRAMS survey, 35.4% were married and 35.9% had greater than high school education. Thus participants differ from larger WIC participation. Participants in this study may also differ from the general population of African-American women and women of other racial/ethnic

groups as well as those of other income levels. Therefore, the results of this study are not generalizable to the larger population. However, purposeful sampling is common in qualitative research and focuses on sampling information-rich cases that are relevant to the research purpose (Patton, 1990). The goal of this research was not generalizability yet to fill gaps in the current literature by exploring the breastfeeding experiences of African-American women with low-incomes. Another limitation is that the study was guided by the TPB, which was used to develop focus group and interview guides and used to build themes during data analysis. In Chapter 2, the TPB was described as an individual or intrapersonal level theory that looks at breastfeeding intention as a function of attitudes, subjective norms, and perceived behavioral control. As previously described, there were patterns in the data that did not fit the TPB. If another theory guided this study, findings could be different. These limitations are reasonable given this is an original study using the Positive Deviance Approach to inform future research and design of breastfeeding interventions.

Future Research Directions

This was an innovative research study to address breastfeeding disparities in African-American women using the Positive Deviance Approach. While it is the first known study to apply the Positive Deviance Approach to this topic, the current study raises several questions to direct future research. This section will discuss the theory and methods how they relate to future research directions.

Theoretical Applications

In Chapter 2, TPB was explained as one of the most widely used behavioral theories in breastfeeding research. However as an individual or interpersonal level theory, it did not explain all of the emerging patterns in the current study. There were several discussions on how issues of

history, culture, gender, class and age influence the breastfeeding decisions of African-American women, particularly those with low-incomes. TPB considers these factors as external variables and are assumed to influence the attitudes, subjective norms and perceived behavioral control /self-efficacy that influence behavioral intention and behavior (Conner & Sparks, 1996; Lawton et al, 2012). However, these variables may better explain the breastfeeding practices of African-American women. Many of the behavioral theories, like TPB, that guide intervention development “may assume common motivational and cognitive paradigms, that may be essentially biased toward the dominant culture and insensitive to differences between communities, thereby leading to health disparities” (Fowles, 2007). Several other qualitative studies have successfully explored culture in research on breastfeeding & African-American women (Fischer & Olson, 2013; Lewallen & Street, 2010). Future research should further explore the historical and cultural factors surrounding breastfeeding decision-making and practices in African-American women. Topics such as these may be better explained using community-level behavioral theories.

One theoretical perspective that could enhance our cultural knowledge of breastfeeding in African-American is Black Feminist Thought. Black Feminist Thought (Collins, 1991) explores the lived experiences of African-American women given their historical oppression along lines of race, gender, and class. Collins argues that African-American women have a unique perspective on self, community and society. However, this framework also recognizes there is diversity among African-American women (class, religion, etc.) (Collins, 1991). One central tenet is intersectionality, a concept reflecting the intersecting categories of race, gender, and class and how these multiple oppressions construct the lives as African-American women. For example, although the interview study sample had some college education or a college

degree, they have lived experiences of women (gender), who are also African-American (race), and in the WIC program (class). Their lived experiences may be quite different than other women, who are White, and middle class. The breastfeeding literature is clear that there are disparities between these two groups of women. Bowleg (2012) states intersectionality also examines “how multiple social identities at the individual level of experience (i.e., the micro level) intersect with multiple-level social inequalities at the macro structural level.” One example would be how “do low-income African-American women navigate breastfeeding at their workplaces or while riding public transportation?” Thus, the concept of intersectionality is applicable to breastfeeding disparities research.

Research using a Black Feminist approach focuses on the everyday lives of African-American women and how they interpret their own lived experiences. Black Feminist research also employs a participatory or community approach viewing participants as collaborators in the research process (Leith, 2000). A literature search on PubMed revealed a Black Feminist perspective has been used in research on HIV interventions (Gentry et al, 2005), mental illness (Creswell, 2014), the concept of motherhood (Fouquier, 2011), breast cancer (Kooker et al, 2007; Ryan, 2004), and violence (Taylor, 2005). This type of research “requires conscious methodological approaches and research practices” (Leith, 2000 p20), and often utilizes qualitative methods. As described in Chapter 1, the voices of African-American women are lacking from the breastfeeding literature (Asiodu & Flaskerud, 2011). Several nursing scholars have used a Black feminist perspective in their work to better understand breastfeeding in African-American women by giving voice to their personal breastfeeding experiences (McCarter-Spaulding, 2008; Robinson, 2009; Spencer & Grassley, 2013). While Black Feminist Thought is not a framework traditionally used in public health, it has been used as a cultural

framework in nursing scholarship (Blackford, 2003). Given its multidisciplinary background, public health can learn from the field of nursing research and apply Black Feminist Thought to future work on breastfeeding in African-American women.

Positive Deviance Approach

The use of the Positive Deviance Approach in the research design of the current study provided several reflections for future Positive Deviance research. Given the participatory nature of Positive Deviance, it is important to note that researchers should only use this approach if they have adequate time and resources to first immerse in the literature on their topic and conduct pilot research. Before meeting with community members, the researcher was already well-read in the literature, and knew the gaps regarding breastfeeding in African-American women. The researcher also conducted pilot interviews and a blog analysis of African-American women's breastfeeding stories through a qualitative coursework. She also studied abroad in Ghana, West Africa to observe communities where breastfeeding is the norm for Black women.

Building relationships with the target communities is another important aspect of Positive Deviance resource that takes time and resources. The researcher connected with community stakeholders several times over coffee and other informal gatherings to better learn about their current projects. Community members would introduce her to others who could provide local knowledge on the topic. During research proposal development, experts from the WIC program gave feedback on whether the focus group should be excluded to non-African-American PCs and also on the focus group guide. From their input, a mixed race sample of WIC PCs was recruited to have various perspectives. In addition, for the interview study, a community member suggested including another district in the study because there were a high number of African-American women in the WIC program who breastfeed there. Though this district was much

further away from the researchers' home base, it was a wise decision. The majority of the interview participants came from this district. In addition, recruitment strategy changed during the interview study based on input from a WIC PC. Although the researcher had no intention of including PCs from the focus group in the interview study, recruitment had slowed down and the researcher needed more participants. Two WIC PCs were included in the interview study since they fit the inclusion criteria. Their interviews allowed the researcher to ask for follow-up on some of their responses in the focus groups and to ask how their personal breastfeeding experience was similar or dissimilar to the women they serve through WIC. The feedback from community members strengthened the study. Yet it required flexibility and humility on the part of the researcher. Researchers desiring to conduct Positive Deviance research should be prepared to share power and expertise with their community members throughout the research process.

Similar to what was described about the Black Feminist perspective, Positive Deviance also employs a participatory or collaborative approach. In an article on the importance of collaborative research methodologies in health research on underserved women, Fowles (2007) describes how Positive Deviance is akin to other asset-based approaches, like Community Based Participatory Research (CBPR) and Participatory Action Research (PAR). CBPR and PAR approaches have been used more frequently in health disparities research in the United States than Positive Deviance (Fowles, 2007). All three approaches acknowledge the local knowledge of participants and build upon existing community resources. Yet, two of the main distinctions between these approaches are 1) identifying the problem and 2) the role of the researcher and the community.

In Positive Deviance research the health problem is defined by experts usually outside of the community (Fowles, 2007). For this study, the researcher herself defined the problem of

interest as long-term breastfeeding in African-American women after extensive review of the breastfeeding literature. In Positive Deviance research the researcher collaborates with members of the community to identify Positive Deviants for better health outcomes. The researchers then shares the lessons learned from Positive Deviants with community members. For this study, drafts of the manuscript will be shared with the WIC PCs and their supervisors, and the Positive Deviants themselves. Findings were also shared to the local community and national audience through a webinar called the Black Breastfeeding Circle. Executive summaries will be developed to summarize the main findings from both studies and also the previously mentioned areas for breastfeeding intervention using the socio-ecological model. Unlike CPBR and PAR, it is the researcher who conducts the assessment of the problem and the observations of Positive Deviants (Fowles, 2007). Therefore, since the researcher guides the research project with input from community members, Positive Deviance research may be less participatory than CBPR and PAR. However, for novice researchers interested in conducting participatory research, Positive Deviance may serve as a great introduction.

A qualitative approach to Positive Deviance was utilized in the current study. Focus groups were conducted as the first step in the approach with individual interviews conducted as the third step. However, Positive Deviance research allows flexibility in choosing research methods. For example, Ma & Magnus (2011) utilized a Positive Deviance perspective in their secondary data analysis of Louisiana PRAMS data to identify characteristics of Positive Deviants for breastfeeding. The researchers could have used their findings as a basis for a Positive Deviance Inquiry. Although focus groups were conducted with WIC PCs, focus groups could have been conducted with African-American women from the WIC program who had initiated breastfeeding but did not continue past 6 months. Another option would be to do a secondary

data analysis of WIC data, and then identify Positive Deviants through their WIC records.

Walker et al (2007) provide suggestions on how to apply Positive Deviance to existing public health data. The Basic Field Guide to the Positive Deviance Approach by the Positive Deviance Initiative offers several ideas on how to go about a Positive Deviance Inquiry. Since Positive Deviance research is relatively new in the United States, there will be numerous opportunities to apply this approach to other health disparities.

Conclusions

Although statistics on breastfeeding in African-American women are disheartening, there are African-American women breastfeeding despite the odds. This study demonstrates that the Positive Deviance Approach can enhance our understanding of breastfeeding in African-American women with low-incomes. Data from both the focus groups with WIC PCs and interviews with Positive Deviants demonstrate gaps in breastfeeding support for African-American women with low-income. The current way breastfeeding is promoted is not culturally-tailored enough to the needs of African-American women. Findings from this study are useful in addressing the research gaps on breastfeeding in African-American women and lay the foundation for future research and design of culturally-sensitive interventions. Additional research using a socio-ecological approach would allow for examination of factors beyond the individual level that influence breastfeeding in African-American women. Public health can develop a deeper understanding on breastfeeding in African-American women by drawing from feminist theoretical perspectives, such as Black Feminist Thought and Intersectionality. In conclusion, it is not enough to simply educate African-American women on the benefits of breastfeeding and measure their breastfeeding beliefs and intentions. It is arguably more

important to concentrate on the multiple levels of influencing surrounding their breastfeeding decisions.

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APPENDIX A. FOCUS GROUP & INTERVIEW GUIDES

Focus Group Guide

Introduction & Background of the Project

My name is Tyra Gross and I'm a doctoral student at the University of Georgia. My dissertation project is on understanding the breastfeeding experiences of low-income African-American women. As you may know, despite the benefits of breastfeeding African-American women have the lowest breastfeeding initiation and duration rates. Low-income women also have poor rates of breastfeeding. However, I am interested in how some mothers are able to breastfeed for 6 months or more despite the odds. Before I began talking with these mothers one-one, I am interested in your input regarding on the rewards, challenges, resources, personal experiences, and current unmet needs regarding helping these mothers breastfeed long-term.

- *We will discuss your thoughts about breastfeeding in African-American mothers who are low-income and participate in the WIC program.*
- *There is no right or wrong answer.*
- *All comments, both positive and negative, are welcome.*
- *Please feel free to disagree with one another. We would like to have many points of view.*
- *Refreshments have been provided for you, so please just get up when you need something.*

Procedure

- *Go over informed consent forms. Explain the use of video and/or audio recorders if applicable.*
- *All comments will be used for research purposes only.*
- *This is to be a group discussion, so you don't have to wait to be called upon, but please do speak one at a time.*
- *We have a lot of ground to cover, so if I change the subject or move ahead, please stop me if you want to add something.*
- *We will talk together for about 90 more minutes and then I'll ask you to fill out a short, anonymous demographic survey and we'll be giving you your gift card as a thank you gift for the time you spent here today.*
- *Do you have any questions before we start?*

Self-Introductions

- *Ask each participant to introduce herself. Perhaps give a name/pseudonym, and say how long they've been working as a WIC breastfeeding peer counselor.*

Opening

- *As an opening activity, I would like for each of you to take a card in front of you and complete this statement. "As a WIC breastfeeding peer counselor, I get to _____."*
- *Allow each participant to share their response.*

Introductory question

- *What is the first thing that comes to mind when you hear the phrase “African-American mothers and breastfeeding?”*

Transition questions

- *Please, think back to when you first worked with an African-American breastfeeding mother as peer counselor. What were your first impressions?*
- *What is the process of helping African-American mothers to breastfeed like for you?*

Key questions

- *How do African-American mothers make a decision to breastfeed during pregnancy?*
Probes:
 - *attitudes & beliefs*
 - *norms of partner/baby’s father, parents, friends, in-laws, community*
 - *self-efficacy (confidence in ability to breastfeed), even with challenges*
- *Please describe what enables mothers to initiate breastfeeding after birth?*
Probes:
 - *hospital stay during birth & delivery*
 - *transition home*
- *Please describe what enables mothers to maintain breastfeeding during the first few weeks after birth?*
Probes:
 - *returning to work/school*
- *In your opinion as a counselor, what enables mothers to continue breastfeeding for 6 months or longer?*
Probes:
 - *current number of clients*
 - *typical length of breastfeeding*

Ending questions

- *If you had the chance to give advice on how to help African-American mothers to breastfeed, what advice would you give?*
- *I want to better understand the breastfeeding decision-making and breastfeeding experiences of African-American mothers from low-income families. Is there anything that I missed? Is there anything else that you would like to share?*
- *I have copies of a recruitment flyer that I would like you to share with African-American breastfeeding mothers you serve that may be eligible for an interview on their breastfeeding experience. I need about 15 mothers. Would you be willing to share several copies and post in your clinic?*
- *Thank you so very much for your time. Your input is very valuable to me. Now, I have a short demographic form that I would like you to complete. Here is your gift card as a token of appreciation for your participation today.*

Individual Interview Guide

Introduction & Background of the Project

My name is Tyra Gross and I'm a doctoral student at the University of Georgia. The purpose of this research study is to understand the breastfeeding experiences of low-income African-American women. I am interested in how some mothers are able to breastfeed for 6 months or more despite the odds. I am interested in your personal experience regarding on the rewards, challenges, resources, and strategies you used to breastfeed long-term.

- *There are no right or wrong answers.*
- *All comments, both positive and negative, are welcome.*
- *Please feel free to ask me to pause if you need a break for any reason.*

Procedure

- *Go over informed consent forms. Explain the use of audio recorder.*
- *All comments are confidential and will be used for research purposes only.*
- *We will talk together for about 60 more minutes and then I'll ask you to fill out a short, anonymous demographic survey and we'll be giving you your gift card as a thank you gift for the time you spent here today.*
- *Do you have any questions before we start?*

Questions

- *In as much detail as possible please describe your most recent experience breastfeeding.*
Probes: *How has this experience been different than your experience with your other children.*

- *I want you to think back to your pregnancy. Please describe what motivated you to breastfeed when you were pregnant.*
Probes: *How long did you plan to breastfeed when you were pregnant?
What were your beliefs about breastfeeding before you were pregnant?
How did your beliefs about breastfeeding change once you were pregnant?
Describe the history of breastfeeding in your family.
Who supported your decision to breastfeed? Who was unsupportive?
How do you think others in your community view breastfeeding?
What did your health care provider discuss with you about breastfeeding?
What did the WIC program discuss with you?
Describe your confidence in your ability to breastfeed when you were pregnant.
How did your confidence change after you had your child?*

- *I want you to think back to when you gave birth to your baby. Please describe your experience initiating breastfeeding after birth.*
Probes: *What was your hospital stay during labor & delivery like?
How was the support you received from doctors and nurses in the hospital?
Describe any problems that you had with breastfeeding during this time.*

- *Now think back to the first few weeks after you had your baby. What was your breastfeeding experience like during this time?*
Probes: *How was breastfeeding when you transitioned home?*
How was it when you returned to work/school?
Please tell me what situations or conditions made it easier for you to breastfeed your child? What made it harder?
What did you do when you experienced problems with breastfeeding?
What did you do when you had questions about breastfeeding?
Describe the support you received from WIC. What about your peer counselor?
- *Please describe what helped you continue breastfeeding for 6 months or longer?*
Probes: *How did those close to you support you?*
How did your workplace/school support you?
Describe a time when you wanted to stop breastfeeding.
What made you continue?
Describe the main factors for your breastfeeding success.
- *(If participant has ceased breastfeeding) Why did you stop breastfeeding?*
- *If you had the chance to give advice on how to help African-American mothers to breastfeed, what advice would you give?*
- *I want to better understand the breastfeeding experiences of African-American mothers from low-income families. Is there anything that I missed? Is there anything else that you would like to share?*
- *Thank you so very much for your time. Your story is very valuable to me. Now, I have a short demographic form that I would like you to complete. Here is your gift card as a token of appreciation for your participation today.*

APPENDIX B. RECRUITMENT FLIERS

Focus Groups



Are you a WIC Breastfeeding Peer Counselor who:

- Is age 18 years or older?
- Has worked for at least a year?
- Has served African-American mothers as your clients?



If so, you may qualify for a study on your experience working with breastfeeding African-American mothers!

Seeking WIC Breastfeeding Peer Counselors for a Research Study

Share your thoughts in a 90 minute focus group!



If you're interested, contact Tyra Gross @ 225-938-3932 or ttgross@uga.edu for more information.

Receive a \$20 gift card for participating.

Study being conducted by UGA.

Tyra Gross
225-938-3932
ttgross@uga.edu
Breastfeeding Study

Individual Interviews



Are you a mother who:

- Is African-American?
- Age 18 years or older?
- Enrolled in the WIC program?
- Has breastfed one of your children?
- Has breastfed for 6 months or more?

If so, you may qualify for a study on your breastfeeding experience!



Seeking African-American Moms to Participate in a Research Study

Tell us your breastfeeding story in a 1-hour interview!



If you're interested, contact Tyra Gross @ 225-938-3932 or ttgross@uga.edu for more information.

Receive a \$20 gift card for participating.

Study being conducted by UGA.

Tyra Gross
225-938-3932
ttgross@uga.edu
Breastfeeding Study

APPENDIX C. ELIGIBILITY SCREEN

Focus Groups

Name: _____

Phone: _____

Date: _____

Eligibility Screen for Focus Groups

Hello, my name is Tyra Gross. I'm calling regarding a research study at the University of Georgia. I am speaking to WIC breastfeeding peer counselors about breastfeeding in African-American women from the WIC program. I would like to ask you a few questions to ensure that you are eligible to participate in the study. Can I have a few minutes of your time? I can assure you that the information you give me will be confidential and will not affect any services that you currently receive. Your information will be safely stored in a file that only I can access. If you are not eligible for the study any information collected from you will be destroyed. Do you understand?

How did you learn about this study? _____

Yes No Are you age 18 years or older? *(If no, ineligible)*

Yes No Are you currently employed as a WIC breastfeeding peer counselor? *(If no, ineligible)*

- Which district of the WIC program do you work? _____
(If not Northeast, Metro Atlanta or Lagrange Health Districts ineligible).

Yes No Have you been employed as a WIC breastfeeding peer counselor for at least a year? *(If no, ineligible)*

It appears that you are eligible for this research study. The study requires participation in a focus group with other WIC breastfeeding peer counselors to get your input on breastfeeding in African-American mothers participating in WIC.

Yes No Are you willing and able to participate in a 90-minute focus group about your work with African-American breastfeeding mothers? *(If no, ineligible)*

Great. Let me look at the schedule. Are you available the week of _____ in the afternoon? **I am working to have the focus group around your staff meeting to better accommodate you and the other participants.**

Individual Interviews

Name: _____

Phone: _____

Date: _____

Eligibility Screen for Individual Interviews

Hello, my name is Tyra Gross. I'm calling regarding a research study at the University of Georgia. I am speaking to African-American women from the WIC program about their breastfeeding experiences. I would like to ask you a few questions to ensure that you are eligible to participate in the study. Can I have a few minutes of your time? I can assure you that the information you give me will be confidential and will not affect any services that you currently receive. Your information will be safely stored in a file that only I can access. If you are not eligible for the study any information collected from you will be destroyed. Do you understand?

How did you learn about this study? _____

Yes No Are you African-American? *(If no, ineligible)*

Yes No Are you age 18 years or older? *(If no, ineligible)*

Yes No Are you currently participating on the WIC program? *(If no, ineligible)*

- Which county of the WIC program do you receive services? _____
(If not within Northeast, Metro Atlanta or Lagrange Health Districts ineligible).

Yes No Have you ever breastfed one or more of your children? *(If no, ineligible)*

- How old is the child you most recently breastfed? _____ *(If older than 2 years, ineligible)*
- How long did you breastfeed this child? _____ months *(If less than 6 months, ineligible)*

It appears that you are eligible for this research study. The study requires an individual interview that will last about an hour to learn more about your breastfeeding experience.

Yes No Are you willing and able to participate in a 1-hour interview about your breastfeeding experience? *(If no, ineligible)*

Yes No Are you willing to allow me to conduct this interview in your home? *(If no, offer alternate locations)*

Great. Let me look at the schedule. Are you available the week of _____ in the afternoon?

APPENDIX D. CONSENT FORMS

APPENDIX E. DEMOGRAPHIC QUESTIONNAIRES

Focus Groups

Demographic Questionnaire

Pseudonym _____

Please answer the following questions to the best of your ability. If you have any questions, please inform the researcher.

1. What is your date of birth: ____/____/____

2. How many children do you have? _____

Please list the age and sex of each of your children, and circle whether they were ever breastfed. If they were breastfed, please answer for how long.

Child	Age	Sex	Ever breastfed? If yes, how long?
1			Yes _____ No
2			Yes _____ No
3			Yes _____ No
4			Yes _____ No
5			Yes _____ No
6			Yes _____ No

3. What is your race/ethnicity?

White Black Hispanic/Latino Other _____

4. What is your marital status?

Married Divorced Single In a Relationship Other _____

5. What is the highest level of education you have completed?

Less than High School Some College College Degree
High School Graduate College

6. How long have you been a WIC breastfeeding peer counselor? _____

7. Have you ever personally participated in the WIC program? Yes No

If yes, How long did you participated in the WIC program? _____

Individual Interviews

Demographic Questionnaire

Pseudonym _____

Please answer the following questions to the best of your ability. If you have any questions, please inform the researcher.

1. What is your date of birth: ____/____/____

2. How many children do you have? _____

Please list the age and sex of each of your children, and circle whether they were ever breastfed. If they were breastfed, please answer for how long.

Child	Age	Sex	Ever breastfed? If yes, how long?
1			Yes _____ No
2			Yes _____ No
3			Yes _____ No
4			Yes _____ No
5			Yes _____ No
6			Yes _____ No

3. What is your marital status?

Married Divorced Single In a Relationship Other _____

4. What is the highest level of education you have completed?

Less than High School Some College
High School Graduate College Degree

5. What is your employment status?

Not employed Full-time Part-time Student Other _____

6. How long have you participated in the WIC program? _____