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# Socio-Demographics and Exclusive Breastfeeding in the Medicaid/Women Infant and Children (WIC) Population in Spartanburg County

April D. Miller  
*Gardner-Webb University*

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Socio-Demographics and Exclusive Breastfeeding in the Medicaid/Women Infant and  
Children (WIC) Population in Spartanburg County

by

April D. Miller

A thesis submitted to the faculty of  
Gardner-Webb University Hunt School of Nursing  
in partial fulfillment of the requirements for the  
Master of Science in Nursing Degree

Boiling Springs, North Carolina

Fall 2016

Submitted by:

\_\_\_\_\_  
April D. Miller

\_\_\_\_\_  
Date

Approved by:

\_\_\_\_\_  
Nicole Waters, DNP

\_\_\_\_\_  
Date

## Abstract

Breast milk is recognized as the optimal source of nutrition for infants because of its unique nutritional and immunological characteristics. The American Academy of Pediatrics recommends exclusive breastfeeding for the first six months of an infant's life. "Exclusive breastfeeding (EBF)" is defined as no other food or drink except breast milk for the first six months of life. Despite its countless benefits to children and mothers, the continuation rates of exclusive breastfeeding are low in the United States, especially in the Medicaid/Women Infant and Children population. It is vital to understand how multiple factors affect breastfeeding practices in order to improve the duration of exclusive breastfeeding.

## Acknowledgements

I would like to acknowledge the many people who have given me love, support, and encouragement throughout this challenging journey. First, I would like to acknowledge my Lord and Savior for His unfaltering love and never failing strength. I would not have made it through this, if I did not know Him. For her leadership, support, guidance, and feedback I would like to thank Nicole Waters, DNP. I would like to acknowledge Clarisa Giles, nurse manager for the Spartanburg Regional Nurse-Family Partnership program, for her support and insistence that I take this journey. I would also take this time to acknowledge Betty Warlick, Tim Fagan, the Spartanburg Regional nursing research council, David Suarez and Frank Stewart of the Spartanburg Regional IRB, for their guidance during this process. To Shonna Bible, you have become a true mentor to me during this process. Thank you, Angie Wilson for your assistance. You all were a pleasure to work with, and I am forever grateful for your support.

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## **CHAPTER I**

### **Introduction**

Breastfeeding is the optimal form of infant nutrition and has multiple health and economic benefits for women and children, especially those from low-income families (Raiser, Alexander, & O'Campo, 1999). Although any amount of breast milk is beneficial, there is a dose response effect in which the benefits of breastfeeding are maximized with at least six months of exclusive breastfeeding (Raiser et al., 1999). Breastfeeding is acknowledged as the optimal way to feed infants for the first six months by national and many other health organizations (American Academy of Pediatrics [AAP], 2007; United Nations Children's Fund, 2006; World Health Organization [WHO], 2008). Despite its countless benefits to children and mothers, the continuation rates of exclusive breastfeeding (EBF) are low in the United States (Centers for Disease Control and Prevention [CDC], 2014c; Dudenhausen, 2014; Silfverdal, 2011). It is essential to understand how multiple factors affect breastfeeding practices in order to improve the duration of exclusive breastfeeding. "Exclusive breastfeeding" is defined as no other food or drink except breast milk (which can be milk expressed by hand/pump or milk from a wet nurse) for the first six months of life. However, exclusivity does allow for the infant to receive oral rehydration solutions (ORS) vitamins, minerals, and medicines (WHO, 2008). Exclusive breastfeeding is the most effective form of infant feeding for the first six months of life. The United States Breastfeeding Committee (USBC) and the American Academy of Pediatrics (AAP) state that breastfeeding is the physiologically normal form of infant feeding (Labbok & Taylor, 2008). Therefore, breastfeeding should be nurtured and encouraged by healthcare professionals and public

health campaigns to create normality within society. Several organizations validate breast milk as the ideal source of nutrition for infants (American Academy of Family Physicians [AAFP], AAP, 2007, United States Breastfeeding Committee [USBC], 2016; United States Department of Health and Human Services [USDHHS], 2009; World Health Organization [WHO], 2008).

### **Significance**

The benefits of exclusive breastfeeding encompass more than simply mother and baby, and can be credited as the reason for positive health and economic changes on a local and global level (Murtagh & Moulton, 2011). Breastfeeding is an unparalleled way of providing ideal food for the healthy growth and development of infants; it is also an essential part of the reproductive process with important implications for the maternal health (WHO, 2008). Infants who are breastfed have a decreased risk of developing upper respiratory infections, otitis media, diarrheal illnesses, diabetes mellitus, allergies, asthma, and sudden infant death syndrome (SIDS) compared to infants who are fed formula (AAP, 2007). In the United States an infant who is fed formula costs the health care system an additional \$331-475 during the first year of life, paralleled to an infant who is breastfed (Ball & Wright, 1999). Bartick and Reinhold (2010) estimated that if 90% of mothers in the U.S. breastfed their babies exclusively for six months, it would save the U.S. \$13 billion dollars a year and prevent 911 deaths annually. Not only do breastfed babies contract fewer illnesses, parents of breastfed babies miss less work and require fewer days off work, which render into increased productivity for their employers (Murtagh & Moulton, 2011). It is projected that worldwide; over one million deaths among children under the age of five could be prevented by breastfeeding (AAP, 2007).

Mothers who breastfeed their babies are less likely to be diagnosed with breast and ovarian cancer, in contrast with women who feed their babies formula (WHO, 2008).

### **Problem Statement**

While breastfeeding is the optimal form of nutrition for infants, it can present many challenges to mothers, especially those of low income. While breastfeeding initiation rates in the United States have increased over the past years by 3.6% (Bonet et al., 2013), women who are considered low-income (Medicaid eligible) and participate in the Women, Infants, and Children (WIC) program are almost 12% less likely to initiate breastfeeding than the general population, and less likely to continue for six months to a full year (Bonet et al., 2013). While all populations experience barriers related to breastfeeding initiation, duration, and exclusivity, low-income populations may be affected by these barriers more so than other populations due to socioeconomic restraints. Mothers who are low-income and mothers who participate in the WIC program, are less likely to initiate breastfeeding and are at a higher risk for early weaning (CDC, 2014). Breastfeeding rates among Medicaid and WIC populations remain consistently lower, at 57% initiation, compared to 74% in populations who have a higher income (CDC, 2014). Low income mothers are less likely to breastfeed for any duration compared to mothers with higher incomes. Mothers who have a lower education level or are not married are also less likely to breastfeed their infants compared to mothers who are married, or are college graduates (United States Breastfeeding Committee [USBC], 2016).

### **Conceptual Framework**

Many health care organizations have used Kurt Lewin's theory to understand human behavior as it relates to change and patterns of resistance to change. Lewin's

model encompasses three distinct phases known as unfreezing, moving and freezing, or refreezing (Bozak, 2003). The purpose of the model is to isolate factors that can impede change from happening. Forces that oppose change are often called restraining or ‘static forces, and forces that promote or drive change are referred to as ‘driving forces’. When health care organizations and professionals fully understand what behaviors drive or oppose change, it is then that they can work to strengthen the positive driving forces and change can successfully occur (Bozak, 2003). The use of Lewin’s Change Management Theory can support research to isolate the restraining factors that prevent low income Medicaid mothers from being successful in exclusive breastfeeding their babies, and identify areas of strength and resistance prior to implementing change.

### **Research Question**

What is the correlation between socio-demographic factors and exclusive breastfeeding in the Medicaid/ Women Infant and Children (WIC) population in Spartanburg county zip codes?

### **Definition of Terms**

- *Exclusive breastfeeding* is defined as no other food or drink, not even water, except breast milk for six months of life; however, allows the infant to receive oral rehydration solutions (ORS drops and syrups (WHO, 2001).
- *Full breastfeeding* means that the infant’s predominant source of nourishment has been breast milk. However, the infant may have also received liquids, ritual fluids and ORS, drops, or syrups (Stanway, Penny, & Andrew (2007).

- *Initiation* of breastfeeding occurs when a mother breastfeeds an infant, either from the breast or with expressed breast milk, but also describes the mother who breastfeeds one or two times before weaning the infant (Stanway et al., 2007).
- *Duration* of breastfeeding indicates the length of time that a mother maintains the breastfeeding relationship; this can be for only a few days or as long as a few years.
- *Partial or token* breastfeeding defines a mother who provides a significant amount of formula to the infant daily and only breastfeeds occasionally.

However, these definitions are not officially recognized by health agencies and are not consistently used among researchers or health care professionals.

### **Summary**

In summary, while breastfeeding is recognized as the optimal form of nutrition for infants, it can be challenging to many mothers, especially those of limited resources. While breastfeeding initiation rates in the United States have increased over the past 11 years by 3.6% (Bonet et al., 2013), women who are considered low-income (Medicaid eligible) and participate in the Women, Infants, and Children (WIC) program are still less likely to initiate breastfeeding than the general population, and even more less likely to continue for six months to a full year (Bonet et al., 2013). While all populations experience barriers related to breastfeeding initiation, duration, and exclusivity, low-income mothers may be affected by these barriers more so than other mothers due to socioeconomic restraints. Mothers who are low-income and mothers who participate in Medicaid and the WIC program, are more likely not to initiate breastfeeding and are at a higher risk for early weaning (CDC, 2014).

## CHAPTER II

### Review of Literature

#### Breast Feeding

There is strong evidence that breastfeeding has excellent health benefits to the mother, infant, community, and the nation (AAP, 2005; WHO, 2001). Breastfeeding is acknowledged as the optimal way to feed infants, and it provides health benefits to mothers and infants. Many national and international health organizations recommend exclusive breastfeeding for at least six months and continued breastfeeding for at least the first year of life or as long as desired by both mother and child (AAP, 2005; United Nations Children's Fund, 2006; WHO, 2003). The literature shows breastfeeding is the perfect source of nutrition for infants and children. Both the health and psychological benefits are well documented in the research. Breastfed babies have fewer respiratory infections, fewer gastrointestinal upsets such as diarrhea, fewer ear infections, and fewer allergies (Cadwell & Turner-Maffei, 2014). They also tend to have fewer dental caries, improved immune systems, and are less likely to have juvenile diabetes. Breastfeeding also improves cognitive development in infants. Oddy (2015) found an association in his research between breastfeeding for six months or longer and a reduction in mental health problems throughout childhood and adolescent years. Breast milk is species specific, therefore, making it compatible with the human infant's nutritional needs. Breast milk is easy to digest and contains every element necessary for health, growth, and development (Bowes, 2002). Although the health benefits of breastfeeding are well documented and initiation rates have increased over the past 20 years, most mothers wean before the recommended six-months postpartum because of perceived difficulties with breastfeeding

rather than due to maternal choice. Women least likely to breastfeed are those who are young, have a low income, belong to an ethnic minority, are unsupported, and are employed full-time, decided to breastfeed during or late in pregnancy, have negative attitudes toward breastfeeding, and have low confidence in their ability to breastfeed. Support from the mother's partner or a nonprofessional greatly increases the likelihood of positive breastfeeding behaviors (Dennis, 2002). Women who enjoyed support from family and friends are likely to breastfeed longer (Wambach & Cohen, 2009). Presence of mother-in-law in the home increased breastfeeding self-efficacy and has an association for continuing breastfeeding (Ku & Show, 2010). Social support by women's partners may promote, and extend breastfeeding (Lamontagne, Hamelin, & St. Pierre, 2008; e Meedya, Fahy, & Kable, 2010; Scott, Landers, Hughes, & Binns, 2001; Tan, 2011; Brown, Raynor, & Lee, 2011). Grandmothers are influential in infant feeding choices and can positively influence breastfeeding, especially if they are aware of recommended practices (Kerr, Dakishoni, Shumba, Msachi, & Chirwa, 2008; Grassley & Eschit, 2008).

### **Exclusive Breastfeeding**

Exclusive breastfeeding is defined as feeding infants only breast milk, be it directly from breast or expressed, with no addition of any liquid or solids apart from drops or syrups consisting of vitamins, mineral supplements or medicine, and nothing else. Several studies have shown that exclusive breastfeeding for the first six months plays a great role in preventing morbidity and mortality. However, in the United States a large portion of infants are not exclusively breastfed according to the infant feeding recommendations, and infants that come from low income families are even more likely not receive exclusive breastfeeding (WHO, 2001). Exclusive breastfeeding has many

health benefits such as nutritional, developmental, psychological, neurological, social, environmental, and immunological benefits for the infant, mother, and community (Wiener & Wiener, 2011). The ecological benefits of breastfeeding to society include decreased energy demands for the production of infant formula and less solid waste such as formula cans and bottles (Ball & Bennett, 2001). The World Health Organization (WHO, 2001) recommends exclusive breastfeeding for the first six months of life and continued breastfeeding up to two years of age or beyond. Promotion of exclusive breastfeeding is the single most cost-effective intervention to reduce infant mortality in developing countries. It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first six months of life, results in 1.4 million deaths and 10% of diseases in under-fives. Non-exclusive breastfeeding also has long term impact, including poor school performance, reduced productivity, and impaired intellectual and social development. It can also increase the risk of dying due to diarrhea and pneumonia among 0 to 5 month old infants (Tesafaye, Tefera, Mulusew, Kebede, & Amare, 2012). Motivation has long been considered as a key element to successful exclusive breastfeeding. Evidence also indicated that women who intend to combine both breast and formula feeding actually breastfeed for shorter durations than those planning only to breastfeed. Studies have identified major deficits relevant to breastfeeding in hospital policies and clinical practices, including a low priority given to support for breastfeeding and education about it, inappropriate routines and provision of care, fragmented care, and inadequate hospital facilities for women who are breastfeeding. A recent report that summarizes maternity practices related to breastfeeding in 2,687 hospitals and birth centers in the United States indicated that these practices are often not evidence based

and frequently interfere with exclusive breastfeeding. For example, 24% of birth facilities in the survey reported giving supplemental feeding to more than half of healthy, full-term, breastfed newborns during the postpartum stay, a practice shown to be unnecessary and detrimental to breastfeeding exclusively. In addition, 70% of facilities that participated in the survey reported giving breastfeeding mothers gift packs containing samples of infant formula, which can have a negative influence on both the initiation and duration of breastfeeding (Office of the Surgeon General (US), 2011).

According to the National Resources Defense Council (NRDC, 2005), mothers who breastfeed exclusively may benefit emotionally by the enhanced relationship, developed with their infant during breastfeeding, resulting in fewer feelings of anxiety and a stronger sense of attachment. Some studies have shown that breastfeeding can prevent or limit the duration of post-natal depression in mothers. Other benefits of breastfeeding include the faster return of the uterus to its pre-pregnant state and more rapid weight loss postpartum (Lawrence, 1999). Breastfeeding also contributes to a longer period of infertility after birth, leading to increased spacing between pregnancies. Breastfeeding also reduces the risk of osteoporosis due to the increase of bone density. Breastfeeding mothers are also more likely to maintain a healthy weight and are less likely to battle with obesity. Current research findings demonstrate that women who breastfeed for 20 consecutive months decrease their risk of breast cancer by 25% (Cadwell & Turner-Maffei, 2014). Additionally, breastfeeding is both economical and environmentally beneficial. The literature focuses on attitudes toward breastfeeding and increasing initiation rates, as well as the multiple benefits. There is little research on exclusive breastfeeding, as well as the risks associated with not breastfeeding. A recent

study of the national sample of women enrolled in WIC reported that only 36% of women thought that breastfeeding would protect the baby from diarrhea (National Center for Biotechnical Information [NCBI], 2016). UNICEF also demonstrates that there was no data on exclusive breastfeeding from 1995 to 2000 collected in the United States (UNICEF, 2016).

### **Limitations of Literature**

The review of literature identified key research gaps that should be addressed. The first was in regard to the research period. Most of the literature about breastfeeding was done in the 1990's, and centered around initiation, but not on duration. Also most research on breastfeeding exclusively takes place outside of the United States. The most recent studies on exclusive breastfeeding were done in Africa, the Middle East, and Asia. The literature also places great emphasis on culture, attitude, and beliefs, but still fails to ask the question "Why?" There was a lot of research based on ethnicity and the disparity between African Americans and other ethnicities but still failed to ask the question "Why?" Socioeconomic status was examined thoroughly, as well in most of the literature, but again still didn't ask the question the most obvious question of all "Why did you choose not to exclusively breastfeed?"

### **Strengths of Literature**

The research focuses frequently on the rates of breastfeeding initiation as it relates to ethnicity and income levels. College-educated, Caucasian women who are older than 35 years are most likely to initiate breastfeeding. Currently, 68% of Hispanic infants born in U.S. hospitals receive breast milk while in the hospital, and only 28% receive breast milk at age six months (CDC, 2012). Assimilation to the American lifestyle is strongly

related with a failure to initiate breastfeeding (Rassin et al., 1994). Studies have demonstrated that generally for Hispanic mothers, the most important predictor for breastfeeding is support from their mothers; however, the influence of physicians, friends, and male partners is also important (Baranowski et al., 1983). Level of educational achievement does not appear to be an independent factor of breastfeeding for Hispanic mothers, as it is for Caucasian and African-American mothers (Bee, Baranowski, Rassin, Richardson, & Mikrut, 1991). Hispanic mothers have been found to wean earlier and introduce formula and solid foods earlier than other mothers (Wright, Holberg, Taussig, 1988).

According to Raisler (2000), the reasons low-income women in general do not breastfeed and instead choose formula include the belief that breastfeeding is painful, the lack of a supportive environment, awkwardness about nursing in public, concern that breastfeeding is restrictive and inconvenient, and the need to return to work or school. Milligan, Pugh, Bronner, Spatz, and Brown (2000) acknowledged seven factors associated with low-income women choosing to discontinue breastfeeding as “postpartum fatigue, breast discomfort, anxiety and depression, age, number of children, social support, and prior breastfeeding experience.” Women, who initiate breastfeeding, but stop prematurely, often do so because of perceived insufficient milk supply, fatigue, and sore nipples (Milligan et al., 2000). From a public health perspective, it is essential to assess what issues affect women's goal to breastfeed, and then to examine the obstacles that prevent women from carrying out their desires (Balcazar, Trier, & Cobas, 1995). Concentrating on the incidence and duration of breastfeeding, Reifsnider and Eckhart (1997) examined the effect of two specific breastfeeding educational sessions among

low-income, pregnant women who received services from the WIC program. The experimental group received targeted breastfeeding instruction, while the control group received routine WIC prenatal education. Reifsnider and Eckhart (1997) determined the incidence of breastfeeding was no different between the two groups; however, the experimental group breastfed for a mean of 76 days compared to a mean of only 30 days in the control group.

In the WIC, Infant Feeding Practices Study, the U.S. Department of Agriculture (USDA) (2001) reported 31% of WIC mothers initiated breastfeeding and only 16% continued until their infant turned five months old. By 13 days old, 25% of the infants whose mothers initiated breastfeeding were weaned from the breast. Half of the breastfeeding WIC mothers stopped breastfeeding by the second month. The researchers reported Hispanic mothers breastfed longer at five months than Caucasian and African American mothers. Substantial numbers of breastfed WIC infants were also supplemented early on with formula. During the first five days of life, 25% of breastfeeding WIC infants were given formula, while 50% were given formula by the first 16 days of life. Researchers conducting the WIC Infant Feeding Practices Study (USDA, 2001) also found that attitudes and beliefs about breastfeeding differ between breastfeeding and formula-feeding WIC mothers. In this study, mothers who did not breastfeed were more likely to express uncertainty about various statements concerning the consequences of breastfeeding. Hispanic mothers reported the most awareness about breastfeeding benefits, whereas African Americans reported the most concern about the barriers to breastfeeding. Although attitude beliefs were wide-ranging across race and ethnicity due to education, life experiences, support and overall knowledge regarding

breastfeeding, research has found that these attitudes and beliefs can be associated with breastfeeding practices and duration. In other words, women with positive attitudes about breastfeeding were less likely to supplement and more likely to breastfeed longer than women that lacked support and had negative perspectives about breastfeeding.

### **Summary of Literature**

Breast milk is an irreplaceable nutritional source that cannot be adequately replaced by any other food. Exclusive breastfeeding means that the infant receives only breast milk. No other liquids or solids are given, not even water, except for oral rehydration solution, or drops/syrups of vitamins, minerals or medicines (WHO, 2012). World Health Organization (WHO) recommends exclusive breastfeeding for the infants up to first six months to achieve ideal growth, development and health (WHO, 2011). Breastfeeding (BF) is also a fundamental part of the reproductive process with important implications for the health of mothers. Review of research has shown that EBF for six months is the best way of feeding infants (WHO, 2012), but exclusive breastfeeding rates remain low, especially in low income mothers.

## **CHAPTER III**

### **Methodology**

#### **Study Setting**

This study was a retrospective chart review of Nurse Family Partnership mothers in hospital county zip codes from the Disease Management Coordination Network (DMCN) database.

#### **Sample/Participants**

The sampling procedure was convenience sample of 50 Nurse Family Partnership mothers with infants older than six months of age. The 50 mothers were divided into two groups of 25; those mothers who had exclusively breastfed and those who had not exclusively breastfed. Due to limitations in the study sample, the sample had to be modified to include all 235 mothers who had initiated breastfeeding, because out of 235 mothers who initiated breastfeeding in the selected age range only four had exclusively breastfed.

#### **Methods**

After obtaining IRB approval from the hospital and the University a retrospective chart review of the Disease Management Coordination Network (DMCN) database was completed of research participants age, race social support, partner participation, breastfeeding initiation, exclusive breastfeeding status, employment status, as well as Medicaid and WIC services were examined. All data was collected on a password protected computer and no identifying subject information was utilized. No consent for this research was required to participate, as only a minimal risk was posed to research participants. A total of 50 participants were obtained through the DMCN database to be

divided into two groups; those who had exclusively breastfed and those who did not exclusively breastfeed with focus being on those mothers with infants older than six months of age. It was then noted that the sample had to be increased because only four mothers had exclusively breastfed by definition out of 50, due to limitations in the data; the sample was increased to the whole sum of mothers who had initiated breastfeeding only to reveal participants out of 235 had exclusively breastfed their infants. Participant socio-demographic information was examined in relation to exclusive breastfeeding. Exclusion criteria included those mothers who are under the age of 18. Mothers with infants less than six months of age, and mothers who did not initiate breastfeeding at in the immediate postpartum period.

### **Ethical Considerations**

This study required Institutional Review Board (IRB) approval from the hospital and the University. The principal investigator was required by the hospital and the University to demonstrate competency in ethical procedures by completing the Collaborative IRB Training Initiative (CITI) course. There were no ethnic or racial limitations for the sample. The University will store the data from this research for three years.

### **Summary**

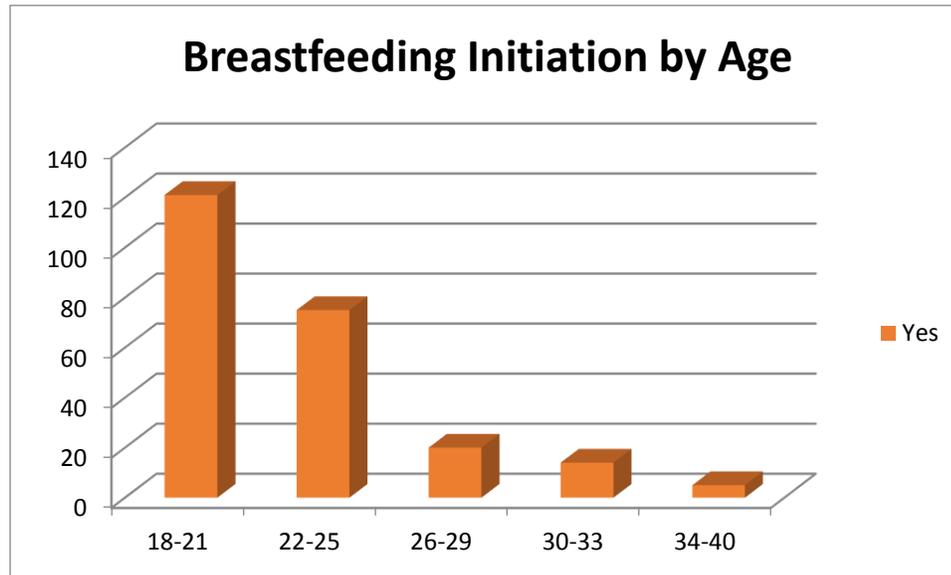
As a healthcare professional doing research, it was important that this study went through the proper channels and guidelines. Although no consent was required for this research, as it only posed minimal risk, all guidelines were followed to protect the subject's information. No identifying subject information was used and this research went through an Institutional Review Board for the hospital as well as the University.

## CHAPTER IV

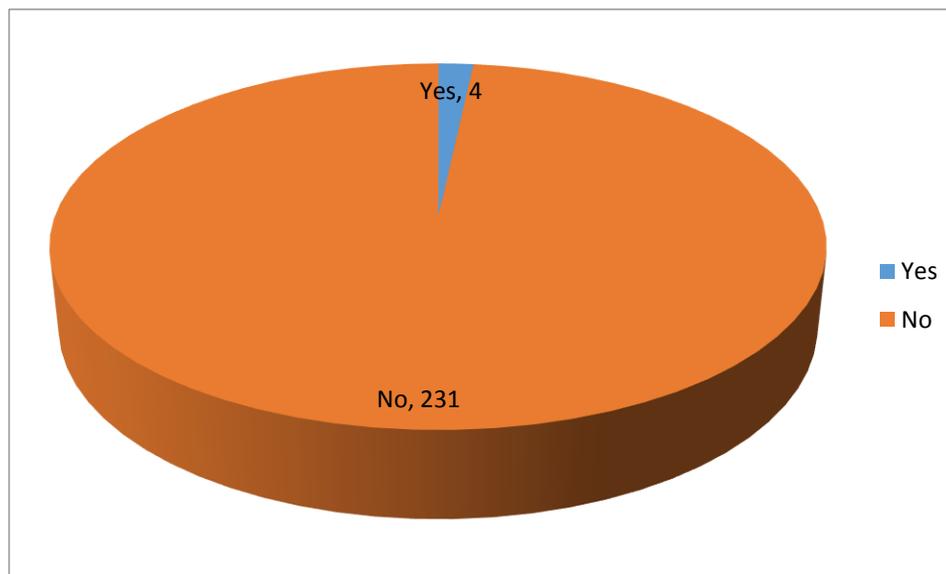
### Results

The final sample size of this study was 235 participants who had initiated breastfeeding and lived in the hospital's county zip codes and were receiving Medicaid and WIC services. It consisted of 11 Asians, one Asian/Blacks, 99 Blacks, three Whites/Blacks, 35 who declined to identify and 86 Whites, ages 18-40 all within the hospital's county zip codes. Initially only the 18-29 age groups were examined, but when the sample was increased to garner more data various age groups were represented. Data was run by an MBA, and certified Six Sigma Black Belt (CSSBB) for the hospital's Quality Department. There were 121 subjects in the 18-21 age group, 75 subjects in the 22-25 age group, 20 subjects in the 26-29, 14 subjects in the 30-33 age group, and five subjects in the 34-40 age group. All of whom had initiated breastfeeding but did not do it exclusively. Fourteen of these mothers lived alone, and 221 of these mothers lived with other people. Of the mother who had initiated breastfeeding but had not breastfed exclusively, only 150 had a partner that cared for or played with the infant daily, 45 mothers did not have any contact with their partners, 22 of these mothers saw their partners at least once a week but not daily and 18 of these mothers saw the father of the infants less than once a week. Eighty-four of these mothers were not employed with the remaining 120 mothers employed working part-time or full-time. Still with the enlarged sample size and age range only four mothers had exclusively breastfed by definition, with the remaining 231 mother who did not exclusively breastfeed. The four mothers who had exclusively breastfed were all white. Two mothers were in the 18- 21 age group, one mother was in the 29-29 age group, and one mother was in the 30-33 age groups. All four

mothers were employed, lived with other people, and all four mother had partners that played or cared for the infants daily. Figure 1 illustrates the initiation of breastfeeding by age group of the mothers.



*Figure 1.* Breastfeeding Initiation Rates by Age Group.



*Figure 2.* Illustration of Mothers Who Exclusively Breastfed and Mothers Who did not Exclusively Breastfeed.

## Major Findings

The research question being asked was “What is the correlation between socio-demographic factors and breastfeeding in the Medicaid/ WIC population in the hospital’s county?” Socio-demographic such as age, race, living alone versus living with others, breastfeeding initiation, partner participation and employment status of the mother were observed, to see if there was a statistical significant correlation between exclusive breastfeeding and the above named socio-demographic factors in the Medicaid /WIC population of the hospital county. Statistical data was run based on total numbers overall and not by specified division of age.

Figure 3 illustrates if age played a significant factor in breastfeeding among the Medicaid and WIC mothers in the hospital’s county zip codes. The p value of  $p < 0.05$  was used to determine if the data was statistically significant. The p value equaled 0.7992. This revealed that age was not statistically significant. A Chi-square was used to obtain this data. Next an analysis of race was done to determine if race played a significant role in exclusive breastfeeding. Again with a  $p < 0.05$  the chi-square revealed a p value of 0.0342 which was statistically significant. The next analysis was done around the factor of having partner participation. If the mother’s partners cared for or played with the infants daily would this have an effect on breastfeeding exclusively, with a  $p < 0.05$  being statistically significant. The p value of this category was 0.6255 making this not statistically significant.

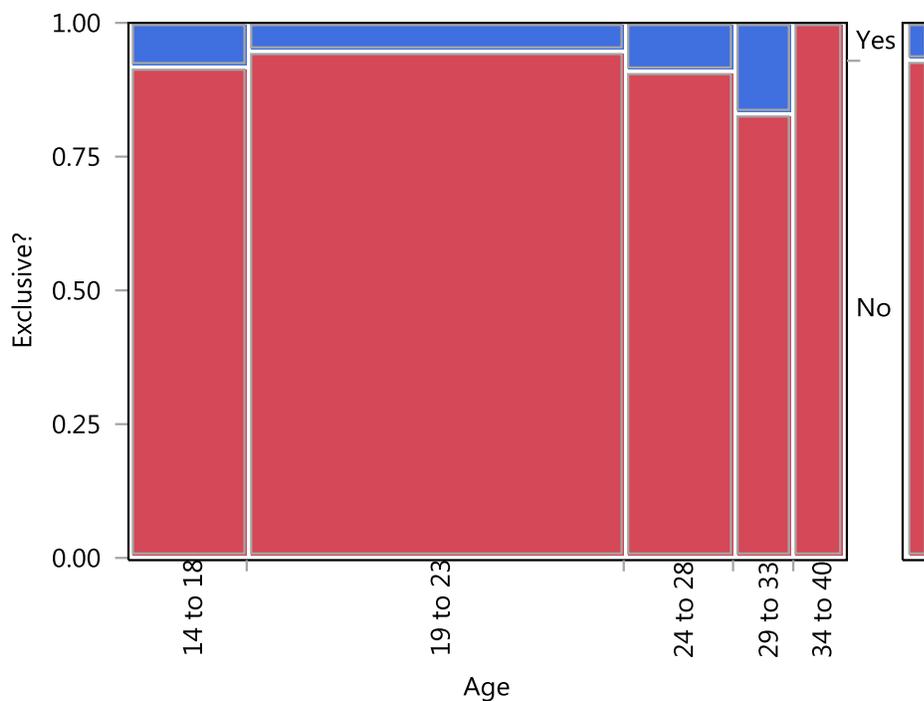


Figure 3. Mosaic Plot Contingency Analysis of Exclusive Breastfeeding by Age.

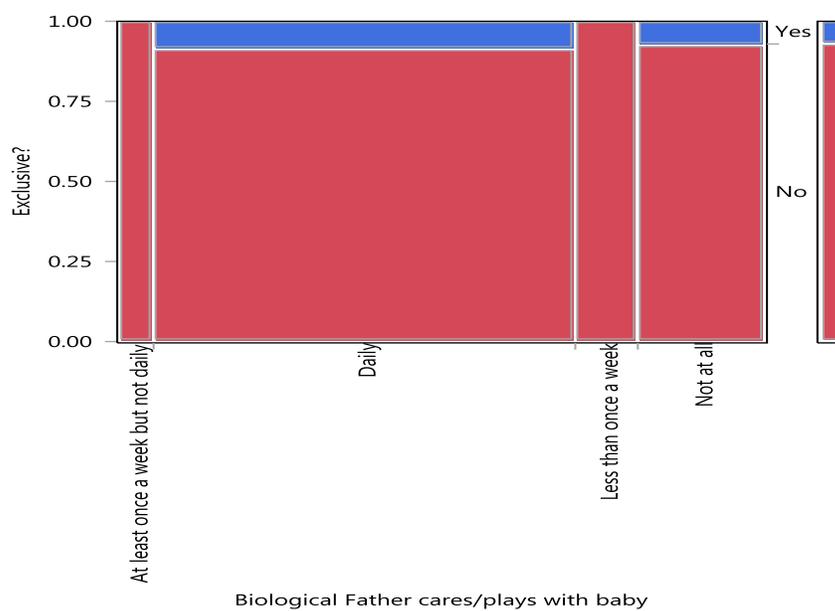


Figure 4. Mosaic Plot. Biological Father Cares for/plays with Infant Daily. Not Statistically Significant.

The researcher then moved on to if the mother lived with other people, and if the mother living with other was significant exclusive breastfeeding. A Fisher-Exact test was used to determine the p values for statistical significance with the left value =1.000, the right =0.9306, and the two- tailed value = 1.000; all above 0.05. Living with others was not statistically significant as demonstrated in Figure 5.

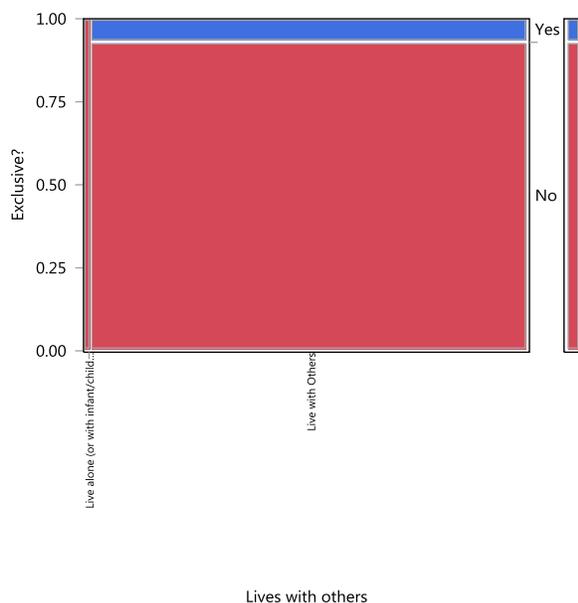


Figure 5. Mosaic Plot. Mother's Social Support; Living Alone vs. Living with Others.

Next an analysis of employment was done to see if employment of the mothers made a statistically significant difference in breastfeeding exclusively. With  $p < 0.05$  the chi-square showed no statistical significance with a  $p = 0.4184$ . A Fisher's exact test was also done and showed no statistical difference with left = 0.9216, right = 0.4146, 2tail = 0.5742, showing not statistical significance as illustrated in Figures 6 and 7.

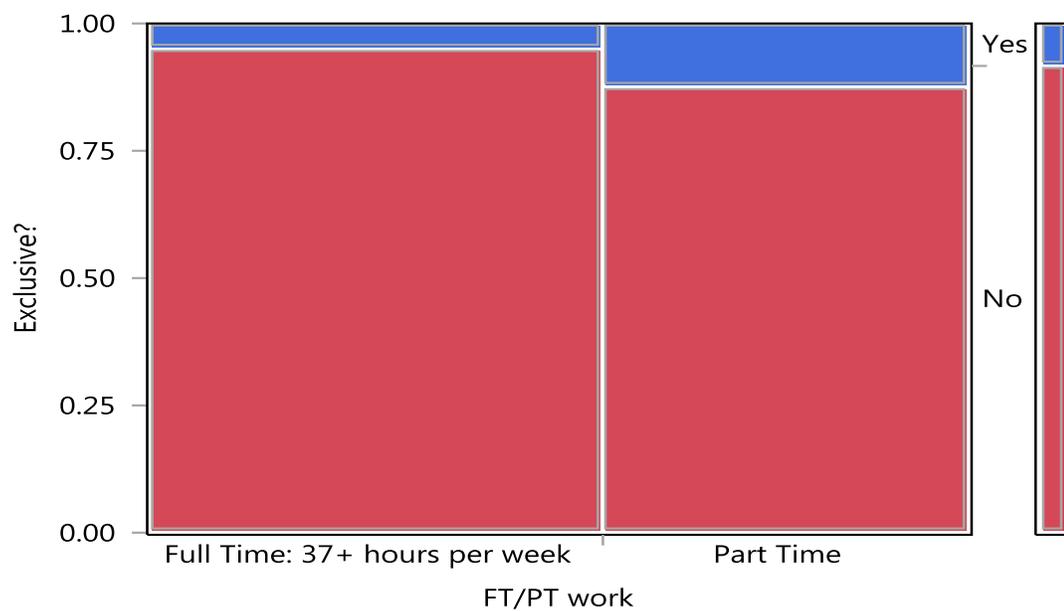


Figure 6. Mosaic Plot Mother Employment Status Full Time vs. Part Time.

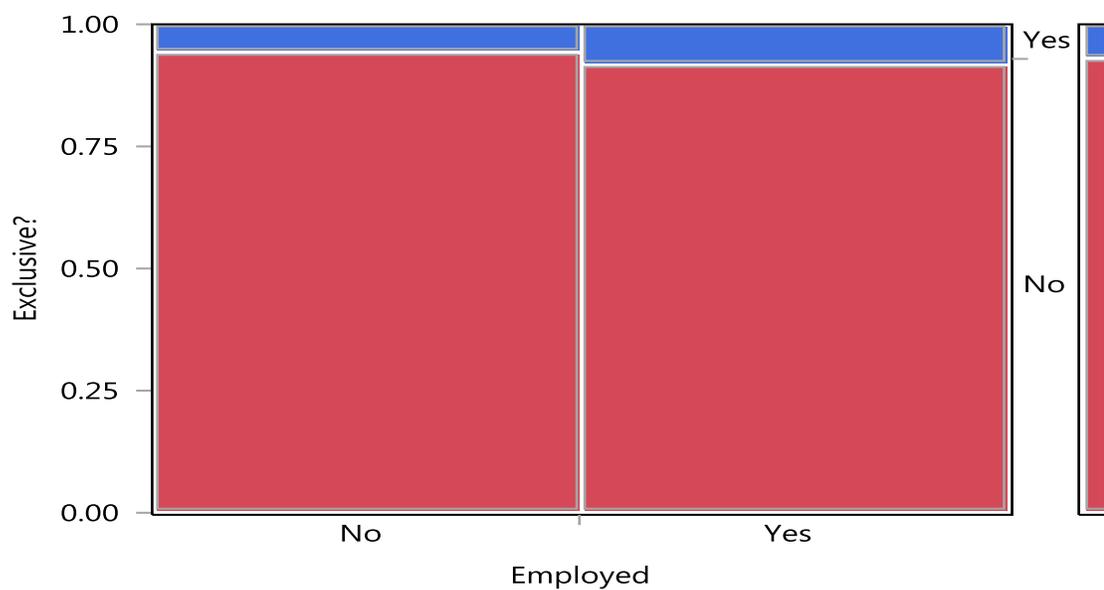


Figure 7. Mosaic Plot. Mothers Employment Status Yes/No

### Statistical Analysis

Analysis was done on the mothers who did exclusively breastfeed versus the mothers who did not. With 231 mothers who did not and only four that mothers that did exclusively breastfeed. It was recommended that sample size of those mothers that did exclusively breastfeed be increased to gather more data to make Chi-squares more reliable and less suspect. This would have allowed for better representation in the category that did exclusively breastfeed, however the population was not there.

Due to the study limitations, we cannot identify statistically significant correlation between the socio-economic factors measured against exclusive or non-exclusive breastfeeding. Using a Chi-Square Test with a Significance level of .05 the Pearson's Correlation Coefficients were as follows, none of which were statically significant. (see Figure 8)

Factor	Pearson
Age	.8211
Race	.0510
Biological Father care/Plays with baby?	.8012
Lives with others?	.7832
Employed?	.6429
FT/PT Work	.4185

*Figure 8.* Pearson Correlation Coefficient of Soci-Demographic Factors and Exclusive Breastfeeding.

### **Summary**

In every age group across the board breastfeeding was initiated in the post-partum period, proving that initiation rates are not only increased in the United States, but in the hospital's county. However when data was reviewed there were 171 blanks in the data, 60 that did not exclusively breastfeed, and only four mothers who did exclusively breastfeed. All four mothers who did were on Medicaid and WIC, lived in the hospital's county zip code, were between the ages of 20 and 30 and were white. All four mothers lived with others and their partners cared for and participated in the daily care of the infant. Three out of the four mothers were employed.

## **CHAPTER V**

### **Discussion**

While there was no significance found with the research question of what is the correlation between socio-demographic factors and exclusive breastfeeding in the Medicaid/WIC population in the hospital's county it is extremely obvious that more research needs to be done around exclusive breastfeeding and this population. A sample size of five mothers who did exclusively breastfeed limited this study's analysis, but demonstrated the reality that this population is not exclusively breastfeeding, which warrants more research.

### **Limitations of the Study**

Due to the small sample size of mothers who did exclusively breastfeed their infants for the first six months of life, it was recommended that more data be gathered with a larger sample of those mothers, so that analysis could be more reliable. It was found that the group of mothers that had exclusively breastfed needed to be better represented so more information could have been gathered and a more reliable result could have been concluded.

### **Implications for Nursing**

The implication for nursing involves utilization of the conceptual framework to drive the need to change. Providing an environment promoting exclusive breastfeeding, educating mothers on the benefits, both physically and emotionally, and enhancing the programs offered to WIC mothers would be a start. Nurses play a pivotal role in providing education and guidance in both the inpatient and outpatient setting. Utilization

of that role can make a tremendous impact by providing evidence based structured and standardized education.

### **Conclusion**

Although exclusive breast feeding has been demonstrated in the literature search as optimal provision of health, both for mother and baby, this study indicates a need for understanding what barriers are in place prohibiting exclusive breastfeeding. A larger sample size over time with a structured survey may lend further information for the mothers in the hospital's county.

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