

ASSESS AND IMPROVE INTENT TO EXCLUSIVELY BREASTFEED AMONG  
PRENATAL WOMEN IN A RURAL PRIMARY CARE SETTING

By

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Prenatal Women in a Rural Primary Care Setting**

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## **Abstract**

**Problem:** The exclusive breastfeeding rate in the U.S. is low with only 24.9% of infants being exclusively breastfed for six months. The American Academy of Pediatrics (AAP) recommends exclusive breastfeeding for a minimum of six months because breastmilk contains the perfect mix of fat, protein and carbohydrates. It contains protective substances that assist in the infant's immune system to fight diseases. Breastfeeding education and support could help initiate and maintain breastfeeding; however, there is limited breastfeeding support provided at a primary care setting.

**Project Aims:** The purpose of this project was to provide maternal breastfeeding education and support information for rural prenatal women to improve intent to breastfeed exclusively for six months postpartum. This quality improvement project consisted of three aims: (1) assess prenatal women's baseline intent to exclusively breastfeed; (2) implement a breastfeeding education program and provide support information for six weeks to prenatal women; and (3) evaluate intent to exclusively breastfeed after implementation of the breastfeeding education program with the support information packet.

**Project Methods:** This project was conducted at Ottawa Family Physicians (OFP), a rural primary care clinic. Icek Ajzen's theory of planned behavior was used as a theoretical framework to guide this project. The participants included 20 prenatal women seen at OFP during a six-week period. Intent to exclusive breastfeeding was measured using the Infant Feeding Intentions (IFI) scale before and after the breastfeeding education and support information packet was provided. The IFI scores of intent to exclusive breastfeeding before and after the intervention were reported and compared using descriptive statistics.

**Findings:** The majority of the participants (n = 20) were non-Hispanic White with a mean age of 27 years and a gestational age of 33.7 weeks. The mean total IFI score at baseline (n = 15) was 12.6. After six-weeks of the implementation of the breastfeeding education and support information packet, the mean total IFI score increased to 13.8 (n = 5), which was a 10% increase from baseline. The sub-item IFI scores at one, three, and six months were 3.2, 3.0, and 2.6, respectively at baseline and 3.8, 3.4, and 3.2, respectively at post implementation.

**Conclusion:** The breastfeeding education and support information packet is effective to improve exclusive breastfeeding intention among prenatal women in a rural primary care setting. New strategies to promote the implementation of the breastfeeding education and support information packets are warranted.

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### **Dedication**

To my children, Mikaela, Henry, and Nora. You inspired me to find the fire within to keep going every day to help ensure your future and to make the world a little better through nursing.

My love for you is insurmountable.

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## Assess and Improve Intent to Exclusively Breastfeed Among Prenatal Women in a Rural Primary Care Setting

It is well known that human milk is the best source of nutrition for an infant, which provides optimal requirements for growth and development (de Jager et al., 2015). Exclusive breastfeeding is recommended for the first six months of life (American Academy of Pediatrics [AAP], 2018; World Health Organization [WHO], 2018). However, only 1 in 4 infants in the United States (U.S.) are exclusively breastfed at six months (Centers for Disease Control and Prevention [CDC], 2018a). The CDC's breastfeeding report card shows that among the total number of infants born in the U.S. in 2015, 83.2% of mother-initiated breastfeeding, but only 46.9% of infants were exclusively breastfed at three months and merely 24.9% were exclusively breastfed at six months (CDC, 2018b).

Breastfeeding provides many benefits for both infants and mother. For example, exclusive breastfeeding protects against infections of the gastrointestinal track which can reduce infant mortality (WHO, 2018). In addition, breastfeeding is a vital source of food for infants. It can provide half to one-third of nutritional needs and is critical during illness, thus reducing infant mortality. In contrast, research has also shown that there are many risks associated with not breastfeeding for both infant and mother (CDC, 2018a). For infants who are not breastfed, there is an increased risk for obesity, asthma, type 2 diabetes, ear and respiratory infections, sudden infant death syndrome (SIDS), and gastrointestinal infections. Mothers who do not breastfeed have an increased risk for hypertension, type 2 diabetes, ovarian cancer, and breast cancer. Medical cost associated with acute and chronic illnesses for mothers and infants due to lack of breastfeeding exceeds \$3 billion per year (CDC, 2018a). Breastfeeding is an economic

way to provide good nutrition to infants compared to infant formula, which could cost from \$800 to \$3000 per year (Kelly Mom, 2016). In addition, there is increased indirect cost associated with lost time and wages at work for mothers when non-breastfed infants have frequent ear and respiratory infections (CDC, 2018a; Weimer, 2001). The Healthy People 2020 goal to exclusively breastfeed infants to six months is set at 25.5% however, the U.S. currently falls below this goal at 24.9% (CDC, 2018b).

Studies have found that predictors of breastfeeding behavior include maternal education, maternal age, household tobacco exposure, family income, family composition, child ethnicity/race, and child birth weights (Jones, Kogan, Singh, Dee, & Grummer-Strawn, 2011; Odar Stough, Khalsa, Nabors, Merianos, & Peugh, 2019). Although many of these factors are not modifiable, breastfeeding intent has the greatest potential to be changed (Nommsen-Rivers & Dewey, 2009). The intent to breastfeed is the choice that a mother makes about how she will feed her new infant (Raissian & Su, 2018). It has been reported that the intent to breastfeed exclusively and for a longer duration is linked with improved maternal knowledge of the benefits of breastfeeding and comfort with breastfeeding (Mitra, Khoury, Hinton, & Carothers, 2004; Nommsen-Rivers, Chantry, Cohen, & Dewey, 2010; Stuebe & Bonuck, 2011; Wen, Baur, Rissel, Alperstein, & Simpson, 2009). Therefore, providing breastfeeding education and support information surrounding maternal knowledge of breastfeeding and comfort with breastfeeding should be an area of focus to help improve breastfeeding rates and health outcomes for both mother and infant. Advanced Practice Nurse Practitioners (APRNs) are in a unique position to provide maternal breastfeeding education and support to improve a mother's intent to breastfeed exclusivity up to six months.

### **Problem Statement**

There is a declining trend in exclusive breastfeeding rates over a period of six months among mothers in Kansas. The breastfeeding initiation rate was 83.6%, which decreased to 50.4% by three months and further dropped to 26.1% by six months (CDC, 2018b). Although Healthy People 2020 goals for exclusive breastfeeding at three months (46.2%) and six months (25.5%) were met in Kansas, the status in rural Kansas is unknown as the reported data did not differentiate by geographic locations within the state. Previous studies have shown that breastfeeding initiation rates are lower in a rural area (Grubestic & Durbin, 2016; Sparks, 2010). It was reported that socio-demographic disadvantaged mothers (e.g., lower educational levels, unmarried, or receiving WIC, etc.) had lower rates of exclusive breastfeeding (CDC, 2018c). Evidence shows maternal breastfeeding education and support provided to primiparous mothers in a hospital setting improved breastfeeding exclusivity and duration up to six months postpartum (Rosuzeita, Che Rabiaah, Rohani, & Mohd Shukri, 2018). However, often breastfeeding education and support is provided during the hospital stay after the mother delivers the baby. After discharge a mother most likely does not receive any further help with breastfeeding. Early and continued breastfeeding education and support provided during prenatal care and/or postpartum care at a primary care setting could help promote exclusive breastfeeding intent and prolong exclusive breastfeeding duration (Ibanez et al., 2012; Schwartz et al., 2015).

Ottawa Family Physicians (OFP) is a primary care clinic located in Ottawa, Kansas, which is a medically underserved rural area. They provide comprehensive medical services that include obstetrics, gynecology, and pediatric care. Many women travel from surrounding rural communities to OFP for prenatal care. Currently, medical providers offer minimal breastfeeding education and support to prenatal women and there is no lactation consultant on-site at OFP. A

breastfeeding guide is provided during their initial visit, at approximately 12 weeks of pregnancy. The Breastfeeding guide was developed by the U.S. Department of Health and Human Services Office on Women's Health and is 60-pages long (HHS, n.d.). Many women seen at OFP may discontinue breastfeeding before six months, resulting in low rates of exclusive breastfeeding and suboptimal benefits to the infant. It was unknown what the intent to exclusive breastfeeding was among prenatal women seen at OFP and if they reviewed the lengthy breastfeeding guide when it is needed toward the postpartum period. Therefore, the purpose of this project was to provide a maternal breastfeeding education and support information packet for rural prenatal women to improve intent to breastfeed exclusively for six months postpartum among prenatal women.

## **Background and Significance**

### **History of Breastfeeding in the United States**

A medical encyclopedia from ancient Egypt dating back to 1550 BC describes a condition called lactation failure and provides a prescriptive remedy to aid women who were having trouble feeding their children (Stevens, Patrick, & Pickler, 2009). Humans have been dealing with challenges surrounding breastfeeding for thousands of years, a trend which continues today as evidenced by the low breastfeeding rates. In addition, there are many social and cultural factors that have influenced American women to stop breastfeeding over time. For example, embarrassment of breastfeeding in public, poor family support and especially a husband's support, poor social supports, over advertising of infant formula, bottle feeding being the 'normal' way to feed a baby, and lack of knowledge surrounding breastfeeding (Bai, Middlestadt, Peng, & Fly, 2010; HHS, 2011; Mitra et al., 2004; Nommsen-Rivers et al., 2010).

There are many different professional organizations, campaigns, and initiatives that have formed over the years in support of breastfeeding. Some of these include the AAP, WHO, CDC, La Leche League, Kansas Breastfeeding Coalition, and High 5 for Mom & Baby. The AAP (2019) is an organization that is committed the health of children in the U.S. and throughout the world and they promote and support breastfeeding. The main goal of WHO is to promote health throughout the world. They believe that breastfeeding is critical to save lives around the world. Breastfeeding can protect a mother and infant from acute illnesses, chronic diseases, and reduce infant mortality. The CDC's main goal is to improve the U.S. public health and they seek to accomplish this goal through increasing breastfeeding rates in the U.S. (CDC, 2019a). La Leche League International (2019) was formed in 1956 and their goal is to provide breastfeeding help to mothers throughout the world with breastfeeding support and education. The Kansas breastfeeding coalition (2014) aims to increase the health and well-being among Kansas residents by promoting, protecting, and supporting breastfeeding. High 5 for mom & baby is a breastfeeding initiative in Kansas whose goal is to improve the health of Kansans by providing a program available to hospitals in Kansas which uses five maternity practices that are evidence-based.

Healthy people 2020 is the U.S. government's objectives to improve health throughout the nation, it is managed by the U.S. department of health and human services (HHS) (CDC, 2014). The main objective for breastfeeding is to increase the number of infants that are breastfed by the year 2020 (Office of Disease and Prevention and Health Promotion [ODPHP], 2019). More specifically, the goals include increasing the number of infants that were: ever breastfed, breastfed to six months, one year, exclusively breastfed through three months and six months. Exclusive breastfeeding rates at six months have been slowly increasing over the years,

i.e., 15.6% in 2009 to 24.9% in 2015, but they are still under the Healthy People 2020 goal of 25.5% (CDC, 2018b; CDC, 2018c). Moreover, there is an alarming decreasing trend of exclusive breastfeeding: from 64.7% (7 days postpartum) to 24.9% (6 months) (CDC, 2018b; CDC, 2018c).

### **Factors Associated with Intent to Exclusive Breastfeeding**

There are many factors that can affect intent to breastfeed. One study reported that maternal knowledge about the benefits of breastfeeding on the infant and the mother's comfort with breastfeeding were directly related to exclusive breastfeeding intent (Stuebe & Bonuck., 2011). Additionally, it was found that knowledge, attitude, and perceived behavior surrounding breastfeeding in female undergraduate students were factors that significantly predicted intent to breastfeed (Hamade et al., 2014). Lok, Bai, & Tarrant (2017) found a strong association between intent to breastfeed exclusively and the husband's breastfeeding preference, prior experience with breastfeeding, and attending a breastfeeding class after delivery. Finally, Mitra et al. (2014) found factors that independently affected breastfeeding intent to include prior breastfeeding experience, lower number of children, self-efficacy, perceived social support, and breastfeeding knowledge.

### **Strategies to Improve Breastfeeding Rates in the United States**

The *Surgeon General's Call to Action to Support Breastfeeding* describes twenty actions and implementation strategies to increase breastfeeding rates (HHS, 2011). Action one proposes to "give mothers the support they need to breastfeed their babies" (HHS, 2011, p. 38). Advanced Practice Nurse Practitioners can provide education to prenatal women by teaching about the benefits of breastfeeding and the risks of not breastfeeding and guide mothers to resources about breastfeeding that will help them to learn how to breastfeed and troubleshoot effectively (HHS,

2011). Breastfeeding support can be provided by APRNs through discussion of expectations and concerns about breastfeeding, discuss the time commitment and the need to be flexible (HHS, 2011). In addition, APRNs can assist mothers to identify a support network for breastfeeding, create a plan for returning to work, and teach them to seek help when it is needed (CDC, 2013; HHS, 2011).

Furthermore, providing breastfeeding educational interventions which included training sessions and breastfeeding educational book to prenatal women significantly increased breastfeeding “knowledge, attitude, perceived behavioral control, subjective norms, intent, and breastfeeding behavior” (Jeihooni, Kashfi, & Harsini, 2019, p.33). In addition, providing counseling and education significantly increased breastfeeding intent in pregnant women (Parry, Tully, Hopper, Schildkamp, & Labbok, 2019).

### **Impact of Breastfeeding Education and Support**

Research has shown that education and support increase breastfeeding duration and exclusivity (Patnode, Henninger, Senger, Perdue, & Whitlock, 2016; Rosuzeit et al., 2018;). A recent systematic review focusing on primary care interventions to support breastfeeding found that professionals or peers providing breastfeeding support and education to women of any age increased breastfeeding duration and exclusivity (Patnode et al., 2016). In addition, a study by Rosuzeit et al. (2018) examined the effects of prenatal education and postpartum support on breastfeeding exclusivity and duration. The intervention included educational support, which encompassed a two-hour breastfeeding program, breastfeeding guidebook, a hands-on session, and an informational video on breastfeeding. In addition, breastfeeding support was provided and included a visit to the hospital within one week of the infant’s birth where information about breastfeeding was provided, latch and positioning was reinforced with a video, breastfeeding

troubleshooting tips were given. This study found a significant increase in exclusive breastfeeding rates at one week and six weeks postpartum and an increase in breastfeeding duration at six months.

### **Breastfeeding Support in Primary Care Settings**

Providing breastfeeding support in primary care settings is an effective way to promote breastfeeding initiation, duration, and exclusivity. However, this is not a common practice by many primary care providers. Barriers to providing breastfeeding support exist among providers in primary care settings which can pose a threat to breastfeeding success. For example, a study was conducted among a national representative sample of 1,031 breastfeeding women regarding their experiences of receiving support/advice on breastfeeding from their primary care providers (Eisenberg et al., 2015). It was reported that primary care providers offered little or inconsistent advice regarding breastfeeding with the AAP recommendations. Another study examined the challenges to provide breastfeeding counseling at a primary care setting (Krogstrand & Parr, 2005). These challenges include shortage of time to provide advice on breastfeeding and the provider lacked proper education to adequately address breastfeeding problems. In both cases, time and lack of education represented a failure to adhere to the Surgeon General's call to action to support breastfeeding. Therefore, it is plausible that breastfeeding support is lacking at other primary care settings including OFP due to barriers experienced by providers.

### **Project Aims**

This quality improvement project conducted at Ottawa Family Physicians, a rural primary care clinic, consisted of three aims: (1) assessed baseline intent to breastfeed exclusively among prenatal women; (2) implemented a breastfeeding education and support information packet for

six weeks; and (3) evaluated intent to exclusively breastfeed after implementation of the breastfeeding education and support information packet.

### **Project Questions**

1. What was the baseline intent of prenatal women to exclusively breastfeed for one, three, and six months in prenatal women?
2. What was the change in intent by prenatal women to exclusively breastfeed for one, three, and six months after providing the breastfeeding education and support information packet?

### **Definitions**

#### **Intent to Exclusive Breastfeeding**

Conceptually, intent to exclusive breastfeeding is defined as the choice a mother makes to feed her infant only human milk excluding other liquids or solid foods (Raissian & Su, 2018; WHO 1991). Operationally, intent to exclusive breastfeeding in this project was defined as women's self-report of their choice to feed their babies with only breastmilk. This was measured by the Infant Feeding Intentions (IFI) scale (Nommsen-Rivers & Dewey, 2009).

### **Theoretical Framework**

Icek Ajzen's theory of planned behavior was used as a guide for this project. The theory is based around the idea that rational people make decisions using information accessible to them (McEwen & Wills, 2014). The objective of this theory is to recognize and predict behaviors controlled by individuals. Central to this theory is intent, which is a major factor in determining an individual's behavior. Furthermore, intent is defined as, "... the cognitive representation of the individual's readiness to perform a behavior and is determined by: (1) attitude toward the behavior, (2) subjective norms, and (3) perceived behavioral control (McEwen & Wills, 2014, p. 323). Attitude is largely a positive or negative perception by an individual related to a behavior.

Subjective norm is the social pressure to behave a certain way to meet the expectations of others. Finally, perceived behavior control is the power and individual senses they have toward executing or obstructing a behavior. Thus, the intent to perform a behavior is determined by an individual's attitude and social pressure they experience, giving them greater perceived control over the behavior and therefore, increasing intent toward the behavior.

In this project, the APRN provided accessible information regarding breastfeeding through the breastfeeding education and support information packet. Based on the theory of planned behavior, pregnant women can use the knowledge gained from the packet to make informed decisions about breastfeeding, which can affect their intent to breastfeed. Studies have found that improving maternal knowledge surrounding breastfeeding can improve breastfeeding exclusivity and duration (Stuebe & Bonuck., 2011; Wen et al., 2009). Thus, the knowledge and support obtained from the packet information can improve maternal knowledge and therefore intent to breastfeed. Icek's Ajzen's theory of planned behavior provided a theoretical framework that helped guide prenatal women toward stronger intentions for exclusive breastfeeding for longer durations.

## **Methods**

### **Design**

This was a quality improvement project that aimed to assess and improve intent to exclusively breastfeed among prenatal women by providing breastfeeding education and support interventions in a rural primary care setting. According to the CDC (2013), a 2005 Cochrane review identified professional breastfeeding support provided to breastfeeding mothers had a significant impact on breastfeeding exclusivity. These support measures could include counseling related to addressing primary concerns about breastfeeding, assistance with latch and

positioning, guidance through a lactation crisis, and advice on breastfeeding after returning to work or school.

A breastfeeding education and support information packet (Appendix A) were used to improve intent to exclusively breastfeed among prenatal women. The packet included a breastfeeding fact sheet from HHS, an infographic from the CDC about breastfeeding, and a list of local breastfeeding resources which included a lactation support group and local lactation consultants (CDC, 2019b; HHS, 2014). These materials were provided to prenatal women who were 28 weeks of gestation or greater and a baseline intention to exclusively breastfeed was obtained. After the women had the breastfeeding packets for six-weeks, exclusive breastfeeding intention was measured again when the women were 32 weeks of gestation or greater. Intent to exclusively breastfeed was measured using the Infant Feeding Intentions (IFI) scale (Nommsen-Rivers & Dewey, 2009) (see Appendix B).

### **Human Subjects Protection**

An application to determine if this project met the requirements for quality improvement was submitted to the Institutional Review Board (IRB) at the University of Kansas Medical Center. The project was implemented in August 2019 after approval from the IRB and support from OPF was received (see Appendix C). Information about the project was provided to the providers and staffs at the OFP prior to the implementation. Patient consent to receive normal healthcare treatment at the clinic was substantial for this quality improvement project, therefore no informed consent was necessary. No monetary compensation was provided. No patient identifiers were collected. There were no foreseen risks to participation and no anticipated adverse events for this project. No unexpected adverse events occurred.

### **Setting**

This project was conducted at Ottawa Family Physicians (OFP), a medically underserved, rural primary care clinic in Franklin County (FC), Ottawa, Kansas (see support letter in Appendix C). Currently, OFP serves the general population including pediatrics, geriatrics, obstetric, gynecologic patients, various socioeconomic statuses, and rural medically underserved populations. Most of the patients seen at OFP are white (Suburban Stats, 2017). An estimated 20 to 40 obstetric patients and 20 to 40 postpartum patients are seen at OFP monthly. There is limited breastfeeding support for prenatal or postnatal mothers provided at OFP.

### **Sample**

Participants were drawn from a convenience sample for this project and included female patients seen at OFP who were equal to or greater than 28 weeks pregnant with their first or subsequent child and can speak/read English. It was planned to recruit 20 participants for the project. Those excluded were pregnant women who have known risk factors for premature birth, have medical contraindications to breastfeeding, or the infant has problems or conditions that could affect feeding.

### **Data Collection**

Basic demographic information including age, race/ethnicity, education, marital status, and employment status was collected (Appendix D). In addition, a baseline of intent to exclusively breastfeed for one, three, and six months was assessed using the IFI scale adopted from Nommsen-Rivers & Dewey (2009) (Appendix B). After the participants have had the breastfeeding education and support information packet for six weeks, their intent to exclusively breastfeed for one, three, and six months was reassessed using the IFI scale.

The IFI scale was developed and validated by Nommsen-Rivers & Dewey in 2009. They sought to develop a tool that could measure breastfeeding intent quantitatively. The tool was

validated in third trimester pregnant and postnatal primiparas, multiethnic, low-income women who were followed up to six months. It contains five items and uses a 5-point Likert scale with 0 as very much disagree and 4 as very much agree. The first item is a reverse statement (“I am planning to only formula feed my baby”) with 0 as very much agree and 4 as very much disagree. It is scored by using the following equation: total score = (mean items of 1+2) + (sum of items 3,4,5). A total score can range from 0 (indicates a strong intent to not breastfeed) to 16 (indicates a very strong intent to breastfeed exclusively to six months). Completion of the IFI scale took about three to five minutes. The IFI scale was shown to have a Cronbach’s Alpha of 0.90 which is evidence of strong internal consistency (Nommsen-Rivers & Dewey, 2009).

Logistically, once the participants were determined to be eligible, the certified medical assistant (CMA) provided the recruitment questionnaire during the check-in process (see Appendix E). If the first two answers were ‘yes’ answers, then the CMA provided the basic demographic information (Appendix D), the initial IFI scale (Appendix B), and the breastfeeding education and support information packet (Appendix A). If any of the first two answers on the recruitment questionnaire were ‘no’ then there was no action taken by the CMA. The third question on the recruitment questionnaire asks the patients if they have reviewed the breastfeeding guide. This process required less than 5 minutes. The CMA then collected the completed recruitment questionnaire, the demographic information, and the IFI scale. The DNP Project Director visited the clinic on a weekly basis to ensure there were no problems with the process, collected the completed forms, and replenished the supply of materials to the clinic. To assess if the process moved smoothly, the Project Director asked the CMA questions that pertain to any specific problems they were having with the materials, problems with getting the

materials filled out, any unusual situations with the materials, participant concerns, or any time constraints they were experiencing related to the materials or process.

## **Evaluation**

Demographic information was collected and analyzed to assess the characteristics of the project participants. Baseline, post-implementation, and a combination of both forming overall participant data was analyzed. Mean and standard deviation were reported for continuous variable (age and gestational age) and frequency and percentages were reported for categorical variables (i.e., race/ethnicity, educational levels, marital status, employment status, and Breastfeeding Guide review). Descriptive statistics (mean and standard deviation) were used to report the IFI score of intent to breastfeed exclusively (at one month, three months, and six months) at baseline and after the breastfeeding education and support information packet was implemented for six weeks. The initial IFI scores were compared with the post intervention IFI score and changes in the IFI scores before and after the intervention were reported.

## **Results**

### **Characteristics of Project Participants**

The project was initiated in August 2019 after receiving the IRB approval. A total of 15 prenatal women were recruited at baseline and received the breastfeeding education and support information packet for 6 weeks. During the post-implementation period, a total of five prenatal women were recruited to re-assess their intent to exclusive breastfeeding. The characteristics of the project participants were presented in Table 1.

**Age and gestation.** The average age of all the participants (n = 20) was 27 years old. In particular, the average age of participants at baseline (n = 15) was 26.4 years old ranging from 16 to 34 years. The average age of participants at post-implementation (n = 5) was 28.8 years old

ranging from 25 to 33 years. The averages of the gestational age at baseline (n = 15) and post-implementation (n = 5) were 31 weeks (range: 29 to 38 weeks) and 35.8 weeks (range: 32 to 38 weeks), respectively.

**Ethnicity and race.** There was a lack of diversity in the project participants. All the participants at baseline (n = 15) and post-implementation (n = 5) were non-Hispanic. Most of the participants at baseline were White (n = 15, 93%) and only one participant identified self as multiracial (7%). All the participants at post-implementation were White (n = 5, 100

**Education and marital status.** When assessing the level of education of the overall participants (n = 20), 40% of them had some college but no diploma. In particular, 33% of participants at baseline (n = 5) and 60% of participants at post-implementation (n = 3) had some college but no diploma. The majority of the overall participants were either married or had a domestic partner (n = 12, 60%). Similar patterns were observed in participants both at baseline (n = 9, 60%) and post-implementation (n = 3, 60%).

**Employment and breastfeeding guide.** The majority of participants were employed (n = 14, 70%), including 66% of participants (n = 10) at baseline and 80% of participants (n = 4) at post-implementation. When asked if they had reviewed the Breastfeeding Guide provided by the clinic, only 53% of participants responded yes (HHS, n.d.). The remaining 47% of participants did not review the Breastfeeding Guide prior to receiving the breastfeeding education and support information packet from this project.

### **Infant Feeding Intention Scale**

The total score of the IFI scale can range from 0 to 16 with a zero score indicating a strong intent to not breastfeed and a score of 16 indicating a very strong intent to breastfeed exclusively to six months (Nommsen-Rivers & Dewey, 2009). Results of the intention to

exclusively breastfeed assessed by the IFI scale were summarized in Table 2. The intention to exclusively breastfeed was assessed using the IFI scale among 15 participants at baseline and was re-assessed among 5 participants at post-implementation. The analysis of the IFI scale showed that participants had a mean total IFI score of 12.60 (SD = 3.47) at baseline, ranging from 6.5 to 16 and 13.80 (SD = 2.64) at post-implementation of the breastfeeding packet. Compared to the baseline, there was a 10% increase in the mean total IFI score at the post-implementation assessment. At baseline, the average sub-item scores for the intent to exclusively breastfeed at one, three, and six months were 3.2, 3.0, and 2.6, respectively. In contrast, these sub-item scores at post-implementation were 3.8, 3.4, and 3.2, which increased from the baseline sub-item scores, respectively.

### **Discussion**

This quality improvement project aimed to assess and improve the intention to exclusive breastfeeding among prenatal women at a rural primary care setting, Ottawa Family Physician Clinic. At baseline, the intent to exclusive breastfeeding among prenatal women with 28 weeks or greater of gestation was higher than anticipated (mean total IFI score = 12.6). This was an interesting finding because other studies indicate the intention to breastfeed exclusively and knowledge of exclusive breastfeeding in rural settings was low (Behera & Kumar, 2015; Ihudiebube-Splendor et. at., 2019). After implementation of a breastfeeding education and support information packet for 6 weeks, the intent to exclusive breastfeeding among prenatal women increased with a mean total IFI score of 13.8. This indicated a 10% increase in the intention to exclusively breastfeed. The IFI sub-scores at baseline for 1, 3, and 6 months were 3.2, 3.0, and 2.6 respectively and post-implementation sub-scores were 3.8, 3.4, and 3.2. It appeared that the participant's intent to exclusively breastfeed progressively decreased overtime

from one month to six months. This could indicate that the participants were either unsure how breastfeeding would go or simply did not intend to exclusively breastfeed as time went on.

Most of the project participants were non-Hispanic White, many of which had some college education but no diploma. The pregnant women tended to be married or resided with a domestic partner and a large percentage were employed at the time of the project. These data suggest that the majority of the participants in this project tended to be closer to their thirties, in their third trimester of pregnancy, and had some means of financial security. A study found that non-Hispanic Whites were significantly more likely to be breastfed than non-Hispanic Blacks (Jones et al., 2011). Participants were predominantly White and thus lacking diversity. The initial high intention to breastfeed score (12.60 out of 16.00) (Table 2) could be linked to the fact that the participants were primarily non-Hispanic White. In addition, participants were more likely to be highly educated. Studies show that higher education is positively associated with breastfeeding initiation and exclusive breastfeeding at six months (Jones et al., 2011; Odar Stough et al., 2019). Research has shown that negative attitudes from family and friends surrounding breastfeeding could affect women's intent to breastfeed (HHS, 2011). The participants were more inclined to be involved in a relationship with support from their partner, which could potentially improve their intent to breastfeed. This could be another reason for an initially high intention to breastfeed among the participants (12.60 out of 16.00).

The Breastfeeding Guide from the U.S. Department of Health and Human Services presents thorough information on many aspects of breastfeeding including its benefits, proper latch, trouble-shooting tips, and more (HHS, n.d.). Over half of the participants reported that they had reviewed this guide at baseline. Interestingly, the mean total IFI scores of participants who reviewed this guide prior to the project initiation (12.56) was very similar to the mean total

IFI scores of those who did not review the guide (12.64). Even though the post-implementation sample size was small ( $n = 5$ ), there was still an increase in the mean score of infant feeding intention by 1.2. This indicates that the breastfeeding education and support information packet provided useful material to prenatal women, that improved their intention to exclusively breastfeed their infant.

The breastfeeding education and support information packet can provide information to pregnant, lactating women, and their families. The packet contains an infographic from the CDC that focuses on several important points about breastfeeding presented in a succinct format, that can decrease distraction and hold the attention of the reader (CDC, 2019b). The infographic contains many pictures that help guide the reader through the handout easily. In addition, the brief question and answer fact sheet from the Office of Women's Health provides the reader with an approachable resource for breastfeeding (HHS, 2014). The packet also contains a list of local resources for the Ottawa area, that can benefit local prenatal and lactating women. These include a local breastfeeding support group, lactation help line available 24 hours per day, how to find a certified lactation consultant in the Ottawa area, and more. Antenatal breastfeeding education classes were shown to improve breastfeeding rates up to one month postpartum (Artieta et al., 2013). In addition, prenatal and postpartum women who received breastfeeding education and support showed an increase in breastfeeding self-efficacy and success (Mizrak, Ozerdogan, & Colak, 2017). Therefore, providing the breastfeeding education and support information packet during the antenatal period can potentially have an impact on breastfeeding rates.

According to the U.S. Department of Health and Human Services (2015), children who lived in rural areas had lower rates of breastfeeding than those who lived in urban areas (Goodman, Majee, Olsberg, & Jefferson, 2016; HHS, 2015). Given the fact that rural areas are

more likely to have lower breastfeeding rates, it would be beneficial to provide breastfeeding education and support to improve breastfeeding rates in rural areas. However, providing breastfeeding education and support in rural areas can be challenging. A study reported that in a rural community, providers felt they did not have the time to provide the appropriate breastfeeding support to new mothers (Goodman et al., 2016). It may be that providers in the OFP clinic feel that they have time constraints which prevent them from delivering quality breastfeeding education and support to new mothers during their clinic visits. Goodman et al. (2019) reported that other barriers to providing breastfeeding support rurally, which included lack of continued support after the postnatal mother was discharged from the hospital. Physicians may feel that the lactation support provided through the local hospital at the time of delivery is sufficient for breastfeeding success and further intervention is unnecessary. These barriers could potentially contribute to the decreased breastfeeding rate in rural areas. Unfortunately, barriers to providing breastfeeding education and support in a rural setting exist and must be considered, even though the delivery of breastfeeding education and support is a key component to improving breastfeeding rates in rural areas.

### **Recommendations for Practice**

Exclusive breastfeeding is beneficial to both mother and infant. Human milk provides optimal nutrition for growth and development of an infant. Exclusive breastfeeding can protect the mother and infant from acute and chronic illnesses. Economically, exclusive breastfeeding can decrease medical costs, prevent lost time and wages at work due to illnesses, and no formula would need to be purchased.

The American Association of Colleges of Nursing (AACN) *Essentials of Doctoral Education for Advanced Nursing Practice* outlines several core competencies of DNP nurse

preparation (Chism, 2019). It is essential for the DNP prepared nurse to provide health promotion and risk reduction of a population to improve patient outcomes and to engage patients through education to promote better health. Nurses play a pivotal role by providing breastfeeding education and support, thereby promoting the health of infant and women and decreasing the risk for illnesses. Through this role, DNP prepared nurses can engage prenatal and postpartum women through breastfeeding education and support to help improve their health outcomes.

The implications for practice for the rural medically underserved community of Ottawa, KS would include assessing the current exclusive breastfeeding rate in Ottawa, KS. Since rural exclusive breastfeeding rates tend to be lower than average, it is likely that these rates will be low. It would be beneficial for this community to identify barriers to exclusive breastfeeding continuation for 6 months or greater among the local population and develop strategies to decrease the impact of these barriers. Furthermore, it is important to identify barriers that exist for providers to initiate breastfeeding education and support at OFP. Likewise, implementing the breastfeeding education and support information packet within OFP to help improve breastfeeding intention can be a strategy to increase breastfeeding rates. Finally, it would be important to assess the effectiveness of the breastfeeding education and support information packet on the breastfeeding rates in Ottawa, KS.

### **Limitations**

There were several limitations that are worth noting in the project. First, the sample size of the project was small, especially for the post-implementation assessment. The initial plan was to recruit 20 participants at baseline and at post-implementation. However, there were challenges in the recruitment and implementation process, resulting in only 15 participants at

baseline and 5 at post-implementation. The recruitment and administration of the breastfeeding education and support information packet relied mainly on the CMAs. Multiple efforts were made to engage the CMAs in assisting the implementation of the project. For example, the Project Director offered an information session with free lunch to the CMAs at the clinic prior to the initiation of the project. The Project Director visited the clinic weekly to check the project progress, collect the data sheets, and offer help to the CMAs. Snacks were provided to the CMAs with notes attached as reminders to recruit and administer the packet. In addition, the Project Director enlisted the help of the Office Manager to remind the CMAs in various ways including verbal reminders, emails, and flagging eligible patients' charts to hand out surveys. Unfortunately, none of these methods was successful in engaging the CMAs in recruiting more participants for the project. New strategies to increase buy-in from the CMAs for quality improvement projects would be needed. Second, paired comparisons at baseline and post-implementation were not performed due to small sample size. However, group comparisons showed a 10% increase in the intention to exclusively breastfeed. The effectiveness of the breastfeeding education and support information packet in increasing the intent to exclusively breastfeed is worth further exploration. Finally, the wording used on the recruitment questionnaire was not straightforward and may have caused confusion to participants. Revision of the recruitment questionnaire is needed.

### **Conclusion**

Exclusive breastfeeding can provide numerous benefits to mother and infant, which can reduce the risk for and decrease acute and chronic illnesses, increase quality of life, and therefore improve patient outcomes. Only 26.1% of infants born in Kansas in 2015 were exclusively breastfed at six months. Ottawa Family Physicians is a medically underserved, rural clinic with

limited breastfeeding education and support available. The findings from this quality improvement project showed that an evidence-based breastfeeding education and support information packet can increase the intent to exclusively breastfeed in prenatal women, despite the small sample size. The support information packet can be easily tailored to the needs of prenatal women, such as including local breastfeeding support resources. The implications for nursing practice include using the breastfeeding education and support information packet to increase breastfeeding intention and therefore improve breastfeeding rates among prenatal women in a rural primary care setting. This can impact a larger goal of increasing exclusive breastfed infants in Kansas as well at a national level.

**Table 1. Characteristics of Project Participants**

<b>Variables</b>	<b>Overall Participants (n = 20)</b>	<b>Participants at Baseline (n = 15)</b>	<b>Participants at Post-Implementation (n = 5)</b>
Age in years (mean ± SD)	27 ± 5.22	26.4 ± 5.67	28.8 ± 2.92
Gestational age in weeks (mean ± SD)	33.7 ± 3.22	31 ± 3.74	35.8 ± 2.38
<b>Race (n, %)</b>			
American Indian/Alaska Native	0 (0%)	0 (0%)	0 (0%)
Asian	0 (0%)	0 (0%)	0 (0%)
Black/African American	0 (0%)	0 (0%)	0 (0%)
Native Hawaiian/Pacific Islander	0 (0%)	0 (0%)	0 (0%)
White	19 (95%)	14 (93%)	5 (100%)
Multiracial (2 or more races)	1 (5%)	1 (7%)	0 (0%)
<b>Ethnicity (n, %)</b>			
Hispanic	0 (0%)	0 (0%)	0 (0%)
Latino	0 (0%)	0 (0%)	0 (0%)
Non-Hispanic	20 (100%)	15 (100%)	5 (100%)
<b>Level of Education (n, %)</b>			
No Formal Education	0 (0%)	0 (0%)	0 (0%)
Less than HS Education	0 (0%)	0 (0%)	0 (0%)
Some HS, No Diploma	2 (10%)	2 (13%)	0 (0%)
HS Graduate	5 (25%)	4 (27%)	1 (20%)
Some College, No Diploma	8 (40%)	5 (33%)	3 (60%)
College Graduate	4 (20%)	3 (20%)	1 (20%)
Graduate Degree	1 (5%)	1 (7%)	0 (0%)
<b>Marital Status (n, %)</b>			
Single	6 (30%)	5 (33%)	1 (20%)
Married/Domestic Partner	12 (60%)	9 (60%)	3 (60%)
Separated	0 (0%)	0 (0%)	0 (0%)
Divorced	2 (10%)	1 (7%)	1 (20%)
Widowed	0 (0%)	0 (0%)	0 (0%)
<b>Employment Status (n, %)</b>			
Employed	14 (70%)	10 (66%)	4 (80%)
Unemployed	1 (5%)	1 (7%)	0 (0%)
Student	0 (0%)	0 (0%)	0 (0%)
Retired	0 (0%)	0 (0%)	0 (0%)
Homemaker	4 (20%)	3 (20%)	1 (20%)
Unable to work	1 (5%)	1 (7%)	0 (0%)
Other	0 (0%)	0 (0%)	0 (0%)

**Table 2. Means of the Infant Feeding Intention Total Scores and Sub Item Scores at 1,3, and 6 Months**

<b>IFI Scores</b>	<b>Baseline (n = 15)</b>	<b>Post-Implementation (n = 5)</b>
Total (Mean $\pm$ SD)	12.60 $\pm$ 3.47	13.80 $\pm$ 2.64
At 1 month	3.2 $\pm$ 1.16	3.8 $\pm$ 0.89
At 3 months	3.0 $\pm$ 1.15	3.4 $\pm$ 0.80
At 6 months	2.6 $\pm$ 1.07	3.2 $\pm$ 0.75

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## Appendix A

### Breastfeeding Education and Support Information Packet

Purpose: The purpose of this breastfeeding support information packet is to provide information on breastfeeding education and support. The packet includes 3 main documents, a breastfeeding fact sheet from the office on women's health (HHS, 2014), an infographic from the CDC about breastfeeding (CDC, 2019b), and a list of local breastfeeding resources for Ottawa, Kansas.

#### Document 1. Breastfeeding fact sheet from the Office of Women's Health



## Breastfeeding

The experience of breastfeeding is special for so many reasons: the joyful closeness and bonding with your baby, the cost savings, and the health benefits for both mother and baby. Every woman's journey to motherhood is different, but one of the first decisions a new mom makes is how to feed her child. Here, you'll find facts about breastfeeding and get practical tips on how to make breastfeeding work for you while getting the support you need.

#### Q: Why should I breastfeed?

**A:** Breastfeeding is normal and healthy for infants and moms. Breastmilk has hormones and disease-fighting cells called antibodies that help protect infants from germs and illness. This protection is unique and changes to meet your baby's needs. Some reasons to breastfeed are:

- Breastfeeding offers essential nutrients and a nutritionally balanced meal
- Breastmilk is easy to digest.
- Breastmilk fights disease

#### Q: How long should I breastfeed?

**A:** The American Academy of Pediatrics recommends breastfeeding for at least 12 months, and for as long as both the mother and baby would like. Most infants should drink only breastmilk for the first six months.

#### Q: Does my baby need cereal or water?

**A:** Until your baby is 6 months old, the American Academy of Pediatrics recommends feeding your baby

breastmilk only. Giving your baby cereal may cause your baby to not want as much breastmilk. This will decrease your milk supply. You can slowly introduce other foods starting around 6 months of age.

#### Q: Does my baby need more vitamin D?

**A:** Most likely, yes. Vitamin D is needed to build strong bones. All infants and children should get at least 400 International Units (IU) of vitamin D each day. To meet this need, your child's doctor may recommend that you give your baby a vitamin D supplement of 400 IU each day.

#### Q: Is it okay for my baby to use a pacifier?

**A:** If you want to try it, it is best to wait until your baby is at least 3 or 4 weeks old to introduce a pacifier. This allows your baby time to learn how to latch well on the breast and get enough milk.

Once your baby is breastfeeding well, you should use the pacifier when putting your infant to bed to reduce the risk of sudden infant death syndrome (SIDS).

#### Q: Is it safe to smoke, drink, or use drugs?

**A:** If you smoke, the best thing you can do for yourself and your baby is to quit as soon as possible. If you can't quit, it is still better to breastfeed because it may protect your baby from respiratory problems and SIDS. Be sure to smoke away from your baby, and change your clothes to keep your baby away from the chemicals smoking leaves behind. Ask a doctor or nurse for help quitting smoking!

You should avoid alcohol in large amounts. An occasional drink is fine, but the American Academy of Pediatrics recommends waiting two hours or more before nursing. You also can pump milk before you drink to feed your baby later.

It is not safe for you to use an illegal drug. Drugs such as cocaine, heroin, and PCP can harm your baby. Some reported side effects in babies include seizures, vomiting, poor feeding, and tremors.

**Q: Can I take medicines if I am breastfeeding?**

**A:** Most likely. Almost all medicines pass into your milk in small amounts. Some have no effect on the baby and can be used while breastfeeding. Always talk to your doctor or pharmacist about medicines you are using and ask before you start using new medicines. This includes prescription and over-the-counter drugs, vitamins, and dietary or herbal supplements.

For some women, stopping a medicine can be more dangerous than the effects it will have on the breastfed baby.

**Q: Do I still need birth control if I am breastfeeding?**

**A:** Yes. Breastfeeding is not a sure way to prevent pregnancy, even though it can delay the return of normal ovulation and menstrual cycles. Talk to your doctor or nurse about birth control choices that are okay to use while breastfeeding.

**Q: Does my breastfed baby need vaccines?**

**A:** Yes. Vaccines are very important to your baby's health. Breastfeeding may also help your baby respond better to certain immunizations, giving him or her more protection. Follow the schedule your doctor gives you. If you miss any vaccines, check with the doctor about getting your baby back on track as soon as possible.

For more information...

For more information about breastfeeding, call the OWH Helpline at 800-994-9662 or contact the following organizations:

**Centers for Disease Control and Prevention (CDC)**

Phone Number: 800-232-4636 • [www.cdc.gov](http://www.cdc.gov)

**American Academy of Pediatrics (AAP)**

Phone Number: 847-434-4000 • [www.aap.org](http://www.aap.org)

**La Leche League International**

Phone Number: 800-525-3243 • [www.llli.org](http://www.llli.org)

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[www.facebook.com/HHSOWH](http://www.facebook.com/HHSOWH)



[www.twitter.com/WomensHealth](http://www.twitter.com/WomensHealth)

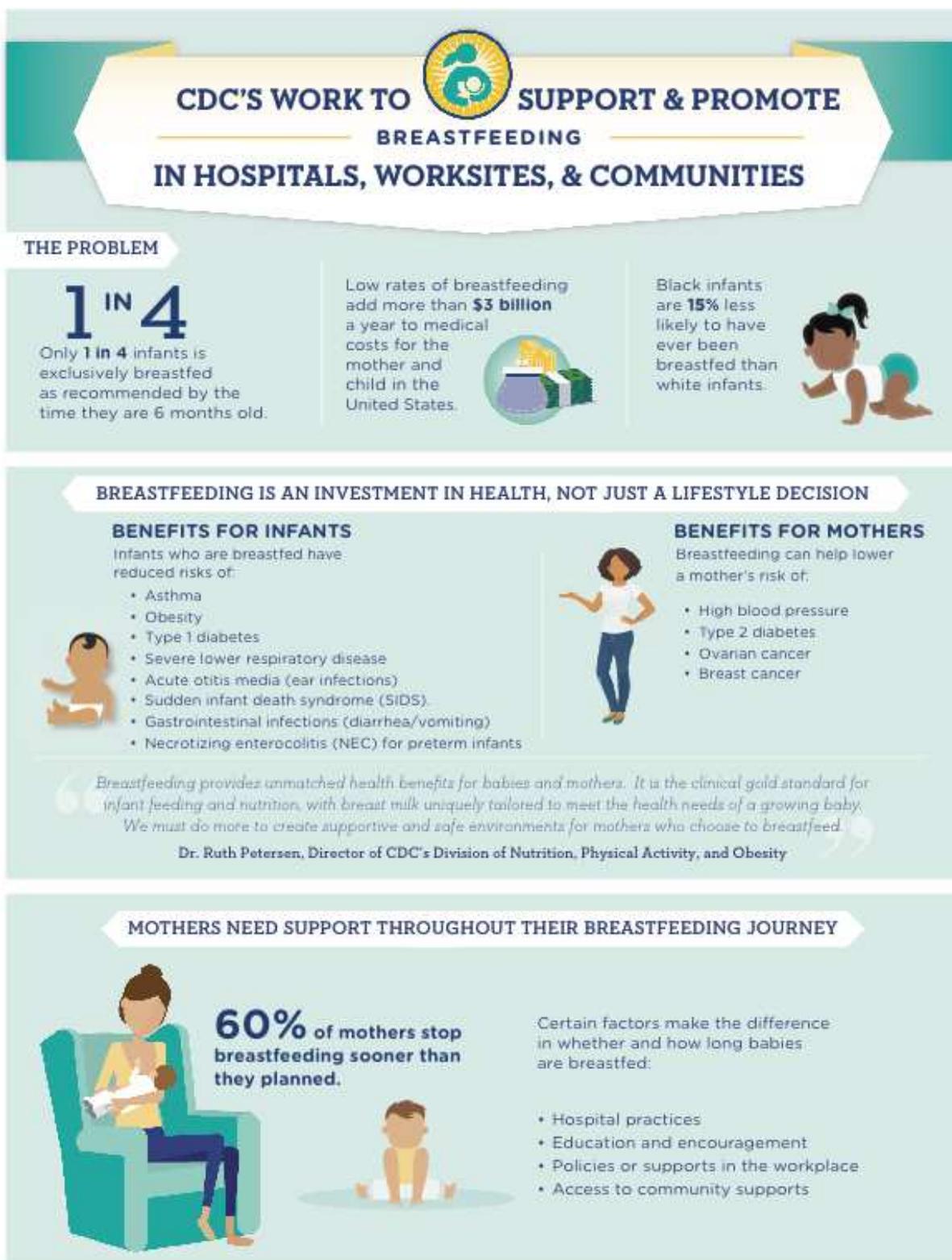


[www.youtube.com/WomensHealthgov](http://www.youtube.com/WomensHealthgov)

[www.womenshealth.gov](http://www.womenshealth.gov) | 800-994-9662



Document 2. Infographic from the CDC about Breastfeeding



## CDC IS INCREASING BREASTFEEDING SUPPORT FOR MOTHERS ACROSS THE NATION



### We collect data to learn how best to improve breastfeeding rates in the United States by:

- Tracking how long infants are breastfed.
- Creating reports that show how well states and hospitals support breastfeeding mothers.



### We promote best practices in health care settings by:

- Supporting the Ten Steps to Successful Breastfeeding, a global standard to promote breastfeeding in hospitals.
- Encouraging obstetricians, pediatricians, and nurses to educate new moms about breastfeeding.



### We support mothers at work and in their communities by:

- Partnering with states to help employers support breastfeeding mothers with places to pump and store breast milk, flexible work hours, and maternity leave benefits.
- Promoting access to community supports like peer counseling and supplemental nutrition programs.

## WE ARE MAKING A DIFFERENCE

The percentage of babies who start out breastfeeding increased from 73% in 2004 to 84% in 2016.



The percentage of births in hospitals with recommended maternity care practices that support breastfeeding increased from 1.8% in 2007 to 26.1% in 2018.



“Given the importance of breastfeeding on the health of mothers and children, it is critical that we take action to support breastfeeding. Women who choose to breastfeed face numerous barriers—only through the support of family, communities, clinicians, healthcare systems, and employers will we be able to make breastfeeding the easy choice.”

**Jerome M. Adams, MD, MPH**  
U.S. Surgeon General

DNPAO November 2019



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention

**FOR MORE INFORMATION, VISIT:**  
Division of Nutrition, Physical Activity, and Obesity  
[www.cdc.gov/nccdphp/dnpao](http://www.cdc.gov/nccdphp/dnpao)  
[www.cdc.gov/breastfeeding/about-breastfeeding](http://www.cdc.gov/breastfeeding/about-breastfeeding)

2017201-8

## Document 3. A list of Local Breastfeeding Resources for Ottawa, KS



### **Ransom Memorial Health Breastfeeding Support Group**

Every Monday, 6-8 PM  
 Ransom Memorial Health Conference Rooms  
 Network with other moms at our **FREE** Breastfeeding Support Group, led by our Family Birth Place International Board-Certified Lactation Consultant.

### **Ransom Memorial Health Lactation Assistance**

Call 785-229-8810, 24 hours a day to speak with our knowledgeable nursing staff  
 Email [breastfeeding@ransom.org](mailto:breastfeeding@ransom.org) to speak with our International Board-Certified Lactation Consultant

### **Women Infant's and Children's Services (WIC) Franklin County Health Department**

Breastfeeding Support  
 785-229-3536

### **La Leche League**

[www.llusa.org](http://www.llusa.org) or  
[www.kansasll.org](http://www.kansasll.org)

### **Life Care Center**

785-242-4500  
[www.lifecarecenter.org](http://www.lifecarecenter.org)

### **Kansas Breastfeeding Coalition**

<http://ksbreastfeeding.org>  
 Contact Erin Laurie for local coalition information at 785-229-3536 or [ELaurie@franklincoks.org](mailto:ELaurie@franklincoks.org)

### **How to Breastfeed-Deep Latch Technique Video by Fit Pregnancy**

<https://www.youtube.com/watch?v=7FJuBn2bgNk>

### **Stanford Medicine Breastfeeding Videos**

<https://med.stanford.edu/newborns/professional-education/breastfeeding.html>

**Document 3 (Continued).** A list of Local Breastfeeding Resources for Ottawa, KS

**A list of Local Breastfeeding Resources for Ottawa, Kansas**

1. Mother's Milk Kansas
  - International Board-Certified Lactation Consultants (IBCLC) that service Ottawa, KS and surrounding area
  - Phone number: (785) 748-4855
  - Email: [happybabies@mmkansas.com](mailto:happybabies@mmkansas.com)
  - Website: <http://mmkansas.com/>
2. Lactation Consultant Directory
  - Use this directory to locate an IBCLC in your area
  - <https://www.ilca.org/why-ibclc/falc>
3. Advent Health Hospital formally called Ransom Memorial Hospital (Ottawa, KS) offers lactation services including (See above handout):
  - IBCLC are available on site
  - Well-baby checks with lactation help every 1-2 days postpartum until infant reaches birth weight (approx. 2 weeks).
  - Free lactation support on an outpatient basis
  - Email: [breastfeeding@ransom.org](mailto:breastfeeding@ransom.org)
4. Social Media: Franklin County Breastfeeding Support Group
  - Facebook
  - <https://www.facebook.com/groups/110012376369635/>
5. Franklin County Health Department/ Women, Infant, Children (WIC)
  - Breastfeeding educators that provide breastfeeding support
  - Address: 1418 S. Main Street Suite 1 Ottawa, KS 66067
  - Phone number: 785-229-3536
  - Website: <http://www.franklincoks.org/index.aspx?NID=346>

## Appendix B

### Infant Feeding Intentions (IFI) Scale

Purpose: The intent to exclusive breastfeeding will be measured by this Infant Feeding Intentions scale.

---

Instructions read to subject: I am going to read to you some statements about feeding your baby. Please choose the answer that most closely matches your opinion, considering both your feeding plans and the likelihood that you will carry out those plans

---

	Very much agree	Some what agree	Unsure	Some what disagree	Very much disagree
1. I am planning to only formula feed my baby (I will not breastfeed at all)	0	1	2	3	4
2. I am planning to at least give breastfeeding a try	4	3	2	1	0
3. When my baby is 1 month old, I will be breastfeeding without using any formula or other milk	4	3	2	1	0
4. When my baby is 3 months old, I will be breastfeeding without using any formula or other milk	4	3	2	1	0
5. When my baby is 6 months old, I will be breastfeeding without using any formula or other milk	4	3	2	1	0

---

Numbers within grid represent the point value for each response. Total score = (mean of items 1 + 2) + (sum of items 3, 4, 5). Thus, total score ranges from 0 (very strong intention to not breastfeed at all) to 16 (very strong intention to breastfeed exclusively throughout the first 6 months)

## Appendix C

### Approval and Support Documents

#### Document 1. IRB Quality Improvement Determination

##### QI Approval

Kris Whitaker

Tue 7/23/2019 11:35 AM

To: Qihua Shen <qshen@kumc.edu>

Cc: Taryn Gort <tgort2@kumc.edu>

📎 1 attachments (268 KB)

0701\_001.pdf;

Thank you for submitting your Quality Improvement Determination request.

The KUMC Human Research Protection Program (HRPP) has conducted a review of the above referenced project. The request meets the criteria for QI project and is approved. In the attachment please find the signed approval.

Any presentation or publication resulting from this project should explicitly state that it was undertaken as quality improvement.

At this time, IRB review is not required. If a quality improvement protocol is revised to undertake a systematic investigation designed to answer a research question or produce knowledge that would be generalizable beyond the local setting, the HRPP will reevaluate your project's regulatory status.

More information about distinguishing quality improvement from research is available on the OHRP

website at: <http://www.hhs.gov/ohrp/policy/faq/quality-improvement-activities/index.html>

Best of luck and continued success in this worthwhile endeavor.



Kris Whitaker

Sr.Compliance Specialist

Office of Compliance/HRPP

Ext. 8-1655

Office hours: 7:30 to 3:00 M,T, TH, F- out of the office every Wednesday

[kwhitaker@kumc.edu](mailto:kwhitaker@kumc.edu)

Physical address:

4330 Shawnee Mission Parkway, Suite 3170

Kansas City, KS 66205

*"Partnering with our investigators to ensure safe and ethical research"*

**Document 2.** Letter of Support

June 17, 2019

Taryn Gort  
University of Kansas, School of Nursing  
3901 Rainbow Blvd.,  
Kansas City, KS 66160

Dear Taryn,

It is my pleasure to write this letter to fully support your DNP project entitled: *Assess and Improve Intent to Exclusively Breastfeed Among Prenatal Women in a Rural Primary Care Setting* to be conducted at Ottawa Family Physicians. It is our understanding that this is a quality improvement project that aims to improve the intention to exclusive breastfeeding among prenatal women using a breastfeeding education and support packet. The CNAs/CMAs at our clinic will provide you the support to recruit the pregnant women, administer and collect the questionnaires, and distribute the breastfeeding education and support packet during the one-month implementation of the project. You will also receive the CNA support during the post-implementation data collection. Your proposed project is feasible and could potentially improve intent to exclusively breastfeeding among pregnant women. I am glad that you choose to implement your project at our clinic.

Sincerely,

Signature 	Date Signed: 6/18/2019
Full Name: Denise McPheron	Job Title: Administrator
Contact Information Phone: 7852421620 ext 337 Email: ofpdenise@yahoo.com	Address Ottawa Family Physicians 1418 S Main St #5, Ottawa, KS 66067

## Appendix D

### Demographic Information

**Purpose:** The purpose of this questionnaire is to collect demographic information about the participants in this project.

**Directions:** Please fill in the blanks or circle appropriate answer(s).

1. Age: \_\_\_\_\_ years
7. Gestational age \_\_\_\_\_ weeks
2. Ethnicity:
  - a. Hispanic
  - b. Latino
  - c. Non-Hispanic
3. Race (circle **all** that apply):
  - a. American Indian or Alaska Native
  - b. Asian
  - c. Black or African American
  - d. Native Hawaiian or Other Pacific Islander
  - e. White
  - f. Other (please specify): \_\_\_\_\_
4. What is your highest level of education?
  - a. No formal education
  - b. Less than high school
  - c. Some high school, no diploma
  - d. High school graduate
  - e. Some college, no diploma
  - f. College graduate
  - g. Graduate degree
5. Marital Status
  - a. Single
  - b. Married or domestic partnership
  - c. Separated
  - d. Divorced
  - e. Widowed
6. What is your current employment status?
  - a. Employed
  - b. Unemployed
  - c. Student
  - d. Retired
  - e. Homemaker
  - f. Unable to work
  - g. Other (please specify): \_\_\_\_\_

## Appendix E

### Recruitment Questionnaire

**General information:**

This project seeks to improve prenatal women's intent to exclusively breastfeed. This project will measure intent to breastfeed prior to and after a breastfeeding education and support information packet is provided. The participant will be asked to fill out five questionnaires total including this one. There will be no monetary compensation. The participant will initially fill out a demographic questionnaire and an infant feeding intent questionnaire. They will then be provided with a breastfeeding education and support information packet. Six weeks later the participant will complete the same demographic questionnaire and infant feeding intent questionnaire as initially filled out. The estimated time to complete the questionnaire is 5 minutes.

**Instructions:** Please circle the appropriate answer.

Question	Answer (Please Circle one)
1. Currently, are you physically able to breastfeed?	YES                      NO
2. My baby does not have any known medical conditions that could prevent him/her from breastfeeding.	YES                      NO
3. Have you reviewed the breastfeeding guide?	YES                      NO

For clinic use only: If there are YES answers to questions 1-2 please proceed. If any NO answers to questions 1-2 please **do not** take action.