Relactation: A Phenomenological Study

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RELACTATION: A PHENOMENOLOGICAL STUDY

By

AMY NICOLE LOMMEN

Bachelor of Arts, University of Montana, Missoula, MT 2010

Thesis

presented in partial fulfillment of the requirements
for the degree of

Master of Science
in Health and Human Performance, Community Health

The University of Montana
Missoula, MT

May 2014

Approved by:

Sandy Ross, Dean of The Graduate School
Graduate School

Dr. Blakely Brown, Chair
Department of Health and Human Performance

Dr. Annie Sondag
Department of Health and Human Performance

Dr. Dusten Hollist
Department of Sociology
ABSTRACT

Lommen, Amy, M.S., May 2014

HHP- Community Health

Relactation: A Phenomenological Study

Chairperson:  Dr. Blakely Brown

Committee Members:  Dr. Annie Sondag and Dr. Dusten Hollist

The purpose of this study was to explore the lived experiences of women in Montana who chose to attempt relactation. A phenomenological approach was utilized to understand the lived experiences of the 10 participants. In depth interviews were conducted and a 21 item, categorical and open-ended survey was administered seeking demographic and experiential data. Interpretative Phenomenological Analysis was used to organize and analyze the data. Most participants reported having good support from family, friends, lactation specialists, and/or physicians. Despite this support, the participants experienced breastfeeding difficulty. An overarching theme was having a difficult baby; whether it was colic, latching difficulties, or a lack of bond with the baby. Most of the participants were surprised they experienced such difficulty and stated their experience contradicted their previous expectations of breastfeeding. It was common for the participants to state it was assumed breastfeeding would be easy since it was a “natural” bodily function. Feelings of rejection, anger, stress, and failure were commonly expressed when participants reflected on their first attempt at breastfeeding. The participants who felt they relactated successfully stated the process was a defining moment in their lives, it gave them a second chance at breastfeeding, and many felt like they were able to overcome those negative feelings associated with breastfeeding difficulty. Future studies could examine the experience of breastfeeding a difficult baby, and what factors are present with women who continue or discontinue nursing difficult babies.
Acknowledgments

I would like to thank the women who had the courage to share their stories with me. It was a humbling experience to be in the graces of such deep rooted emotion, and I thank you for sharing those intimate parts of your lives with me. I would also like to thank my husband, Chad—this dream of mine would absolutely not be possible without your unwavering support and encouragement. Andrew, Emma, and Gunnar, you are absolutely my inspiration every waking day to do better. You have all instilled in me a desire to continue learning, improving, and growing as a wife, mother, student, teacher, and friend.

I would like to thank my committee members, Dr. Blakely Brown, Dr. Annie Sondag, and Dr. Dusten Hollist for supporting my personal and professional interests in breastfeeding. You each contributed immensely with your individual expertise to the final project, I thank you.

“If a multinational company developed a product that was a nutritionally balanced and delicious food, a wonder drug that both prevented and treated disease, cost almost nothing to produce and could be delivered in quantities controlled by the consumers’ needs, the very announcement of their find would send their shares rocketing to the top of the stock market. The scientists who developed the product would win prizes and the wealth and influence of everyone involved would increase dramatically. Women have been producing such a miraculous substance, breast milk, since the beginning of human existence…”

— Gabrielle Palmer, The Politics of Breastfeeding
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CHAPTER I: INTRODUCTION

Human breast milk is uniquely suited to the human infant’s nutritional needs. Breast milk is a live substance with immunological and anti-inflammatory properties that protect against a host of illnesses and diseases for both mothers and children (Lawrence and Lawrence, 2011). In 2011 the Surgeon General issued a Call to Action report to support breastfeeding (USDHHS). The report stressed the importance of breastfeeding for the infant and mother, as well as the positive psychosocial, environmental, and economic effects of breastfeeding and recommends that most infants in the United States be breastfed for at least twelve months. The health organizations supporting these recommendations include the American Academy of Pediatrics (AAP), American Academy of Family Physicians, American College of Obstetricians and Gynecologists, American College of Nurse-Midwives, American Dietetic Association, and American Public Health Association (USDHHS, 2011). Breastfeeding recommendations are also found in the Healthy People 2020 Goals (USBC, 2013) and include goals to increase (from the Healthy People 2010 Goals) the amount of children 1) ever breastfed from 74% to 81.9%, 2) breastfed at 6 months from 43.5% to 60.0%, 3) breastfed at 1 year from 22.7% to 34.1%, 4) exclusively breastfed through 3 months from 33.6% to 46.2%, and 5) exclusively breastfed through 6 months from 14.1% to 25.5%; all by the year 2020. The 2020 Goals also include increasing the proportion of employers that have worksite lactation support programs from 25% to 38%, reducing the proportion of breastfed newborns who receive formula supplementation within the first 2 days of life from 24.2% to 14.2%, and increasing the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies from 2.9% to 8.1%.
These statistics are monitored by the Centers for Disease Control (CDC), who then issue a report card to each state based on these data. According to the 2011 CDC Breastfeeding Report Card, Montana exceeded one of the goals with 82.8% of children ever being breastfed. Montana also met the Healthy People 2020 goal of breastfeeding at six months with 61.1%, and 51.9% of infants at three months being exclusively breastfed (CDC, 2012). However, Montana did not meet the 2020 goal of breastfeeding 34% of infants at the age of one year (only 27% of infants in Montana were breastfed until one year), nor did it meet the 2020 goal of exclusive breastfeeding for 6 months within 25.5% of the population (only 12.5% of infants in Montana were exclusively breastfed for 6 months). Thus, while Montana mothers meet some of the Healthy People 2020 goals only eighty percent of women leave the hospital breastfeeding in Montana, and only a quarter of their babies are breastfed until the recommended age of one year. Research shows that mothers without reliable perceived support, access to breastfeeding support groups, lactation specialists, or support from family could lack the confidence to breastfeed or may discontinue breastfeeding before the recommended amount of time (Lauwers and Swisher, 2011). It is important to implement programs that educate, encourage, and support mothers to breastfeed their babies for the recommended amount of time.

The Baby Friendly Hospital Initiative is a successful approach supporting breastfeeding initiation and duration (WHO and UNICEF 2013). This initiative was developed to provide mothers and babies with the most supportive environment conducive to breastfeeding in the first days after birth. It has been implemented in over one hundred fifty-two countries. The Baby-friendly Hospital Initiative (BFHI) is a global effort launched by WHO and UNICEF to implement practices that protect, promote and support breastfeeding. It was launched in 1991 in response to the Innocenti Declaration. The materials reinforce the International Code of Marketing of Breast-
milk Substitutes. The educational materials support mothers who are not breastfeeding, provide modules on HIV and infant feeding and mother-friendly care, and give more guidance for monitoring and reassessment (USBC, 2013). There are ten steps that hospitals should follow to become “baby friendly”. Montana currently has one hospital that carries the “Baby Friendly” designation. Mothers-to-be are urged to seek care from Baby Friendly Hospitals by knowledgeable practitioners because breastfeeding initiation rates are greatly improved through the support and skill of these facilities. Still, with the national support and endorsement of breastfeeding, there are women who suffer from lack of support and help needed to sustain a breastfeeding relationship. This lack of support leads to the loss of many breastfeeding relationships.

A process known as relactation is becoming more widely used to re-establish a breastfeeding relationship when it has been reduced or lost. Relactation is the process of re-establishing a breast milk supply that has diminished or ceased. Reasons women relactate include untimely weaning, separation of mother and infant due to premature birth or illnesses, infant is unable to tolerate artificial infant milks, or emergent situations such as natural disasters like earthquakes and hurricanes (Wiggins, 2007; AAP, 2007). Research shows that a woman is more likely to successfully relactate if she is motivated and committed to the process, has a strong support system, and can carry our regular nipple stimulation (WHO, 1998). A mother needs access to knowledgeable healthcare professionals who can assist her with the process of relactation. She also needs to have support from family, friends, and providers that can encourage her and empower her to follow through with relactation. Research shows women who live in a community where relactation is recognized as an option are more likely to attempt relactation than those that don’t live in a community supportive of relactation (Cho, Cho, Lee, and Lee,
Women living in disadvantaged, lower income areas may not have proper access to healthcare, lack access to breastfeeding support, or lack the initiative or ability to seek assistance with breastfeeding issues. A study conducted by Milligan et al. found that only 16.5% of low income mothers breastfed for at least 6 months, and that the majority of low income women discontinue breastfeeding before their baby is two months of age (2000). Reasons cited for quitting breastfeeding among low income women included fatigue, number of children, past breastfeeding experience, lack of social support, and breast discomfort (Milligan et al., 2000). Furthermore, lower income women may not have access to informative resources where they could find out about relactation. Socio-economic and geographical variables are major factors in the initiation and outcome of breastfeeding initiation and duration, and inherently affect a woman's ability to relactate (Cho, Cho, Lee, and Lee, 2010). There is a gap in the literature comparing rural and urban relactation rates, as none could be found. In fact, there is no data that depicts the percentages of women that have relactated. However, data exist reporting breastfeeding rates among rural and urban women. Previous work suggests that initiation of breastfeeding may be more frequent among urban women (59%) compared with rural women (49%) (Flower et al., 2008), but there is no data to reflect rural and urban relactation rates. Further inquiry into the subject is recommended. In rural communities, shared characteristics such as geographic isolation, fewer economic resources, and limited access to health care might result in distinct influences on women’s infant feeding decisions (Flower et al., 2008). The CDC breastfeeding report card shows that frontier states such as Montana, Colorado, Wyoming, Washington, and Idaho have better breastfeeding initiation and duration rates than the Southern, Midwestern, and most Eastern states (CDC, 2011). Still, a significant percentage of women in
Montana stop breastfeeding too soon. While the general reasons for relactation are understood (WHO, 1998), it is not known why women in the frontier state of Montana choose to relactate.

**PURPOSE OF STUDY**

The purpose of this study is to explore the lived experiences of women in Montana who choose to attempt relactation.

**RESEARCH QUESTIONS**

What is the lived experience of women who attempt to relactate in Montana?

**SIGNIFICANCE OF STUDY**

At the time of this study, no information was available regarding the percentages of women who have attempted relactation in the United States. While the primary reasons for relactation are understood, the reasons differ among social, economic, and geographic regions (WHO, 1998). Montana is a frontier state with a little more than one million people. It is the fourth largest state by area and ranked forty-fourth by population. Mother to mother support (e.g. La Leche League Leaders, LLLL) and professional support (e.g. International Board Certified Lactation Consultants, IBCLCs) have been shown to increase breastfeeding rates (CDC, 2011). The CDC breastfeeding report card for Montana indicates there are 2.32 LLLL per 1000 live births and 3.73 IBCLCs per live 1000 births (CDC, 2011). The numbers for LLLL in other states range from 0.49 (WV) to 3.37 (VT), and IBCLCs from 1.37 (NV) to 13.34 (VT). Montana has a good record for breastfeeding initiation despite its lack of peer support and professional support (CDC, 2011). Montana has one baby friendly hospital as well as multiple active LLL groups throughout
the state. Despite these positive variables, some women in Montana still wean prematurely according to local lactation specialists and breastfeeding supporters. The want or need to relactate is a final clue in the symptomology of a failed breastfeeding relationship.

Recent research on the mothers’ experiences of relactation has been conducted in Korea and Egypt. The Korean study was the “first” to reflect the experience of relactation from the mother’s point of view and identifies the important factors for successful relactation. In order to succeed in relactation, their results demonstrate that use of galactogogues and family support is helpful. Referral by medical personnel was also an important promoter of success in relactation (Cho et al., 2010). Similarly, the Egyptian study found that familial (especially spousal) support and education were key factors in the success of relactation (Abul-Fadl, A., Kharboush, I., Fikry, M., and Adel, M., 2012). Auerbach and Avery conducted the largest study on relactation in the United States and Canada in 1980. The respondents in the study were very well educated and generally affluent, and 94% were white and married (Auerbach and Avery, 1980). This was a case-control study and the participants were mailed a 15 page self-report questionnaire to report on experiences they had with relactation between 1970 and 1977. While this data is helpful in understanding some of the reasons this group of women had for relactating over 40 years ago, some of the reasons may not be relevant for why women relactate today, particularly women who are well educated, affluent, Caucasian, and married. Further, this study used a survey approach and did not conduct any interviews with the women to more deeply understand the context of lived experiences of the relactation processes. By using a phenomenological approach to examine the experiences of women who have attempted relactation in Montana, researchers can better understand the lived experience of relactation, and possibly use these data to develop
programs and strategies that address barriers and enhancers to successful relactation in Western cities in the U.S. that are similar to Missoula.

**LIMITATIONS**

Relactation is an uncommon process, and locating women who are familiar with it or have attempted it could be difficult.

**DEFINITION OF TERMS**

**Alveoli:** the terminal portion of the alveolar gland where milk is secreted and stored (Lawrence and Lawrence, 2011).

**CDC:** Center for Disease Control.

**Colostrum:** the first milk. This yellow, sticky fluid is secreted during the first few days post-partum and provides nutrition and protection against infectious disease, with its high level of immunoglobins (Lawrence and Lawrence, 2011).

**Contraindicate:** to give indication against the continuation of breastfeeding, either temporarily or permanently.

**Co-sleeping (bed-sharing):** when mother and baby sleep together in a safe manner.

**Donor Milk:** breast milk expressed by a mother that is then processed by a donor milk bank for use by a recipient that is not the mother’s own baby (NICE, 2010).

**Exclusive breastfeeding:** feeding an infant only breast milk either solely at the breast or in conjunction with supplemental bottles of breast milk.
Exclusive pumping: nourishing an infant with milk from the mother’s breast, but fed to the infant in a bottle or cup.

Galactagogue: medications that aid in initiating and maintaining adequate milk production (Gabay, 2002).

Galactopoeisis: Also known as Stage 3 lactogenesis. The maintenance of established lactation (Lawrence and Lawrence, 2010).

HMBANA: Human Milk Banking Association of North America.

Hyperprolactinemia: higher than normal prolactin levels, which can result in spontaneous breast milk production and amenorrhea (Riordan, 2010).

Immunoglobin: protein fraction of globulin, which has been demonstrated to have immunologic properties. Immunoglobins include IgA, IgG, and IgM - factors in breast milk that protect against infection (Lawrence and Lawrence, 2011).

Induced Lactation: the process by which woman that has never given birth stimulates a milk supply.

Lactation: the secretion of milk from the mammary glands, the process of providing that milk to the child (breastfeeding or nursing), and the period of time that a mother lactates to feed her young (Riordan, 2010).

Lactogenesis: the initiation of milk secretion. The initial synthesis of milk components that begins late in pregnancy is termed lactogenesis 1; the onset of copious milk production 2 or 3 days postpartum is termed lactogenesis 2 (Riordan, 2010).
Mammary gland: milk-producing gland characteristic of all female mammals and present in a rudimentary and generally nonfunctional form in males. Mammary glands are regulated by the endocrine system and become functional in response to the hormonal changes associated with pregnancy (Merriam-Webster, 2013).

Maternal breastfeeding: nourishing an infant at the breast of the mother who gave birth to him.

NICU: Neonatal Intensive Care Unit.

Nursing: feeding an infant at the breast (see breastfeeding).

Oxytocin: a hormone that stimulates the ejection reflex (let down) by stimulation of nerves in the nipple and areola.

Prolactin: a hormone that stimulates the production and secretion of milk during lactation (Lawrence and Lawrence, 2011).

Relactation: the resumption of breastfeeding following cessation or significant decrease in milk production (Auerbach and Avery, 1980).

Weaning: a process of ceasing lactation.

Wet Nursing: feeding an infant at the breast of a woman other than the birth mother.
CHAPTER II: REVIEW OF LITERATURE

This review examines the existing literature on the practice of relactation in the United States. Relactation is the process of re-establishing a milk supply when it has diminished or ceased. In order to better understand the current state of breastfeeding a brief review of the history and practices of infant feeding and current recommendations for breastfeeding are given. Today’s infant feeding practices are the result hundreds of years of evolving perceptions. What was considered normal infant feeding practice has continually changed throughout history. The reasons behind the choices of infant feeding practices have also changed.

HISTORY OF INFANT FEEDING

There are a number of compounding factors dating back centuries that have led to our society's current state of infant feeding practices. Breastfeeding was the primary means of nourishing a baby thousands of years ago, but assimilation of cultures, abandonment of babies, social status, and new technological advances have led to a shift in what is considered normal. Throughout time the traditional ideas of how to nourish a baby have shifted between maternal breastfeeding, wet nursing (or cross nursing), and in the recent past, the use of artificial infant milks.

One of the earliest documented infant feeding practices other than maternal breastfeeding was mentioned in the Code of Hammurabi from around 1800 B.C., which was a Babylonian code of laws. One such law states that if an infant died while being nursed by a hired lactating woman, the wet nurse was prohibited from being hired to nurse other children. Wet nursing was even mentioned in the Book of Exodus, as one was hired to feed Moses. Lawrence (2011) states that
ancient feeding techniques correspond with abandoned or orphaned infants, as many of the first feeding cups were found in the graves of European infants. This became such a problem that foundling hospitals, or homes for infants and children with no known parents, sprang up all across Europe. On the contrary, fourth century Spartan women were required to nurse their first sons, and the commoners had no other option but to nurse their children (LLL, 1995).

The paradigm of infant feeding practices began to shift when the Hellenic culture was introduced into Egypt (Davidson, 1953), and so repeated the pattern as expansion and exploration assimilated cultures together. The primary reasons for nourishing an infant other than at the mother's breast existed if they were abandoned or orphaned. In this case, someone would take over breastfeeding the infant. But another reason took hold in these centuries; the hiring of a wet nurse became the sophisticated method of feeding an infant and marked status among the elite.

Elite women were viewed as fragile and delicate, while commoners were viewed as healthy and robust (Palmer, 2009). A renowned pediatrician in the early seventeen hundreds named Walter Harris stated in his *De morbis acutis infantum,* "it is regretted that Ladies of Quality do not nurse their babies in order that they may have more time to dress, receive, and pay visits, attend public shews and spend the night at their beloved cards." Other than a status symbol, there were physiological reasons for the hiring of wet nurses among the elite. Women of nobility wore corsets from a young age forward that often restricted the growth of breast tissue, making breastfeeding difficult. Breastfeeding's contraceptive effects were understood even then, and noble women needed to produce heirs. During this time it was thought that one producing milk should abstain from sexual intercourse because it might taint the milk, which was yet another reason to hire a wet nurse. It wasn't uncommon for the elite women to have between ten and eighteen children, while wet nurses often only had upwards of six (LLL, 1985).
It was of utmost honor to wet nurse a royal baby, but most made very good money caring for the infants of others. Men called *meneurs* scoured the countryside near Paris looking to hire wet nurses in the seventeen hundreds. Unfortunately in most cases, wet nurses weren't allowed to nurse their own children as a stipulation of their contract, and the children of wet nurses suffered as a result of being fed artificial infant milks. Davidson (1953) suggests that wet nurses were in such high demand that young women often had illegitimate children, abandoned them after establishing a milk supply, and sought work as a wet nurse.

The Dowager Countess of Lincoln bore eighteen children. Only one boy lived. He married and had a child that was breastfed and, consequently lived. Upon reflection of the loss of her seventeen children, the Countess pleaded to other women, "Be not so unnatural as to thrust away your own children; be not so hardy as to venture a tender babe to a less tender breast; be not accessory to that disorder of causing a poorer woman to banish her own infant for the entertaining of a richer woman's child, as it were bidding her to unlove her own to love yours" (Lawrence, 2011). In fact, the infant mortality rate during these times was astounding. Of 10,272 babies admitted to the Dublin Foundling Hospital between 1775 and 1796, only forty five survived. That's a mortality rate over ninety nine percent. The main reason for death in the records was "death from want of breast milk" (Davidson, 1953).

Another example of high infant mortality comes from a foundling hospital seventeenth century Paris. By the mid seventeenth century two thousand infants were placed in a hospital for abandoned children. Of these, seventy-five percent died within the first three months. Poor sanitation, overcrowding, and ignorance regarding infant nutrition were to blame for the deaths. Mass abandonment of maternal breastfeeding had been replaced through wet nursing and dry
nursing, or supplementing with inadequate foods. Pap and panada were two dry-nursing foods commonly fed to infants. Pap consisted of a combination or mash of flour or bread with water. Panada was a mixture of flour, bread, butter, cereal, and broth. These were thick pastes made with foods that are extremely difficult for the immature digestive tract of the infant to digest. This led to terrible bloating and digestive issues in the babies resulting in widespread rickets and nutritional deficiencies (Davidson, 1953).

The end of the nineteenth century marked a new understanding of the infant’s nutritional needs. Scientists were beginning to estimate fat, water, protein, and carbohydrate levels necessary for infant survival. The pasteurization process allowed the safer handling of cow's milk for artificial infant milk. It became increasingly popular; more so than any other time throughout history. As more women left the house to work during the industrial revolution, the market for artificial infant milk was gaining a strong foothold in society. Around roughly the same time, bacteria and proper sanitation practices were being discovered. Scientists and pediatricians doubted whether mothers could produce a product so perfectly "formulated" as theirs. Unfortunately, so much emphasis was put on making the "perfect" artificial infant milk (i.e., infant formula) that breast milk was considered inferior to infant formula. Artificial infant milk was chosen by medical practitioners because of its science and because it was "man-made", hence the scientific name- formula. Pediatric practices promoted the use of artificial infant milk because of its "cleanliness" casting doubt on the mother's ability to produce a superior product. What wasn't quite understood during this time was how important the act of nourishing a baby at the breast is, and how many non-replicable components exist in breast milk. In fact, the full makeup of colostrum, the first milk produced by a mother, is still unknown; thus giving superiority to its un-replicable nature. In 1953, investigators concluded "With both theoretical considerations and
clinical observation of behavior problems in children, there was a mass of evidence that breast feeding or the lack of it has some relation to a strong psychological function” (Davidson, 1953). Epidemiological studies of infant mortality rates conducted by Whitney in 1920, Haley in 1920, and Hughes in 1923 conclude that infants fed artificial infant milks were four to five times more likely to die than exclusively breastfed ones under the same conditions (Davidson, 1953). While formula was created in good faith to save lives, it has ironically cost lives.

Families are not to blame for choosing to feed their infants artificial milk. Commentaries reviewing the ethical implications of formula company marketing schemes by Ermann and Clements II (1984) and Finkle (1994) suggest women are the victims of a relentless and dangerous marketing campaign that has cost thousands of lives. Nestle came under fire in the 1980’s for misrepresentation of their product. In China, nutrition nurses were stationed in grocery stores and targeted prenatal and postnatal women selling the superiority of their product.

In the 20th century, Abbott-Ross provided free design-planning for hospitals stating “the purpose here is to impose a design that literally builds bottle-feeding into the facility by physically separating mother and infant to make bottle-feeding more convenient than breastfeeding for the hospital staff….A single investment in such architectural services can create new sales opportunities for the entire life span of the building” (ICCR, 1982). The intent of the remodels was to separate mothers and babies and to feed the babies formula while they were in the nurseries (Palmer, 2011). The artificial infant milk companies knew that separating mothers and their babies was detrimental to a mother’s milk supply, and inherently a sustained breastfeeding relationship; which was good for business; and exactly what their intent was (Boyd, 2012; Mendeza, 2012; Gerlach, 1980). It worked out tremendously for the companies, and left a devastating impact on the practices of our society. Mothers and babies were separated during the
most crucial window of opportunity for successful breastfeeding initiation and duration, and with the barrage of infant formula marketing, both blatant and subtle, mothers’ confidence in breastfeeding dwindled (Finkle, 1994). Fortunately, we are seeing a new trend in hospitals throughout the United States that are bringing mother and baby back together, and low and behold… breastfeeding rates are increasing. Many hospitals are remodeling to meet requirements of becoming Baby Friendly (see Appendix 1- Ten Steps), practices like Kangaroo Mother Care, or prolonged skin to skin contact between a preterm baby and the mother, and rooming in of mother and baby are being valued for their therapeutic properties, as well as supportive of breastfeeding (Wallace and Ridpath-Parker, 1993). Also, mother to mother support through groups like La Leche League and professional support (IBCLCs) is increasing (CDC, 2011). These practices have helped put breastfeeding back on the map. Stepping out of the shadow of the artificial infant milk era’s shadow is an enormous feat (Ermann and Clements II, 1984). The health organizations supporting breastfeeding recommendations include the American Academy of Pediatrics (AAP), American Academy of Family Physicians, American College of Obstetricians and Gynecologists, American College of Nurse-Midwives, American Dietetic Association, and American Public Health Association (USDHHS, 2011). Having so many health-related organizations that have recommendations supporting breastfeeding greatly helps the effort to educate the American public on the importance of breastfeeding. There are still, however, countless strides that need to continue to occur before breastfeeding is considered the norm by the majority of the population in the United States.
INFANT FEEDING PRACTICES

The question of infant formula safety appears in news articles across the world, with China making huge headlines in 2008. The World Health Organization issued a Global Alert and Response (GAR) due to the overwhelming amount of infants affected by high levels of melamine in the powdered artificial infant milk. Over six thousand infants were reported to have kidney stones, which is very rare at that age. Three deaths resulted from the consumption of melamine-contaminated artificial infant milk. The GAR recommendations were that exclusive breastfeeding was recommended, and a link to safe preparation of artificial infant milk was listed. Another such incident occurred closer to home. An infant from Tennessee died from meningitis after being fed artificial infant milk contaminated with the deadly pathogen, \textit{E. Sakazakii} (Baker, 2002). In fact, there is no guarantee that artificial infant milk is free of any pathogenic organisms. The FDA has determined that ten thousand bacterial colony-forming units per gram of powdered artificial infant milk is acceptable (Baker, 2002). Also according to Baker (2002), artificial infant milk is the only food regulated by its own law, the Infant Formula Act of 1980. It states that manufacturers are required to follow "good manufacturing practices", but there is no requirement for sterility. Even more frightening is increased risk of infant death, both directly and indirectly, from consumption of artificial infant milk. A study conducted by Bahl et al. (2005) found that non-breastfed infants had a ten and a half percent higher chance of dying before their fifth birthday than their breastfed counterparts, and a two and a half percent higher chance than those who were partially breastfed.

Feeding an infant artificial milk has some inherent dangers for both the mother and the infant. Being fed infant formula is associated with an "increased incidence of infectious morbidity, as
well as elevated risks of childhood obesity, Type 1 and Type 2 diabetes, leukemia, and sudden infant death syndrome for infants" (Steube, 2009). Riordan and Wambach (2010) state that infants who are not breastfed are also deprived of autoimmunization; where the baby receives specific antibodies from the mother's breast milk. For mothers, failure to breastfeed is associated with an increased occurrence of breast and ovarian cancers, retained gestational weight gain, Type 2 diabetes, myocardial infarction, and the metabolic syndrome (Steube, 2009).

Artificial infant milk can become contaminated at countless points throughout the manufacturing process, and even by the person preparing it. The water could be contaminated, or contain unsafe levels of substances such as lead, and the bottles used could contain BPA, which is a known carcinogen. Another aspect to consider is that it needs to be mixed precisely as the label directs and used within a certain frame of time. Heating it can also pose the risk of burning the baby when heated improperly. Many of these risks are eliminated when a mother breastfeeds her baby. Breast milk straight from the breast isn't at risk for contamination from harmful chemicals, pathogens, or harmful bacteria. It is the perfect temperature for the baby and no preparation is needed. Breastfeeding is becoming highly endorsed by entities such as the World Health Organization and UNICEF. Many of these organizations are making recommendations so breastfeeding can be promoted, protected, and supported.

Although some might consider it important to obtain and encourage formula use in a disaster, such a strategy is not recommended (IFE Core Group, 2007). According to the American Academy of Pediatrics (AAP, 2007), there are several disadvantages to formula use during an emergency or disaster. The formula or water source could become contaminated, sterilization of bottles may not be possible, or electricity may not be available for refrigeration (Morin, 2008).
The mere presence and use of artificial infant milks in third world countries can be attributed to the loss of milk supplies of countless women, and the potential loss of infant and child lives in any given emergency (Ermann and Clements II, 1984; Mendeza, 2012, AAP, 2007; Wiggins, 2007).

**CURRENT RECOMMENDATIONS FOR INFANT FEEDING**

It is widely understood among many members of the medical community that breastfeeding is the optimal way to nourish a baby, with even artificial milk companies endorsing the value of breast milk on their labels. Unfortunately infant formula has been unethically marketed as equivalent, if not better, than breast milk in the past decades (Ermann and Clements II, 1984). Without proper training in regards to support of breastfeeding, many practitioners are not equipped to assist mothers with problems that may arise with breastfeeding, nor do they know the current recommendations about breastfeeding. The World Health Organization recommends exclusive breastfeeding for six months with complementary foods being introduced at or after six months with continued breastfeeding until two years of age or more (WHO, 2013). The American Academy of Pediatrics (2012) and the Academy of Breastfeeding Medicine (Liebert, 2010) also recommend exclusive breastfeeding for six months with the same recommendation for complementary foods while continuing to breastfeed up to one year or longer.

The Academy of Breastfeeding Medicine’s Clinical Protocol #7 states that contraindications to breastfeeding occur only when the mother has Human Immunodeficiency Virus (HIV) and “in locations where artificial feeding is acceptable, feasible, affordable, sustainable, and safe” (Liebert, 2010). It also states breastfeeding is contraindicated when the mother has Human T-Cell Virus Type 1, active herpes lesions on the breast, using illicit drugs, radioactive isotopes,
antimetabolites, chemotherapy, and some psychotropic medications; with only a few other medications causing an interruption of breastfeeding (Hale, 2012; Liebert, 2010; Lawrence and Lawrence, 2011). Breastfeeding is contraindicated when the infant has galactosemia; which is an inability to metabolize the sugar, galactose. Sometimes, it is difficult to get breastfeeding established when the baby has a cleft palate, low muscle tone, is premature, or has a cardiac anomaly (Riordan, 2010). It is recommended that pasteurized human donor milk be used as a substitute for a mother's milk in the event that the situation arises, and is the recommended supplementation for all babies in the Neonatal Intensive Care Unit (NICU) (WHO, 2012). Donor milk banks collect, screen, pasteurize, process, store, and distribute human milk to those who have a prescription from a licensed healthcare provider. Milk is ordered from HMBANA Member banks for the following prescribed reasons, according to Riordan (2010); 1) prematurity: mother is often pumping, but may have difficulty establishing a supply or have more than one infant, 2) full term infant with medical problem: some infant problems make breastfeeding difficult like Pierre Robin Syndrome, low muscle tone, or a cardiac anomaly, 3) artificial infant milk allergy or other feeding intolerance, 4) IgA deficiency (infants, children, and adults), 5) post-surgical nutrition, 6) severe gastrointestinal infections, 7) metabolic disorders, and 8) supplementation of a healthy infant: Insufficient maternal milk supply may be temporary or permanent due to a lack of glandular tissue, breast surgery, delayed lactogenesis, health problems (including diabetes), inadequate breast emptying, or adoption. Insurance companies typically cover the cost of donor human milk while a premature baby is in the NICU, but often discontinue coverage once the baby is released. It can be costly to continue without insurance coverage, as donor milk typically costs between three and five dollars per ounce. Most parents are then left with the options of paying out of pocket for the donor milk, using artificial infant
milk, or establishing their own milk supply, which is known as relactation. Most people are completely unaware that women can breastfeed if they don't start as soon as the baby is born. To understand how this process works, one must know a bit about the science of lactation.

**SCIENCE OF LACTATION**

Human beings belong to a Class known as mammals, who according to Webster's dictionary are defined as "any warm-blooded higher vertebrates that nourish their young with milk secreted by mammary glands, and have skin usually more or less covered with hair" (Merriam-Webster, 2013). We are therefore, defined by the way we feed our young- or the way nature intended for us to feed our young.

Women's bodies start preparing for lactation during the embryonic phase of their development. Epithelial buds form around the forty-ninth embryonic day (Lawrence and Lawrence, 2011). The mammary gland that forms from the bud then continues to grow in women (and men) during childhood. Menstrual hormones further cause mammary growth. The mammary gland experiences the most rapid growth during pregnancy. Milk ducts sprout, branch, and form lobules in response to lacteal and placental hormones (Lawrence and Lawrence, 2011). According to Lawrence and Lawrence (2011) prolactin is absolutely essential to the development the mammary gland. The hormones of pregnancy prompt a cascade of reactions that lead to the breast synthesizing and expelling milk.

Once the baby is born milk is created on a supply and demand basis (Goldfarb and Newman, 2000) assuming that there is adequate breast tissue. Stage 1 lactogenesis is the first stage, or initiation of milk, which produces colostrum. It is highly concentrated with immunoglobins and
proteins, and is often referred to as the first "vaccine" (Hanson, 2004). The body begins this stage around twelve weeks before delivery. Stage 2 lactogenesis refers to the period typically two to three days post-partum when the milk "comes in". The third stage, also referred to as galactopoiesis, is the maintenance of an established milk supply (Lawrence and Lawrence, 2011). Stage 1 is a direct response to hormonal influence, but stage 2 and 3 require a bit of preservation.

As mentioned previously, milk supply is directly affected by the amount that is removed. An adequate supply is established when the mother allows the baby, or a pump, to remove milk completely and frequently. The removal of milk causes a feedback loop of prolactin-release which causes the glandular tissue to make more milk. The act of suckling or tactile stimulation causes a release of oxytocin (also a feedback loop), which prompts the breast to "let down" milk. What happens physiologically during the “let down” is the alveoli contract and the milk ducts rapidly dilate. If a breastfed baby is supplemented for any reason, the supply and demand response is interrupted and less milk will be produced in response. According to a study conducted by Dennis, Hodnett, Gallop, and Chalmers (2002), the most commonly cited perceived difficulties within the first month of breastfeeding were leaky breasts, engorged breasts, latching difficulties, infant spitting up, and breastfeeding too frequently. They also found that perceived breastfeeding problems included maternal sleep deprivation, lack of time for self, feeling sad and crying, and feeling isolated and tied down (2002). Even with these perceptions of difficulty, the main reason cited for supplementing or discontinuing breastfeeding is insufficient milk (Gatti, 2008); which occurs in only one to five percent of the population (Dennis, Hodnett, Gallop, and Chalmers, 2002).
If a breastfeeding relationship has been interrupted, the woman may choose to attempt relactation, the act of bringing in a non-existent milk supply or increasing an already existing, minimal milk supply. Even though pregnancy plays an integral role in the development of the breast and synthesis of milk, there are protocols for inducing lactation for women who have never been pregnant (Newman, 2000). The main reason for inducing lactation in the United States is adoptive parents who wish to breastfeed their child(ren) (Goldfarb, 2009). For the purposes of this study, relactation will be further explored.

The most recent standard protocol for relactation was written by Newman (2002). It is outlined that many variables affect the plausibility of relactating. It is more difficult to achieve the longer the baby has been fed by means other than the mother's own breast milk. Skin to skin contact with the baby is recommended as much as possible, as well as frequent nipple stimulation. This is achieved mostly through using a hand operated or mechanical pump, or by putting the baby to the breast often. Nipple stimulation excites the nerves; which in turn report back to the brain that milk should be made. Prolactin is released from the pituitary and thus triggers the mammary glands to begin producing milk. Nipple stimulation should occur every two to three hours for ten to twenty minutes per session. This could last days, weeks, or months depending on the amount of milk desired. It is very time consuming. Another issue (of many) faced with relactating is that progesterone will cover prolactin receptors that are no longer in use, thus ensuring lactation does not occur without an infant to nourish (remember supply and demand). Nipple stimulation increases the amount of receptors that prolactin can bind to, so there is a need to increase prolactin levels as well. Newman (2002) recommends, along with skin to skin and nipple stimulation, taking a galactagogue, domperidone, that inadvertently causes hyperprolactinemia; a condition in which the pituitary gland floods the system with prolactin. It is an off-label effect of
the drug, and is used for increased uptake of prolactin from the cells (Barone, 1999; Gabay, 2002). While galactagogues are quite controversial, and some even illegal in the United States (Cadwell and Turner-Maffei, 2014), they are widely used as a means to sustain or increase a milk supply, relactate or induce lactation.

Relactation is a process that requires support, knowledge, commitment, and confidence. The perceived success of relactation is dependent on the mothers familial, social, and medical support, how dedicated the mother is, how willing the baby is, how long it has been since she gave birth or lactated, her expectations of the process and outcomes, and the reasons she weaned. Expectations of relactation range from replacing a bottle of artificial infant milk per day, to exclusively nursing the baby at the breast. Success falls anywhere in between, so long as the mother feels the task has been accomplished.

RELACTATION

A large study conducted by Auerbach and Avery found that the main reasons mothers chose to relactate included benefits to the baby (nutritional and emotional), the opportunities to nurture through breastfeeding, and the mother-infant relationship (1980). This sentiment is mentioned in a study by Marquis et al. (1998) that reviewed relactation practices in Lima, Peru. The average duration of breastfeeding reported in the Marquis et al. study is between nineteen and twenty-two months of age. Mothers who tried to wean often resumed breastfeeding, or never stopped because of the same reasons mentioned by Auerbach and Avery (1980). An in-depth review of relactation was conducted by the World Health Organization in 1998. Listed in the WHO review are indications for relactation which are as follows:
For case management in sick infants, such as those under six months of age with acute or persistent diarrhea, those who stopped breastfeeding before or during an illness, and those who have been artificially fed but cannot tolerate artificial milks.

For infants who were low birth weight, and who were unable to suckle effectively in the first weeks of life, and who required gavage or cup feeding.

For infants with feeding problems, particularly those under six months of age, whose mothers had difficulty establishing lactation or whose breast milk production has decreased significantly as a result of poor technique or mismanagement.

For infants who have been separated from their mothers, for example because they or their mothers were hospitalized.

In emergent situations, for infants who are unaccompanied; those who were artificially fed before the emergency; and those for whom breastfeeding has been interrupted. As many infants as possible should be enabled to resume or continue breastfeeding to help prevent diarrhea, infection, and malnutrition. A woman can relactate to feed one or more unaccompanied infants.

Individual situations, for example when a mother who chose to feed her infant artificially changes her mind or, in the case of adoption, to enhance mother-infant bonding as well as providing other advantages of breastfeeding.

When a woman is unable to breastfeed her infant, for example because she is severely ill or has died or because she is HIV positive and chooses, after counseling, not to breastfeed her infant. One option in these situations is for someone in the same community, such as a grandmother, to relactate to feed the child.

Relactation by relatives and community members is more common in countries other than the United States (Brown, 1978). Grandmothers and aunts are usually the ones who relactate for grandchildren, nieces, and nephews. Relactation, in these cases, is utilized mainly because of emergent situations, the mother falls ill, or is deceased. The main reasons for discontinuation of breastfeeding in the United States stem mostly from birth interventions and insufficient breastfeeding support in the first days post-partum (Smith and Kroeger, 2010; Muresan, 2010).
and separation of mother and infant(s) (Bose et al., 1981; Auerbach and Avery, 1980; WHO, 1998). Consequently, untimely weaning is a main reason for relactation whether for medical or emotional reasoning (WHO, 1998).

While health care organizations like the AAP, WHO, and CDC are aware of the practice of relactation, more medical practitioners, including obstetricians, gynecologists, pediatricians, nurse practitioners, etc. that come in contact with postnatal women and their children should be aware and knowledgeable of the process and protocols for relactation. Many practitioners agree that "Breast is Best" but don't know how to support mothers or encourage them to breastfeed, and often make recommendations that can be harmful to breastfeeding without realizing it. For example, to avoid any liability prescribers often suggest to "pump and dump" breast milk while on medications - without realizing that supplementation can be harmful and that the medication is more than likely safe to take while breastfeeding for both the mother and infant. Practitioners experience ethical dilemmas when counseling prenatal and postpartum women about their infant feeding decisions about making the mother feel guilty for her feeding choice (Lawrence and Lawrence, 2011). Breastfeeding education needs to be improved on all levels: by the individual healthcare consumers and practitioners, so there is a unanimous understanding of the importance of breastfeeding for the health of the mother and infant, environment, and society. By learning from those who have relactated, we can better understand the causes of untimely weaning and reasons for relactating specific to those who are affected. Breastfeeding success depends on a convoluted trajectory of variables. Duration varies depending on demographic, biological, social, and psychological variables (Thulier and Mercer, 2009). Some of these variables include, but are not limited to, age, education, socioeconomic status, race, methods of delivery, infant health problems, maternal work, support, prenatal maternal intention, and maternal confidence.
Interventions could be developed based on the variables found to be most pertinent to breastfeeding cessation and the need for relactation. Employing effective strategies based on the findings of this study could help to ensure that breastfeeding gets off to the best start, and hopefully reduces the need for relactation based on untimely weaning.

A few prominent studies from the seventies and eighties (Auerbach and Avery (1980), Brown (1978), and Bose (1981), examined some of the reasons for relactation. Auerbach and Avery conducted the largest study of relactation in North America to date. This was a case study reporting the experiences of 366 women who relactated. Women who participated in the Auerbach and Avery study were recruited from all over the United States and Canada, and were predominantly white, well-educated, and generally affluent. The study reported three primary reasons for relactation. These were untimely weaning, low birth weight, and hospitalization of mother or infant (Auerbach and Avery, 1980). This was a case-control study and the participants were mailed a 15 page self-report questionnaire to report on experiences they had with relactation between 1970 and 1977. While this data is helpful in understanding some of the reasons this group of women had for relactating over 40 years ago, some of the reasons may not be relevant for why women relactate today, particularly women who are well educated, affluent, Caucasian, and married. Further, this study used a survey approach and did not conduct any interviews with the women to more deeply understand the context and lived experiences of their relactation process. Other studies conducted examine the intervention techniques for relactation. A study conducted in Egypt found that education level, Baby Friendly practices, relactation protocols, and counseling skills were the key determinants to relactation success (Abul-Fadl, A., Kharboush, I., Fikry, M., and Adel, M., 2012). De et al. (2002) found that repeated suckling, support from a skilled lactation professional, co-sleeping (or sleeping with the baby), constant
skin to skin contact, and psychological support were all key factors to successful relactation in India. By studying the experiences of relactation in a set geographical area the researchers could determine the barriers and enhancers for relactation specific to that region. Large studies such as Auerbach and Avery’s case study are able to determine multiple reasons for relactation, but none that are specific to one geographic location (1980), as this study proposes to do. Studying a specific region also allows for more representation of demographic variables such as age, race, education level, and economic status as recruitment in one city might be more inclusive of diverse socio-economic status. It also allows for future implementations that are more community based in nature that can be tailored to the specific needs of Montana women. Brown examined the relevance of the practice for both industrialized and non-industrialized countries, and while the protocols are universal the way they are implemented varies depending on geographic location (Auerbach and Avery, 1980; Abul-Fadl et al., 2012; De et al. 2002; and Brown, 1978). The hospital postpartum experience has changed tremendously in the past forty years, and the reasons for untimely weaning have more than likely fluctuated as interventions have become mainstays of the birth experience; with half of the deliveries in the United States have one or more interventions (MacDorman, Declercq, and Zhang, 2010).

A formative study on the reasons for relactation is necessary in order to determine what barriers and enhancers exist for relactation. A qualitative interview approach will be used to better understand the experiences of women in Montana who chose to attempt relactation.
CHAPTER III: METHODOLOGY

PURPOSE OF STUDY

The purpose of this study was to examine the phenomenon of relactation as it pertains to women of Montana. The results of this phenomenological study could be used to further inform the researchers and health care professionals of any common patterns or themes related to women that choose to relactate. The intent of this study is not to be generalizable, but rather to present to the reader what the experience of relactation for the participants was.

RESEARCH SETTING

In 2010, Montana had a population of 989,415 residents. 91.4 percent of adults over 25 are high school graduates (national average is 85.4 percent) and 28.2 percent of adults hold a bachelor's degree (national average is also 28.2). Montana's median household income of $45,324 falls below the national average of $52,762. The majority of the population is Caucasian, 89.7% with 6.5% reporting Native American or Alaskan descent, 3.1 % reporting Latino or Hispanic descent, 2.5 % reporting two or more races, and the remaining reporting Black, Asian, or Pacific Island descent (US Census, 2010).

The table below depicts breastfeeding rates for the United States in 2010 and Montana in 2012, and the corresponding Healthy People 2020 Goals.
In 2009 there were 12,261 live babies born in Montana (US Census Bureau, 2012). Rates of babies ever breastfed in Montana are higher in comparison to other states, but don’t quite meet the 2020 HP Goals. Montana lags behind in every comparison of 2020 goals despite the growing support for breastfeeding throughout the state. There are Women's Infants and Children (WIC) sites throughout Montana that offer breastfeeding support, education, and "how to" materials, supplemental foods and vitamins, and breast pumps. There are also active La Leche Leagues (LLL) that meet regularly. There are several Certified Lactation Counselors and Consultants who are employed publicly and privately to assist mothers with breastfeeding. The CDC breastfeeding report card for Montana indicates there are 2.32 LLLL per 1000 live births and 3.73 IBCLCs per live 1000 births (CDC, 2011). The numbers for LLLL in other states range from 0.49 (WV) to 3.37 (VT), and IBCLCs from 1.37 (NV) to 13.34 (VT). Montana has a good record for breastfeeding initiation despite its lack of peer support and professional support (CDC, 2011).
Due to the nature of the research inquiry, a qualitative approach was the most appropriate method for the study. Qualitative designs seek to answer "why" something is happening, and in this study the researcher sought to determine why women in Montana chose to attempt relactation. The qualitative data for this study was collected through in-depth interviews with the participants. Descriptive data included age, income, education, marital status, and number of children.

Phenomenology

A phenomenological study seeks to determine the lived experience of individuals regarding a specific shared concept or phenomenon (Doyle, Ward, and Oomen-Early, 2010). Phenomenology’s approach is to suspend all judgments about what is real until they are founded on a more certain basis, a suspension also known by Husserl as *epoche* (Creswell, 1998). This study attempted to do just that in order to present the most representative data as possible in regards to the phenomenon of relactation for the study participants. Data was collected by interviewing individuals who had the shared experience of relactation. Commonalities were sought across the data from the interviews to understand the collective lived experience of the phenomenon of relactation in Montana.
DATA COLLECTION

PARTICIPANTS

Participants included any Montana resident who gave birth within the last five years who chose to attempt relactation for a child they gave birth to. Participants were recruited by convenience and snowball sampling. Members of the Montana breastfeeding community were asked to refer to the researcher anyone they know of that has attempted relactation. Members of the breastfeeding community included lactation specialists, WIC employees, Missoula City Health Department employees, La Leche League Leaders, and hospital lactation staff. This study was a collaborative state-wide effort involving the existing breastfeeding community. The researcher depended on those members to recruit participants to the study.

INTERVIEW SETTING

Interviews took place where it was convenient for the participants. The space included a quiet, private place where the mother felt comfortable talking about her experience of relactation.

INTERVIEWER

The interviewer was a female graduate student with an emphasis on Community and Public Health in the Health and Human Performance Department at the University of Montana-Missoula. She was responsible for acknowledging biases, conducting interviews, analyzing data, and composing the findings.
Verbal Consent/Informed Consent

The interviewer began the formalities of the interview at the scheduled meeting times. A list of the inclusion criteria every participant must meet was reiterated, and each participant was asked to confirm her ability to meet those requirements (attempted relactation in Montana within the last five years with a child she gave birth to). Then, each participant was given the opportunity to ask questions or address concerns. Once every aspect of the procedure was settled and proceeding had been verbally confirmed, the participant was asked to sign the Participant Informed Consent Form. Finally, a copy of the informed consent form was given to the participant, and the researcher began the interview with a brief description of the informal, mildly-structured style of the interview.

Interview

The researcher began the interview by asking the participant to recall her experience of relactation. Each in-depth interview was audio recorded, minutes of what was said and seen were noted, and the data gathered was transcribed shortly after the interviews. It was estimated that saturation of content would be reached at or before ten participants. When common themes were found in the interviews, saturation was reached and the analyzing of data began. Each transcript was critically analyzed and interpreted for meaning, and validated in a follow-up meeting with the researcher for verification of correct interpretation. The principal investigator and another researcher read the transcripts and constructed coding categories based on interpretative phenomenological analysis. To construct the initial coding scheme, the primary researcher reviewed all transcripts and developed a draft of the coding frame. Then, one other
researcher with expertise in qualitative methods applied the initial coding frame to text in the transcripts to determine reliability of the initial coding scheme. A summary of the interview was composed and sent to each individual for approval of content as a second form of triangulation. Triangulation is a powerful technique that facilitates validation of data through cross verification from more than two sources. The purpose of triangulation in qualitative research is to increase the credibility and validity of the results. This study utilized a type of triangulation known as investigator triangulation, which involves using different investigators in the analysis process (Guion, Diehl, and McDonald, 2012). The findings from each researcher were compared to develop a broader and deeper understanding of how the different investigators view the phenomenon of relactation. The findings from the different evaluators arrived at the same conclusion, and confidence in the findings was then heightened.

\textit{DATA ANALYSIS}

Interpretative Phenomenological Analysis (IPA) was used to analyze the data. It is a qualitative research approach committed to the examination of how people make sense of their major life experiences (Smith, Flowers, and Larkin, 2013). The essence of IPA lies in its analytical focus, which directs attention towards our participants’ attempts to make sense of their experience. Smith (2007) describes it as an iterative and inductive process which draws upon different processes such as line by line analysis of experiential claims, concerns, and understandings, the identification of emergent patterns, the development of a dialogue between the researcher, their coded data, and their psychological knowledge about what it might mean for the participants to have these experiences, and lastly the development of a structure or frame which illustrates the relationships between themes (Smith, Flowers, and Larkin, 2013). The steps suggested for the
analysis include reading and re-reading the interview, initial noting, developing emergent themes, searching for connections across emergent themes, and looking for patterns across different cases.

PROTECTION OF HUMAN SUBJECTS

The research project in its entirety and consent forms were reviewed and approved by the University of Montana Institutional Review Board (IRB). Information regarding the participants and their experience was only used for purposes of the study and was only seen by the principal investigator and researcher. The participants remained anonymous in the write-up to protect their identity. Data was kept in the Health and Human Performance Department office under lock and key, and destroyed upon the completion of the study. The information was kept completely confidential.

THEORETICAL FOUNDATIONS

**SOCIAL COGNITIVE THEORY**

Social Cognitive Theory states that we learn behaviors through observation, modeling, and motivation such as positive reinforcement (Bandura, 1998). Learning is also strengthened if someone models a behavior he or she has seen rewarded. This leads to a motivation for the person to model the behavior in order to get a similar reward. The social cognitive theory is utilized in this study to frame breastfeeding and relactation as the participant views it. It is important to understand how the participant views breastfeeding and relactation in the aspects of familial breastfeeding patterns, peer patterns, and motivation to initiate relactation. Reciprocal determinism of the Social Cognitive Theory states that environmental factors, behavioral factors,
and personal factors are all determinants of human functioning, and that reciprocal nature makes it possible for therapeutic and counseling efforts to be directed at personal, environmental, or behavioral factors. For the purposes of this study, it will be used to divide main themes of the interviews for further analyzing. Personal factors are things like demographics, personality, motivation, self-confidence, and cognitive factors, environmental factors are all the factors that can affect a person's behavior, but are external to the person, and behavioral capacity refers to the possession of knowledge and skills to perform the behavior. A comprehensive approach to health promotion of breastfeeding requires changing the practices of social systems that have widespread detrimental effects on health rather than solely changing the habits of individuals. People's beliefs in their collective efficacy to accomplish social change, therefore, play a key role in the policy and public health approach to health promotion and disease prevention (Bandura, 1998).

**Theory of Planned Behavior**

The Theory of Planned Behavior proposes that a behavior is based on the concept of intention, or the likelihood that someone will engage in a particular behavior (Hayden, 2009). There are four constructs to the theory: behavioral attitudes, subjective norms, volitional control, and perceived behavioral control. Attitudes are formed by beliefs and result in value of a behavior, subjective norms are perceived social pressure to engage or not in a behavior, volitional control is the control to decide in whether or not to participate in a certain behavior, and behavioral control is perceived control over performance of a behavior (Hayden, 2009). A woman certainly has to believe in her ability to breastfeed (e.g., self-efficacy), but she also needs to believe she is in control of the behavior.
CHAPTER IV: RESULTS

The purpose of this study was to describe the lived experiences of relactation for women living in Montana by conducting interviews with women who have experienced the process of relactation. There were initially twelve participants, but two of the interviews were not used as it was questionable whether their experiences were applicable to the process of relactation. For the remaining ten interviews that comprise the data set, all participants met the study criteria for relactation. The interview data were analyzed using Interpretative Phenomenological Analysis. Participants completed a 21 item demographic and experiential survey at the end of the interview. These data were analyzed using SPSS Version 22.

SAMPLE DESCRIPTION

DEMOGRAPHIC AND EXPERIENTIAL SURVEYS

The study participants resided in four different counties across western Montana, which include Mineral, Missoula, Lewis and Clark, and Gallatin counties. There was one participant from Mineral County, six from Missoula County, two from Lewis and Clark County, and one from Gallatin County (Figure 1).
Figure 1: County Map of Montana Where Participants Reside

Descriptive data for the 10 participants (Table 2) show the average age of the ten participants was 31 years old, and the age range was between 28-43 years old. Eight of the interviews were conducted face to face, one was over the phone, and one was through email. Nine of the participants reported being married and one reported being in a long term committed relationship. Eight participants had one child and two participants had two or more children. Three participants had Graduate degrees, four had Bachelor’s degrees, and three had attended some college. Eight of the ten participants reported their income level. Six participants reported making between $15,000 and $45,000 a year, and the other two participants reported making more than $45,000 in a year.
The second part of the survey asked participants about their birth and breastfeeding experiences through categorical and open-ended questions. A few participants reported experiencing depression at some point during their lives. The majority of participants had a vaginal delivery. Of those, one was a vaginal birth after Cesarean at home. The others had Cesarean Sections. Only one was emergency and the others were planned. Gestational age ranged from 37 to 42 weeks. The average gestational age was 39 weeks and 4 days. A couple of the participants reported excessive hemorrhaging postpartum.
The survey asked when the participants believed they first experienced breastfeeding issues. These responses ranged from day one to six months with the average onset of breastfeeding issues being two weeks. The women reported using the following items for sore breasts—two participants had used gel smoothies, four participants used a nipple shield, eight participants used lanolin, five participants used nipple cream, and two participants used prescription all-purpose nipple cream. The survey asked what methods of assisted feeding practices were used, and many participants reported using more than one to assist their baby with feeding. One participant used a feeding tube, 4 participants used a finger feeding method, four participants used a cup feeding method, and three participants used a supplemental nursing system (SNS). All the participants reported using bottles with their babies. Most of the participants reported latching difficulties. When asked if the participants felt their babies were always hungry, most felt like they were; while half reported their babies cried excessively. Table 3 reflects difficulties that might have led to breastfeeding issues for the participants.

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<th>Participant</th>
<th>Tight frenulum, lip tuck, torticollis, and/or high palate (latching difficulty)- leading to low weight gain</th>
<th>Food allergy</th>
<th>Colic- excessive or abnormal crying</th>
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Table 3: Issues Related to Breastfeeding Difficulty
Analysis of the interviews fell into two main categories: Perception of Experience and Factors Affecting Breastfeeding Outcomes. Emergent main themes, and related sub-themes and elements pertaining to the experience of relactation were identified within these two categories. The five main themes within the first category were feelings about breastfeeding, feelings about formula feeding, feelings about relactation, feelings about support, and reasons to continue breastfeeding. The main themes within the second category were possible causes for decrease in milk supply, and expectations of breastfeeding. Quotes from the participants will be used that illustrate the lived experiences for the themes, sub-themes, and elements within the first two categories. Figure 2 shows the themes, sub-themes, and elements for category 1.
Category 1: Perception of Experience

Perception of experience reflects the emotions felt by the participants about feeding methods and the process of relactation. Five main themes emerged within this category. Each theme was divided into related sub-themes and elements to help organize the data.

**Theme 1: Feelings about Breastfeeding**: sub-themes within Theme 1 describe positive and negative feelings towards breastfeeding, and types of emotion experienced within these feelings. All participants expressed negative feelings about breastfeeding. The six elements identified within the sub-theme of negative feelings were failure, pressure, stress, rejection, abhorrence, and anger. All participants expressed a sense of failure in one way or another whether it was feeling like a failure for quitting breastfeeding, losing their milk, or feeling like their own bodies had failed them. Half of the women reported their babies were colicky, and four had babies with a tight frenulum or lip tie; which can make nursing a difficult and tedious experience. The element, feelings of pressure describes the types of pressure felt by the participants whether it was social or familial, or pressure they put on themselves. The element, feelings of stress describes the different stresses felt by the participants. The element, feelings of rejection describes the situations which made the participants feel rejected by their babies. More than half of the women in this study reported feeling a strained or absent bond with their child. The element, feelings of abhorrence reflects the participants’ feelings about nursing a difficult baby and how that is reflective upon their breastfeeding experience as a whole. The element, feelings of anger reflects instances when the participants experienced anger towards their babies, spouses, or people around them.
Theme 1: Feelings about Breastfeeding

Sub-theme: Positive Feelings about Breastfeeding

“I had zero problems getting up in the middle of the night. You’re tired... it’s okay, it’s fine. You get to see them nurse; [crying] I cherish that more than anything. Those are special moments for sure, no one else gets those; I get those.”

“You know, I have to say it (breastfeeding) is so rewarding, too [beginning to cry]. I’m so proud of myself to have been able to have given her that start, you know? I’m really proud of myself for being able to do that.”

“You know, we had our moments. I really enjoyed occasionally laying down and nursing. It was an intimate time, a quiet time.”

Sub-theme: Negative Feelings about Breastfeeding

Feelings of Failure

“All my life, especially while being pregnant, I was under the impression through friends, family, and even media that breastfeeding is one of the most natural things in the world. And I suppose it is, but not for everyone. That being said, when it’s your turn to provide milk for your child and your body doesn’t perform the way you think it should, it makes you feel like less of a woman, an unfit mother, and a complete failure. At least, that’s how I felt for a long time.”

“I felt like I was failing, like I was doing something wrong. Here I was in my only thing that I had to do in life at that time, take care of my son, and I remember I went to the hospital for his weigh in and he hadn’t gained weight. As soon as I saw it (the scale) I started to burst into tears, and I just thought I had... I wasn’t a good mom and I couldn’t do it. It was just devastating, really. The one thing I’m supposed to do and I can’t.”

“I wanted to breastfeed my kids for at least over a year, you know? Everyone has a breastfeeding goal, I think, and mine was a year, and I breastfed my son for 13 months and then with my daughter, um we stopped at 5 months. So it was sad to me, you know, I felt like a failure.”
“I had this goal in my head; which is a super extreme goal of never wanting to give formula, ever, and you know, you kinda feel like a failure when your milk is going away and then that (formula) might be your option.”

“I felt like I was failing her at being her mother”.

“It just tore me up because I felt like everyone was judging me; how can this person not do something so simple that I can do and enjoy? How can this person fail at it- it’s a physician’s wife.”

"I still feel like I didn’t try hard enough, you know? That’s a regret more than anything- that I could’ve tried longer. It was more like I gave up because [starting to cry] it was so hard for me, and part of it was a lack of bond, you know- that I regret not trying to have a better bond because I feel like it's a big part of bonding with your child.”

Feelings of Pressure

“She’s always been small, but appropriate small. Anyway, so you always have that pressure to give them more. That feeling of you can’t do it, but you need to because you are the only one that can make that (breast milk) and you are the only one who can supply that.”

“I think that going back to work too is hard because you are expected to perform, I was in a position where I was trying to gain a full time position. There’s a lot of pressure to perform at a higher level.”

“I would say social pressure was 50 percent of my decision to breastfeed when I was pregnant.”

“And, eventually it really started to affect both my husband and my relationship with the baby. I hated him. I resented nursing. I felt incredible pressure to continue to nurse him. I didn’t want to; I didn’t like it.”

“I put so much pressure on myself when my milk supply started to dwindle.”

Feelings of Stress

“Why couldn’t I just get it right? For that initial crisis point, um, [big sigh]it was stressful. I was pumping every two hours and then often times pumping and her nursing would not be in sync and so I wasn’t getting any sleep.”
“We were living in crisis management for a really long time. I think it became to where we had kind of post-traumatic stress disorder, but we hadn’t gotten to the post part, yet.”

“I was, of course, also very stressed about not being able to breastfeed and I just couldn’t let go of the thought that I was obviously not a natural mother; how could I be if I couldn’t feed my child?”

“I had to go through a long process of pumping, bottle feeding, and SNS in order to even get my daughter to gain any weight. So the first two months were, needless to say, stressful for me as a new mom.”

Feelings of Rejection

This participant is reflecting on her previous breastfeeding experience and talking about the differences between her two children. “(He) and I had such a cuddly experience and her and I had more of a… it was more like this is meal time and when she was done she would push me away.”

This participant is talking about breastfeeding after the introduction of formula in a bottle. “She (baby) was like this was easy, and it made her full, and you know… so after going back to breastfeeding after 24 hours she rejected me even more. I feel like at that time she didn’t want…(me).”

This participant is also talking about giving a bottle to see if it helped her baby, and how it made her feel. “What happened was we got that first bottle. I thought he hates my breast milk, he hates nursing… I’m done”.

“He was such a champ at breastfeeding. So with (her), it wasn’t an attachment thing, and that was really hard on me.”

“She could have cared less about it (weaning). So I think the fact she was like I’m done feeding… go away was that she didn’t want to cuddle.”

Feelings of Abhorrence

“He was my second son and he was very colicky, and not necessarily the easiest baby to nurse. He was always very fidgety. Our relationship was always kinda funny. Ever since he was born he was always a fidgeter and it (breastfeeding) was never an easy experience. And
so there was that I didn’t necessarily enjoy that part, that relationship with him because it wasn’t this calm, peaceful... he was always pinching me. He was just kinda irritating when he was nursing.”

“He would, when I would latch him on, I would have to help him a lot. He would flail, he would fight, he especially didn’t like laying down on the side that I had milk. And we tried different positions but he just really struggled.”

“He’s always been crazy distracted. He kicks, punches, pulls... it’s like wrestling a 20lb. bag of snakes.”

“For a long time it was a battle. It was a huge, I mean, every time I would go look at the clock and go oh my gosh, he’s gonna want to nurse, and it was this huge anxiety.”

“I think you always go back to those first eight weeks. Bleeding every single day, toe-curling pain... I had to sit against a wall and would nurse her with my back against a wall because I wanted to get away from the pain but the wall was there to keep me there.”

Feelings of Anger

“We live in a community that has a strong breastfeeding culture, and so when I was having problems, I felt a lot of shame, I felt a lot of loneliness, I felt a lot of disappointment, and I also felt angry with people for saying it’s easy.”

“My anger in the beginning, especially in the beginning, about why no one told me this hurts so bad is because the pain I was feeling was much worse than the normal (person).”

“No one I encountered while I was pregnant in my prep, even the other breastfeeding moms-I feel, were honest of that (the pain) because I don’t think they want to scare people. So I was very disillusioned with breastfeeding.”

**Theme 2: Feelings about Formula Feeding:** subthemes within Theme 2 describe positive and negative feelings towards formula feeding. While some of the participants were thankful for formula, they reported feeling judged for its use as well as feeling weak for needing it. It was common for participants to express both positive and negative feelings about formula.
Theme 2: Feelings about Formula Feeding

Sub-theme: Positive Feelings about Formula Feeding

“I realized quickly that formula is not the devil that many people portray it as; in fact, I thank the heavens for it because my daughter would not be alive without it. I kept thinking, what if this was a pre-formula historic age… my infant would have never survived.”

“It (formula) was definitely a relief. It was easier to allow dad to take over some of the feeding roles, too. It definitely made life easier.”

Sub-theme: Negative Feelings about Formula Feeding

“While I had a strong support and fun loving group of women I could talk to and commiserate with, I couldn’t help but constantly compare and sometimes, unfortunately, feel judged for my use of formula. Although most of them knew my troubles as to why I wasn’t exclusively breastfeeding, a downturned nose did happen every now and again.”

“I’m doing what I think is best, and for us unfortunately that means some formula. I still don’t feel awesome about it. It made me feel weak.”

“I remember when I fed him that bottle and I was still not feeling really well, and it was weird, you know, giving my child a bottle because I could never picture myself doing that.”

“It was a defeat to me and a detriment to my daughter to say that her only option was formula.”

**Theme 3: Feelings about Relactation:** subthemes within Theme 3 describe positive and negative feelings towards relactation. Some participants reported being very thankful for having undergone the process of relactated, but reported it was a stressful and isolating process.
Theme 3: Feelings about Relactation

Sub-theme: Positive Feelings about Relactation

“I felt like my decision to relactate was me taking charge of the situation. It was a symbolic thing, a defining part of my life. It helped me make peace with what had happened.”

“I felt empowered as a mother to share that experience because the medical field doesn’t necessarily give you other options. When you are really worried about what you are putting into your body and what your child is consuming, it’s so nice to know that there’s something you can do naturally to help in that situation and that formula isn’t the only option.”

“It was a pretty amazing experience to know that I didn’t have to be done (breastfeeding) because at one point I thought it did.”

“He and I have a different bond in the sense of how I can comfort him and just me alone—how I comfort him.”

“I mean, the big part of it has been, I just feel good about myself having brought all that back (milk supply), and continuing with the regiment.”

"It was a defining part of my life. And that I still have some regret about decisions we made and the way things played out, but once I decided what I needed to set out and try and accomplish, once I decided to go back, in accomplishing that I made peace with it in the way I would not have if I had not tried relactating.”

"The decision (to discontinue the relactation effort) was very difficult because at first I instantly felt like a failure again, but after only a few days I became fully aware that it was the right choice because I was able to enjoy every second with my little girl, uninterrupted. I also realized that I had done all that I could, and that made me at peace with my body and mind. I found joy in knowing I had done all I could, and that I was finally able to focus 100% on my baby without the demon of disappointment in the back of my mind. It was an eye opening experience that was traumatic, but also helped to teach me to not have self-doubt or to self-criticize. I don’t regret my effort to relactate, and would recommend it to any mother who was/in the same situation.”

"I know what I’ve done for her is huge by not giving up, and for her to see that. They say they’re not going to know, but I think kids are a lot more perceptive than we give them credit for. She knows the struggle. To have them see that and feel that and know that my parents would have gone the lengths for me, although they may think they don’t know it at this age, but I they do.”
Sub-theme: Negative Feelings about Relactation

“I got really isolated where I had to spend so much time of my day nursing him that we couldn’t go anywhere, he couldn’t nap anywhere because I needed to nurse him to nap, and people didn’t understand that.

“The breast compressions were a lot... I didn’t want to breastfeed in public because I was using both arms and both hands and it wasn’t as, um, decent as other women breastfeeding in public. I was weary of that.”

“If it was nighttime and he was going to nurse I woke him up every 2-2.5 hours. If I did let him sleep I would pump. It was awful. I wanted to murder that alarm clock.”

Theme 4: Feelings about Support: subthemes within Theme 4 describe positive and negative feelings about support for breastfeeding. Support for the participants was from family, friends, lactation specialists, and medical providers. All of the participants reported having good spousal support, and most had good support from their parents and extended family. All but two participants reported having good support from lactation specialists, and two participants reported feeling discouraged by their medical providers.

Theme 4: Feelings about Support

Sub-theme: Positive Feelings about Support

“Friends that we know and people that we barely even knew sent us... two or three times a week, people would come to our house. We were really supported in a lot of ways, it felt so huge. In comparison to other people we did have, we really did have help.”

“While in the hospital for those few days, I had many helpful nurses and a few lactation specialists come by. Everyone said that the latch looked good and gave me some tips for when I got back home.”

“I was saved only by my family, especially my mother who cooked dinner, cleaned my house, and supported me mentally through a very tough time.”
“I felt listened to and I felt like she was trying to actually give me advice other that this is what it is and just wait for it to end.”

“She said, you keep that baby at the breast and don’t let him forget how to nurse.”

Sub-theme: Negative Feelings about Support

“I talked with an LC about that (meds for relactation) and she wasn’t actually very receptive. She was pretty discouraging, and I think that if I had been more encouraged, if I had somebody with that knowledge- or had spoken to someone with that knowledge- maybe we could have come to that (increasing supply) sooner, maybe even before I quit.”

“I wasn’t willing to let someone tell me I had to stop when they may not have breastfed their kids, or they may not have kids, or if they were male. He doesn’t know what it’s like to breastfeed. He doesn’t know that connection, that bond, and the importance for a mom.”

“I felt like colic was just a diagnosis when they didn’t have the answer. Just a filler.”

“She said, oh no- its (breastfeeding) not supposed to hurt. I feel like that was the biggest disservice I got because at that point something was actually very wrong.”

"I looked online and emailed (a local mother to mother support group) and just wrote them asking for help or suggestions, but I did not get an email back from them and that was a turn-off.”

**Theme 5: Reasons to Continue Breastfeeding/Initiate Relactation:** sub-themes within Theme 5 were nutrition, bond/closeness, and instinct. Some participants had babies with gastrointestinal difficulties, and reported nutrition as the reason for relactation. Other participants reported longing for a closer bond, or missing the closeness that breastfeeding provided for them as the reasons for relactation, while others reported being instinctually driven to provide breast milk after the breastfeeding relationship had ended. In addition to the reasons expressed, persistence and the need to try everything before giving up on breastfeeding completely were also cited.
Some mother mentioned that breastfeeding was easier than formula feeding; more convenient, and another mentioned the cost of hydrolyzed formula prompted her to attempt relactation.

Theme 5: Reasons to Continue Breastfeeding; to Initiate Relactation

Sub-theme: Nutrition

“Every ounce of breast milk is a gift, and if you can give as much as you can, then that’s the best gift you can give your baby.”

“I figured any amount was a good amount and that every drop counted.”

“I had planned on storing enough milk for him to go back to work so that we could rotate through fresh and frozen milk. By that point I’d had enough (of breastfeeding) but I’ve always been one of those (over prepared) people. You hear those horror stories of freezers going bad or whatever, so that’s why I brought it (milk supply) back.”

Sub-theme: Bond/Closeness

“I think of all the benefits for him and all that, and not only benefits health wise, but for us... for the relationship that we had.”

“I just missed it (breastfeeding). It’s a connection, and it’s a bonding thing.

“There’s just something about breastfeeding- just being able to provide for your child, and honestly, I liked the feeling of him being close.”

“A lot of it (reason) was the emotional aspects of... I’m not ready to not feel needed or loved by my son because... I don’t know, when they are so young you feel like they don’t even know you.”
Sub-theme: Instinct

“Breastfeeding was more social until I stopped and then it was more instinctual, it felt wrong (to quit).”

“I had this instinct to take care of him myself and not do anything that wasn’t natural.”

Category 2: Factors Affecting Breastfeeding Outcome

This category is divided into two main themes: possible causes for decrease in milk supply, and expectations of breastfeeding. Figure 3 depicts the themes, sub-themes, and elements within category 2.

Figure 3: Category 2, Factors Affecting Breastfeeding Outcome Themes, Sub-themes, and Elements

<table>
<thead>
<tr>
<th>Category</th>
<th>Theme</th>
<th>Sub-theme</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 2- Factors affecting breastfeeding outcome</td>
<td>possible causes of milk supply decrease</td>
<td>mother</td>
<td>physical</td>
</tr>
<tr>
<td></td>
<td>expectations of breastfeeding</td>
<td>baby</td>
<td>mental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>medical intervention</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>physical</td>
</tr>
</tbody>
</table>
Theme 1: Possible Causes for Decrease in Milk Supply: the subthemes identified within Theme 1 were causes related to mother and causes related to baby. Elements related to the first sub-theme were physical, mental, or medical interventions. The element, physical reflects issues with milk production or letdown. The element, mental reflects mental issues that inhibited breastfeeding. The element, medical interventions reflects an intervention that could have led to a decrease in supply, such as having a breast incised, a tooth extracted, or taking a prescription that was contraindicated by the prescriber. The element related to the second sub-theme (i.e., causes related to the baby) were physical.

Theme 1: Possible Causes for Decrease in Milk Supply

Sub-theme: Causes Related to Mother

Physical

"My breasts never felt heavy or grew much in the way most women experience. The fullness that usually happens didn't occur with me."

"I had my wisdom teeth pulled and had been told to not nurse for 24 hours. So I gave formula. She took the formula like a champ, of course."

"I worked with (a local women's health specialist) to find out if there was some reason behind it (decrease in supply) some medical reason. I ended up having a high thyroid."

"I've never been able to pump... there's something about my anatomy. Lactation consultants have told me they think I have Reynaud's, which is... yeah, I'm sure you know what that is."

Mental

"She cried like she wanted more, and my let down would take longer and longer. I did look online and tried to research ways to improve my supply, improve my letdown. I don't think it
helped because I could not get out of my mind that, oh my gosh, now she's crying... now she's screaming... my letdown is not coming. It felt like it was almost mentally, I was stopping my milk."

"I was angry, you know? Part of that was I was a little depressed and didn't admit to it. Finally when I started admitting to it that I was depressed I could focus on changing my emotion, changing my behavior... I feel a lot better, but it has been three years."

"I was not recognizable to myself. It was at a point where I needed... I went to see my counselor and she prescribed... I asked for help. I had hit bottom and, you know she had me on Zoloft because it was... the most number of studies had been done for babies that were nursing, so uh. But unfortunately it didn't come in time [beginning to cry]."

Medical Interventions

"I had a surgery when I was 23 years old and it was an emergency surgery for bleeding from my right breast. They had removed more than half of my ducts on that side."

"I took 50mg of Benadryl (for a full body hives reaction). I didn't have hives anymore, but my supply dried up. And everybody says it doesn't mess with your supply... it totally did the same exact thing as the Benadryl."

"Finally I went to the (local hospital). I believe they said I needed an ultrasound on my breast, and they saw there was all this infection. And it was just massive. So what they did, they lanced my breast and got all the infection out of there and put me on antibiotics. So uh, I was sick on top of all this with a fever of 103/102 temperature. So after all that happened the last thing I wanted to do was, he was not going to suck on that breast."

"I was told in the ER (after emergency surgery) that not only did I have a huge pocket of infection, but that I also had an area of necrosis on my boob where the pressure was being put from this infection (a galactocele). Um, so needless to say, they drained 10 ounces of pus from my right boob, and I had a drain in there for a week and a half. The surgeon told me to stop nursing all together because I ran the risk of the wound not closing and developing something called a milk fistula."
Sub-theme: Causes Related to the Baby

Physical

"At her two week appointment, my pediatrician said she hadn't gained as much weight as she probably should have. She checked under her tongue and saw that her frenulum was just a little tight, and that might be creating a condition called "tongue-tie" which could be hindering breastfeeding."

"We found out he had torticollis, so he was tight on one side. So the side that was producing milk, my left… he was too uncomfortable to eat."

"I had sore nipples, I think at one point we did get a cracked one. Um, so I also think that meant we couldn't quite get the latching… it wasn't happening right. I think she was pulling off or something like that. It was determined that she had a very slight, but still there, tongue tie."

Theme 2: Expectations of Breastfeeding: reflects the preconceived ideas about breastfeeding and goals the women set before having children. Many participants expected that because breastfeeding is a natural process that it would be easy as well; that their bodies would do as nature intended and easily produce milk. Every participant mentioned a breastfeeding goal they set, whether it was before or after they had a baby. They were very specific about how long they wanted to breastfeed.

Theme 2: Expectations of Breastfeeding

"I thought breastfeeding was a choice, a simple choice. You put that baby on your boob and then you deal with it. I did not understand how hard it is."

"I wanted to breastfeed him for a lot of reasons. For convenience, I wanted to breastfeed him on flights and after he got shots, and to comfort him. I always wanted that as a tool to be able to comfort him."
"I always had the goal of nursing for a year— that was always my goal. And then I kinda changed my mind; I was just going to nurse as long as she wanted to nurse."

"I didn't do much research on breastfeeding before I had him because I just thought it was gonna be... you know, easy. So many women have done it before, and it was natural."

"I had my mind set. There was no alternative for me. When I was pregnant, and at first I was like breastfeeding is the way God wanted it to be, it’s the best for baby, good for me- and then I ran into all these difficulties."

"It is natural, it’s just the way it’s supposed to be, and so I thought it was going to just be really easy."

"I had heard all these horror stories about women not being able to breastfeed or the child not latching or those sorts of things. It was really important to me, I didn’t see that coming, it was really important to me towards delivery to breastfeed. I wanted to do everything a "woman's body is supposed to do".... There were issues that I didn't expect to have. I think that's what threw me."

"I realized I think all too late that I thought breastfeeding would come a bit more naturally. I'm a little chagrinned to say that because I was so well prepared for so much else."
CHAPTER V: MANUSCRIPT

BACKGROUND

Human breast milk is uniquely suited to the human infant’s nutritional needs. Breast milk is a live substance with immunological and anti-inflammatory properties that protect against a host of illnesses and diseases for both mothers and children (Lawrence and Lawrence, 2011). Research shows that mothers without reliable perceived support, access to breastfeeding support groups, lactation specialists, or support from family could lack the confidence to breastfeed or may discontinue breastfeeding before the recommended amount of time (Lauwers and Swisher, 2011).

A process known as relactation is becoming more widely used to re-establish a breastfeeding relationship between mother and child. Relactation is the process of re-establishing a breast milk supply that has diminished or ceased. Reasons women relactate include untimely weaning, separation of mother and infant due to premature birth or illnesses, infant is unable to tolerate artificial infant milks, or natural disasters like earthquakes and hurricanes (Wiggins, 2007; AAP, 2007). A mother needs access to knowledgeable healthcare professionals who can assist her with the process of relactation. She also needs to have support from family, friends, and providers that can encourage her and empower her to successfully relactate.

The CDC breastfeeding report card shows that frontier states such as Montana, Colorado, Wyoming, Washington, and Idaho have better breastfeeding initiation and duration rates than the Southern, Midwestern, and most Eastern states (CDC, 2011). While the general reasons for
relactation are understood (WHO, 1998), it is not known what the experience is like for Montana women. Thus, the purpose of this phenomenological study was to explore the lived experience of women in Montana who have attempted relactation.

METHODS

PARTICIPANTS

Participants included any Montana resident who had given birth in Montana within the last five years who attempted relactation for their child. Members of the Montana breastfeeding community (e.g. lactation specialists, WIC employees, City Health Department employees, and La Leche League Leaders) helped recruit participants to the study using convenience and snowball sampling techniques. After the interviews, participants completed a 21 item survey that asked them to provide demographic and breastfeeding experience information. The survey captured this information through categorical and open-ended questions. Eight of the interviews were conducted face to face, one was over the phone, and one was through email. Saturation was reached around six participants when common themes emerged, primarily feelings about breastfeeding and relactation, and preconceived ideas about breastfeeding. Participants seemed to express the same feelings with descriptive words and non-verbal communication; even though they all had different experiences.

DATA ANALYSIS

Interpretative Phenomenological Analysis (IPA) was used to analyze the data. IPA is a qualitative research approach that examines how people make sense of their major life experiences (Smith, Flowers, and Larkin, 2013). The essence of IPA lies in its analytical focus,
which directs attention towards our participants’ attempts to make sense of their experience. Smith (2007) describes IPA as an iterative and inductive method which draws upon different processes such as line by line analysis of experiential claims, concerns, and understandings, the identification of emergent patterns, the development of a dialogue between the participant and the researcher, coded data, the participant’s psychological knowledge about what it might mean to have these experiences, and the development of a structure or frame which illustrates the relationships between themes (Smith, Flowers, and Larkin, 2013). The IPA steps for analysis include reading and re-reading the interview, initial noting, developing emergent themes, searching for connections across emergent themes, and looking for patterns across different cases.

RESULTS

The ten study participants resided in four different counties across western Montana, which include Mineral, Missoula, Lewis and Clark, and Gallatin counties (Figure 1). The average age of participants was 31 years old, and the age range was between 28-43 years old. Three

Lewis and Clark County- n=2
Gallatin County- n=1
Mineral County- n=1

PARTICIPANT DEMOGRAPHICS AND BREASTFEEDING EXPERIENCES DESCRIPTIVE DATA
participants had Graduate degrees, four had Bachelor’s degrees, and three had attended some college. Nine of the participants reported being married and one reported being in a long term committed relationship. Birth and breastfeeding experience survey items and responses are summarized in Table 4.

### Table 4: Birth and Breastfeeding Experiences

<table>
<thead>
<tr>
<th>Item</th>
<th>Response (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Previous breastfeeding experience</strong></td>
<td>Breastfed child &gt; 1 year (2)</td>
</tr>
<tr>
<td><strong>Perceived support for lactation assistance</strong></td>
<td>Good support (8)</td>
</tr>
<tr>
<td></td>
<td>Poor and/or absent support (2)</td>
</tr>
<tr>
<td><strong>Perceived support from family for attempting Relactation and perceived outcome</strong></td>
<td>Good support and felt successful (8)</td>
</tr>
<tr>
<td></td>
<td>Good support but felt unsuccessful (2)</td>
</tr>
</tbody>
</table>

**INTERVIEWS**

Analysis of the interviews identified emergent themes, related sub-themes, and elements pertaining to the experience of relactation. Themes, sub-themes, and related elements fell into two main categories- perception of experience, and possible factors affecting breastfeeding outcome. The most commonly expressed feelings about breastfeeding and relactation occurred within the theme, Perception of Experience. Participants had more negative than positive feelings about breastfeeding. This finding was not surprising given the fact that all participants experienced some level of difficulty with breastfeeding. Those feelings expressed were failure, pressure, stress, rejection, abhorrence, and anger. All participants expressed a sense of failure in one way or another; whether it was feeling like a failure for quitting breastfeeding, losing their milk, or feeling like their own bodies had failed them. Participants reflected on the social and familial pressures they felt, as well as the different stresses experienced through breastfeeding and relactation. A few of the participants felt rejected by their babies, while more than half of
the participants felt a strained or absent bond with their child. Although some participants were thankful for formula, they felt unfairly judged for using it and weak for needing it. Some participants felt thankful for going through the process of relactation, but thought it was a stressful and isolating experience.

Reasons for relactating were discussed by each participant. Some identified nutrition as the reason for their relactation effort. Others reported longing for a closer bond with their infant, or missing the closeness that breastfeeding provided for them, and some reported being instinctually driven to provide breast milk after they stopped breastfeeding their child. Two other reasons to continue breastfeeding/initiate relactation included persistence and the need to try everything before giving up on breastfeeding completely, and breastfeeding was easier and more convenient than formula feeding and formula cost. Below are examples of the most prominently expressed perceptions of experience-

“All my life, especially while being pregnant, I was under the impression through friends, family, and even media that breastfeeding is one of the most natural things in the world. And I suppose it is, but not for everyone. That being said, when it’s your turn to provide milk for your child and your body doesn’t perform the way you think it should, it makes you feel like less of a woman, an unfit mother, and a complete failure. At least, that’s how I felt for a long time.”

“I felt like I was failing, like I was doing something wrong. Here I was in my only thing that I had to do in life at that time, take care of my son, and I remember I went to the hospital for his weigh in and he hadn’t gained weight. As soon as I saw it (the scale) I started to burst into tears, and I just thought I had... I wasn’t a good mom and I couldn’t do it. It was just devastating, really. The one thing I’m supposed to do and I can’t.”

“I felt like I was failing her at being her mother.”

“It just tore me up because I felt like everyone was judging me; how can this person not do something so simple that I can do and enjoy? How can this person fail at it— it’s a physician’s wife.”
“Why couldn’t I just get it right? For that initial crisis point, um, [big sigh] it was stressful. I was pumping every two hours and then often times pumping and her nursing would not be in sync and so I wasn’t getting any sleep.”

“We were living in crisis management for a really long time. I think it became to where we had kind of post-traumatic stress disorder, but we hadn’t gotten to the post part, yet.”

“We live in a community that has a strong breastfeeding culture, and so when I was having problems, I felt a lot of shame, I felt a lot of loneliness, I felt a lot of disappointment, and I also felt angry with people for saying it’s easy.”

"It was a defining part of my life. And that I still have some regret about decisions we made and the way things played out, but once I decided what I needed to set out and try and accomplish, once I decided to go back, in accomplishing that I made peace with it in the way I would not have if I had not tried relactating.”

"I still feel like I didn’t try hard enough, you know? That’s a regret more than anything- that I could’ve tried longer. It was more like I gave up because [starting to cry] it was so hard for me, and part of it was a lack of bond, you know- that I regret not trying to have a better bond because I feel like it’s a big part of bonding with your child.”

"I know what I’ve done for her is huge by not giving up, and for her to see that. They say they’re not going to know, but I think kids are a lot more perceptive than we give them credit for. She knows the struggle. To have them see that and feel that and know that my parents would have gone the lengths for me, although they may think they don’t know it at this age, but I they do.”

“I felt like my decision to relactate was me taking charge of the situation. It was a symbolic thing, a defining part of my life. It helped me make peace with what had happened.”

All participants felt surprised by the difficulty of initiating or sustaining breastfeeding. Many felt like it would be easy because it is a natural process. Others had breastfed before, but were stunned at the difference between their children. Some participants felt lied to in order to persuade them to breastfeed, while others felt prepared for a “normal” breastfeeding experience. None of the women were prepared for difficulty, and it is likely their expectations had a lot to do
with the need to relactate. Below are quotes reflective of breastfeeding expectations which likely affected breastfeeding outcomes:

"I thought breastfeeding was a choice, a simple choice. You put that baby on your boob and then you deal with it. I did not understand how hard it is."

"I didn't do much research on breastfeeding before I had him because I just thought it was gonna be... you know, easy. So many women have done it before, and it was natural."

"I had heard all these horror stories about women not being able to breastfeed or the child not latching or those sorts of things. It was really important to me; I didn't see that coming, it was really important to me towards delivery to breastfeed. I wanted to do everything a "woman's body is supposed to do"... There were issues that I didn't expect to have. I think that's what threw me."

Common factors from qualitative data related to breastfeeding outcomes for all participants are summarized in Table 5.

<table>
<thead>
<tr>
<th>Factors Affecting Breastfeeding Outcome</th>
<th>Numbers of Participants Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latching difficulties</td>
<td>7</td>
</tr>
<tr>
<td>Colic- excessive or abnormal crying</td>
<td>5</td>
</tr>
<tr>
<td>Lack of nursing bond</td>
<td>4</td>
</tr>
<tr>
<td>Number of subjects experiencing 2 or more factors</td>
<td>6</td>
</tr>
<tr>
<td>Number of subjects experiencing 3 factors</td>
<td>2</td>
</tr>
</tbody>
</table>
DISCUSSION

Although other studies have explored barriers to breastfeeding (Avery et. al, 2009; Dennis et. al, 2002; and Thulier and Mercer, 2009), and reasons for relactation (Auerbach and Avery, 1980; Bose et. al, 1981; Cho et. al, 2010; De et. al, 2002; and Wiggins, 2007); this study is unique in that it sought to understand what it was like, emotionally, to go through the process of relactation. The process of relactation brought forth the negative feelings of failure associated with breastfeeding difficulty. This study also highlighted the experience of nursing a difficult baby. In concert with the Howard et al. study (2010), this study found that women with colicky babies might not have an enjoyable breastfeeding experience. The strong intention to breastfeed and ability to access support are what helped the women in this study persevere through the difficult times and pursue relactation. By learning from those who have relactated, researchers can better understand factors related to untimely weaning among difficult nursing relationships and possibly avoid the need for relactation. Breastfeeding success and duration depend on a convoluted trajectory of variables such as demographic, biological, social, and psychological factors such as age, education, socioeconomic status, race, methods of delivery, infant health problems, maternal work, support, and maternal confidence (Thulier and Mercer, 2009).

Understanding which combination of factors have the most influence on breastfeeding success and duration might help prevent breastfeeding issues for some families in the future.

The women who volunteered to tell their relactation stories for this study tended to have higher breastfeeding success according to Lauwers and Swisher (2011). The study participants were similar to those in a study conducted by Auerbach and Avery (1980); mostly white, educated, married, and had average incomes. The recruitment methods Auerbach and Avery used were
biased in favor of a more affluent makeup. Although our study recruited similar participants, it could be argued that women with less support and education might not attempt relactation for a possible lack of access or inability to access assistance with the process. All participants in the current study had attended some college or obtained college degrees, were in committed relationships with supportive partners, made average incomes, and the majority had access to lactation professionals. These women had complications with breastfeeding despite these strong support networks that were in place.

Women place value in breastfeeding because they believe it is a positive, beneficial, desirable, and advantageous experience; in other words it’s a good thing. Some participants mentioned they heard stories about babies that had trouble latching and were prepared for trouble, but had no idea what it would be like to breastfeed a baby with colic or food allergies. According to the theory of planned behavior, value is compromised when any of the above reasons are different than previously anticipated.

Two of the women successfully breastfed their previous children for over a year. For the women who had previously breastfed, their first babies were described as “easy”, and breastfeeding was described as an enjoyable, bonding, and rewarding experience. The women who were first and second time mothers believed breastfeeding would be a joyful experience. Either through personal experience, friends, family, breastfeeding educators, or media, breastfeeding was presented as fun and rewarding. Many said they assumed breastfeeding would be easy because it was a natural bodily function. These findings are similar to a study by Avery et al. (2009) where participants who switched to formula said they stopped breastfeeding when they found that it was not as “easy” and “natural” as they thought it would be. Half of the women in this study
reported having colicky babies, most reported having latching difficulties, and a few had rowdy nurser.

All participants were confronted with an experience less desirable than they had imagined. The second time mothers internalized these experiences, feeling they had done something wrong with their second because it wasn’t the enjoyable, rewarding experience they had with their first child. Many of the women asked questions like, “…why don’t I like this, what’s wrong with me, when will I enjoy it, and when will this be fun?” For some, accepting less than a fairy tale breastfeeding story was okay, but some women harbored deep regret and remorse for not having the happy feelings associated with breastfeeding they assumed they would have. A few women even expressed anger that they weren’t accurately told what breastfeeding would be like, and one felt like she was lied to so she would breastfeed. The ones that were upset said they would have still chosen to breastfeed, but would have been better prepared for the obstacles they faced had they known more. Through relactation, a few of the participants were able to forge those bonds with their babies that had been absent the first time, but all together these women experienced out of the ordinary breastfeeding experiences. The women who reported having colicky babies felt isolated in their experience. They reported receiving less than helpful advice from pediatricians and primary healthcare professionals in regards to dealing with colic. The mothers of colicky babies were left to their own devices when seeking answers for why they had babies who were “uncomfortable,” and often inconsolable. These findings are similar to a study conducted by Landgren and Hallstrom (2011) that found parents of colicky babies suffered along with their babies, felt powerless and overwhelmed by strong feelings, and neglected their other needs. Coping strategies were studied by Howard et. al (2006). Parents in the Howard et al. study used various strategies to ease their baby’s pain such as holding, rocking, breastfeeding, and walking. The Howard et. al study found that the presence
of colic can be lead to low maternal self-efficacy among women. A few participants in the current study believed their breast milk was the cause of colic, since they knew of no other explanation. This is an example of low maternal self-efficacy, as noted by Howard et. al (2006). The participants in the current study chose to introduce formula to find out if it was, in fact, their milk that was the cause of colic, without realizing the negative consequences it could have on their breastfeeding outcome. In those instances, the babies had dairy allergies and formula was of no help. Participants then experienced diminished milk supplies and had to relactate to breastfeed again. These findings are similar to the Auerbach and Avery study (1980) which found that one of the causes for untimely weaning and the need for relactation stemmed from the infant’s intolerance to cow’s milk. Women with babies who had latching difficulties had no idea that it was going to be so hard, and such a struggle to continue breastfeeding.

Two themes were intertwined within each of the interviews- the feeling of failure (negative feelings about breastfeeding) and expectations about breastfeeding (factors affecting breastfeeding outcome). This begs the questions that lead the discussion- Why do some women who value breastfeeding have such negative feelings towards their experience, and what can be done to help women meet their goals in order to avoid the need for relactation?

As much as we would like to think we live in a pro-breastfeeding culture, we don’t. We live in a culture that says one thing and means another. In an effort to promote, protect, and support breastfeeding an uprising of pro-breastfeeding advocates educate women and their families on the importance of breastfeeding. It is a movement that is becoming more accepted. We see public health announcements on bus stop benches advocating for breastfeeding, and then a few blocks away we pass plastic surgery centers, Victoria’s Secret, and bill boards showing us that our bodies aren’t for natural purposes, but instead are for the pleasure of others. The concept of
breastfeeding contradicts everything that young girls grow up learning. That’s one of the reasons why breastfeeding has now become a *decision* that a woman has to make—instead of something she does without thinking about it. So, when we do begin to reverse the stigma of breasts for breastfeeding instead of breasts for sexuality, women are surprised that sometimes breastfeeding is hard—despite it being a natural process. More and more women are convinced that breastfeeding is what they want to do, as roughly 80% of Montana mothers have at least attempted breastfeeding, according to the three most recent CDC Breastfeeding report cards for Montana (CDC, 2011, 2012, 2013). The problem is that society doesn’t reflect the same sentiment (Palmer, 2011). Women are still asked to cover up their nursing babies because of indecency, despite having the legal right to breastfeed wherever they please. As much as we would like to think women are publicly supported in their decision to breastfeed, studies show they consistently aren’t (Mulready-Ward and Hackett, 2014; Ruiwei, Fridinger, and Grummer-Strawn, 2002). Society sends mixed signals to women, so it’s no wonder they are surprised by the process and eventually discontinue breastfeeding. When women are told they will love it, that it’s such a great experience, and that it shouldn’t hurt, it’s a disservice to the population of women who don’t have that exact experience. There seems to be a fissure between good intentions and outcomes for breastfeeding. Supporting this idea is a grounded theory study conducted by Hauck and Irurita (2010) in which the authors conclude, “the provision of this subjective information on breastfeeding and mothering could assist women to develop realistic expectations and reduce the possibility of perceiving their experience as a failure due to unrealistic expectations”.

Many health practitioners agree that "breast is best" but don't know how to support mothers or encourage them to breastfeed, and often make recommendations that can be unintentionally
harmful to breastfeeding. For example, to avoid any liability prescribers often suggest to "pump and dump" breast milk while on medications- without realizing that supplementation can be harmful and that the medication is more than likely safe to take while breastfeeding for both the mother and infant (Hale, 2012). Breastfeeding education needs to be improved on all levels: by the individual healthcare consumers and practitioners, so there is a unanimous understanding of the importance of breastfeeding for the health of the mother and infant, environment, and society; as recommended by the United States Breastfeeding Coalition (2011) in an effort to promote, protect, and support breastfeeding.

Limitations of this study include a small sample size (n=10). Participants were recruited through snowball and convenience sampling. Though recruiting efforts reached lactation professionals statewide, respondents came from Southwestern Montana. This study was purely qualitative, and meant to reflect the experience of relactation for the women in this study. It is not meant to be generalizable, but recognizable by women who have attempted relactation as similarly descriptive.

CONCLUSION

The two theoretical frameworks used in this study were the Social Cognitive Theory (SCT) and the Theory of Planned Behavior (TPB). Under the assumptions of the SCT, it will become easier for women to breastfeed when it becomes a normalized behavior. When women see other women breastfeeding, it helps to normalize breastfeeding; therefore making the internal struggle between what we think our bodies are for and what they are actually for less of an obstacle to overcome. Extended breastfeeding duration, or relactation, is not likely to occur for those who
don’t have adequate access to breastfeeding support groups, access to lactation specialists, reliable perceived support from family, or confidence in their ability to breastfeed; equaling reciprocity between breastfeeding, environmental factors, and personal factors. Ultimately, breastfeeding needs to be presented in a real manner- it can be hard, it can be trying, it can hurt, there will be hard days or weeks or months, BUT the benefits far outweigh the alternatives; which is part of TPB. TPB also states attitudes about breastfeeding, subjective norms, and the perceived ability to breastfeed all lead to the intention of breastfeeding, which determines if breastfeeding will be initiated and continued. Women and their families need to choose breastfeeding because it is what they want. The general public needs to be educated on the significant, positive contribution breastfeeding can have on our families, our health, our environment, and our general well-being. They also need to be educated how to be supportive of mothers who choose to breastfeed, without making mothers who choose to formula feed, or weren’t able to breastfeed feel ostracized. Positive feelings of breastfeeding by women and society, and the perceived ability to breastfeed will allow women to follow through with their intentions to breastfeed (Mulready-Ward and Hackett, 2014; Ruiwei, Fridinger, and Grummer-Strawn, 2002).

Participants in this study all had one thing in common- they were surprised at how difficult breastfeeding was, and rightly so; they all had non-typical breastfeeding experiences. Future studies could examine the experience of breastfeeding a difficult baby, and what factors are present with women who continue or discontinue nursing difficult babies.


APPENDIX A: PARTICIPANT RECRUITMENT FLYER
Volunteers Needed for Research Study

We need participants for a research study “Relactation: A Phenomenological Study”

Description of Project:
We are researching women’s experience with relactation in Montana. Relactation is the process of re-establishing a breast milk supply after it has decreased or diminished. Not much is known about how a woman who has relactated feels about her experience, and we’d like to know more!

You May Qualify to Participate if…..
You are a Montana resident who gave birth in the last ten years who has attempted to reestablish your milk supply after it has decreased or diminished.

For More Information:
Contact the Principal Investigator of the study, Amy Lommen at 406-207-4020 or amy.lommen@umontana.edu

This research is conducted under the direction of Dr. Blakely Brown, Health and Human Performance Department, University of Montana, and has been reviewed and approved by the University of Montana Institutional Review Board.
APPENDIX B: SUBJECT INFORMATION, INFORMED CONSENT, AND PERMISSION TO GATHER PERSONAL HEALTH INFORMATION
Study Title: Relactation: A Phenomenological Study

Investigator(s):
Principal Investigator- Amy N. Lommen- Graduate Student in the Health and Human Performance Department at the University of Montana.
Phone- (406) 207-4020
Email- amy.lommen@umontana.edu

Faculty Supervisor- Blakely Brown, PhD. Professor in Health and Human Performance Department of the University of Montana.
Phone- (406) 243-6524
Email- blakely.brown@umontana.edu
Office- McGill Hall Room 207, University of Montana

Special Instructions:
This consent form may contain words that are new to you. If you read any words that are not clear to you, please ask the person who gave you this form to explain them to you.

Purpose:
The purpose of this research study is to learn about your experience before/during/after relactation.

Procedures:
You will be asked to recount your experiences as they pertain to relactation. You may tell the interviewer anything you think is important regarding the subject. The study will take place at a private location that is comfortable and convenient to you. The interview will last approximately two to three hours. Once you feel the interview is complete, you will be asked to take a short survey of approximately fifteen minutes.

Risks/Discomforts:
How mothers choose to feed their infants is an emotionally charged subject. It can be quite humbling to talk about the trials and tribulations of parenting in regards to the subject. Such discussion might bring back emotional feelings related to your experience, whether happy or sad. Therefore, there is a possibility of psychological risk involved, but it is expected to be quite minimal.

Benefits:
Although you may not benefit from taking part in this study, your experiences could help other mothers in the future. Your experiences will be reviewed and possibly used for interventions aimed at increasing breastfeeding rates and awareness in Montana and other frontier states. The information gathered will also increase scientific knowledge on the matter of relactation, as there is currently no data regarding the experiential aspect.

Confidentiality:
Your records will be kept confidential and will not be released without your consent except as required by law. Your identity will be kept private. If the results of this study are written in a scientific journal or presented at a scientific meeting, your name will not be used. The data will be stored in a locked file cabinet. The audiotape will be transcribed without any information that could identify you. The tape will then be erased once it has been transcribed and the study has concluded.

Voluntary Participation/Withdrawal:
Your decision to take part in this research study is entirely voluntary. You are encouraged to share anything you feel is important, and only share the experiences you are comfortable with.

Questions:
Please feel free to ask questions about this study before, during, or after your interview. If you have any questions about the research now or during the study contact: [Amy Lommen, (406) 207-4020]. If you have any questions regarding your rights as a research subject, you may contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Statement of Your Consent:
I have read the above description of this research study. I have been informed of the risks and benefits involved, and all my questions have been answered to my satisfaction. Furthermore, I have been assured that any future questions I may have will also be answered by a member of the research team. I voluntarily agree to take part in this study. I understand I will receive a copy of this consent form.

Printed Name of Subject

Subject’s Signature __________________________ Date

Statement of Consent to be Audiotaped:
I understand that audio recordings will be taken during the study. I consent to being audio recorded. I consent to use of my audio recordings in presentations related to this study. I understand that if audio recordings are used for presentations of any kind, names or other identifying information will not be associated with them. I understand that audio recordings will be destroyed following transcription, and that no identifying information will be included in the transcription.

Subject’s Signature __________________________ Date

Permission to Gather Personal Health Information (PHI)

Disclosure of Personal Health Information
My individual health information that may be used to conduct this research includes:

Health information to be collected for this study includes demographic, prenatal, postnatal, breastfeeding, and a general medical history.

I authorize Amy N. Lommen and the researcher’s staff to use my individual health information for the purpose of conducting the research project entitled “Relactation: A Phenomenological Study.”

Signature: __________________________ Date: __________________________
APPENDIX C: MODERATOR’S GUIDE
Moderator’s Guide for “Relactation: A Phenomenological Study”
Principal Investigator: Amy Lommen

Initial Interview Question:
- Think about your experience with relactation, and describe that experience in as much detail as possible.

Possible Follow-Up Questions:
- You mentioned _____ tell me what that was like for you.
- You mentioned _____ describe that in more detail for me.
APPENDIX D: KEY PARTICIPANT INTERVIEW CONTACT SUMMARY SHEET
Key Participant Interview Contact Summary Sheet

Interview Date:_______________  Interview Length:_______________

Interview No:________________  Interview Location:______________

1. Physical description/impressions:

2. Main themes and issues:

3. Theme most directly addressed:

4. Problem or questions:

5. Direction of information needed for next interview:
APPENDIX E: DEMOGRAPHIC AND BREASTFEEDING EXPERIENCE SURVEY
PARTICIPANT DEMOGRAPHIC AND HEALTH INFORMATION SURVEY

1. AGE ______

2. RELATIONSHIP STATUS (CIRCLE)
   Single Married Divorced Separated Committed Relationship

3. NUMBER OF CHILDREN (CIRCLE)
   1 2 3 4 5+

4. COUNTY OF RESIDENCE __________________________

5. WHERE DO YOU CURRENTLY LIVE (CIRCLE)
   Urban town Rural town (Population less than 2,500 people)

6. WHAT IS YOUR HIGHEST LEVEL OF EDUCATION? (CIRCLE)
   Less than high school High school or GED Some college 2-Year College Degree (Associate's)
   4-Year College Degree (Bachelor's) Master's Degree Doctoral Degree Professional Degree (JD, MD)

7. HOW MUCH DO YOU EARN IN A YEAR? (CIRCLE)
   Less than $15,000 Between $15,000 and $45,000 More than $45,000

PREGNANCY AND BIRTH HISTORY

8. DOES (DID) YOUR BABY HAVE ANY KNOWN HEALTH PROBLEMS?
   ________________________________________________________________
   ________________________________________________________________

9. HAVE YOU EVER HAD ANY OF THE FOLLOWING RELATED TO YOUR BREAST? (CIRCLE)
   biopsy lumps implants breast reduction surgery nipple problems
   other ____________________________________________________________
   ________________________________________________________________
10. DO YOU PRESENTLY HAVE OR HAVE YOU EVER HAD ANY OF THE FOLLOWING? (CIRCLE)

- anemia
- allergy/asthma
- diarrhea (chronic)
- heart disease
- diabetes
- hepatitis
- venereal disease
- miscarriages
- hemorrhoids
- infertility
- abortions
- depression
- sexual abuse
- abnormal pap smear
- constipation
- eating disorder
- cancer
- yeast infections
- tuberculosis
- polycystic ovarian syndrome
- kidney/bladder disease or infection
- other

11. DID YOU HAVE ANY OF THE FOLLOWING DURING THIS PREGNANCY? (CIRCLE)

- premature labor
- anemia
- high blood pressure
- nausea/vomiting
- severe gestational diabetes
- fever
- urinary tract infection
- pre-eclampsia
- medications
- other

12. DID YOU HAVE ANY OF THE FOLLOWING DURING THIS LABOR AND DELIVERY? (CIRCLE)

- premature rupture of membranes
- drugs to control pain
- drugs to control high blood pressure
- epidural
- fever
- antibiotics
- drugs to induce or speed labor
- hemorrhage

13. WHAT TYPE OF DELIVERY DID YOU HAVE WITH THIS BIRTH? (CIRCLE)

- vaginal
- emergency c-section
- planned c-section

14. GESTATIONAL AGE OF BABY AT BIRTH?______________WEEKS
15. DID YOU HAVE ANY OF THE FOLLOWING WITH THIS BIRTH? (CIRCLE)

- total labor longer than 30 hours
- episiotomy or tear pushing stage longer than 2 hours
- breech presentation
- tear that involved the rectum (3rd or 4th degree laceration)
- forceps delivery
- vacuum extraction
- complications related to c-section please explain

______________________________
other__

______________________________

16. DID YOU EXPERIENCE ANY POSTPARTUM COMPLICATIONS? (CIRCLE)

- urinary/other infections
- low blood pressure
- high blood pressure
- excessive bleeding or hemorrhaging
- other

______________________________

17. DID THE BABY HAVE ANY OF THE FOLLOWING AFTER BIRTH? (CIRCLE)

- breathing difficulties
- high hematocrit
- low blood sugar
- meconium aspiration
- jaundice

(highest bili level__________)

other

______________________________

18. IF YOU INITIATED BREASTFEEDING, HOW OLD WAS YOUR BABY WHEN YOU FIRST REALIZED THAT YOU WERE HAVING BREASTFEEDING DIFFICULTIES?

______________________________

19. HAVE YOU USED ANY OF THE FOLLOWING BREASTFEEDING SUPPLIES?

- Nipple shield
- gel soothies
- lanolin
- nipple cream
- prescription cream
- nursing pillow
- pump

20. WHICH OF THE FOLLOWING FEEDING METHODS HAVE YOU USED?
feeding tube finger feeding cup feeding supplemental nursing system bottle

TYPE of
BOTTLE______________________________________________________________

____________________

21. DID YOU EXPERIENCE ANY OF THE FOLLOWING? (CIRCLE)

latch-on difficulties engorgement sleepy baby sore nipples

preference for one breast baby not interested cracked/bleeding nipples breast pain

baby crying excessively baby always seems hungry feeling that there is not enough milk

other______________________________________________________________

_______________________________________