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The Lived Experiences of ICU, Med-surg, and ER Nurses in the United States Attempting to Breastfeed During the COVID-19 Pandemic

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THE LIVED EXPERIENCES OF ICU, MED-SURG, AND ER NURSES IN THE UNITED STATES ATTEMPTING TO BREASTFEED DURING THE COVID-19 PANDEMIC

by

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ABSTRACT

Breastfeeding is important to promote the health of both mothers and babies (Centers for Disease Control and Prevention [CDC], 2021). Many mothers experience workplace barriers and stress which negatively impact breastfeeding duration (McCardel & Padilla, 2020; Nagel et al., 2022). However, a gap in the literature exists surrounding specific barriers and the impact of stress on U.S. nurses who breastfeed. Specifically, workplace challenges and stress among nurses resulting from the COVID-19 pandemic lack exploration.

This interpretive phenomenological study explored the lived experiences of ICU, Med-Surg, and ER nurses who attempted to breastfeed during the COVID-19 pandemic. Roy's adaptation model was the conceptual framework for this study, and participant experiences were analyzed using Roy's model. Findings indicate nurses experienced both adaptive and non-adaptive behavior in various modes of Roy's model. Dissemination of findings to nurse administrators would be important due to the breastfeeding challenges and needs identified by participants within this study. A growing need for nursing professionals requires action to promote the health and well-being of nursing staff, including breastfeeding support, and is important to ensure the job satisfaction of nurses and the provision of safe patient care.

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DEDICATION

I would like to thank my husband and four beautiful daughters for their love and patience during this doctorate journey. To the five of you, this dissertation is dedicated. Caroline, you have grown up so much and helped me through this process more than you will ever know. Annalise, thank you for your love and affection, especially when this journey became hard. Elizabeth, you always knew what step I had next, and kept encouraging me to keep going. Emalia, thank you for always making me smile, even on hard days. I love the four of you more than you know. Daniel, thank you for your encouragement and belief in me, even when I sometimes didn't believe in myself. You took on extra, so I could achieve this goal. I love you and could not have done this without you. To my mom, you have always been my biggest cheerleader. You and Daddy gave me the foundation for where I am today. I love you and can never thank you enough for all you have done for me. Most importantly, I am thankful to the Lord, for his love and mercy. I am so grateful for the blessings he has bestowed upon me, and I know that without Him I would not have achieved this degree. I am continually in awe of his goodness and the love and blessings he outpours, though I have done nothing to earn them.

"Work willingly at whatever you do, as though you were working for the Lord rather than for people" Colossians 3:23

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LIST OF ABBREVIATIONS

AAP	American Academy of Pediatrics
CDC	Centers for Disease Control and Prevention
COVID-19	SARS-CoV-2 Novel Coronavirus
ER	Emergency Room
ICU	Intensive Care Unit
RAM	Roy's Adaptation Model
PTSD	Post Traumatic Stress Disorder
WHO	World Health Organization

CHAPTER I - INTRODUCTION

Breastfeeding has many health benefits for both mother and baby and is the recommended source of nutrition for infants (CDC, 2021; Cleveland Clinic, 2022a). Research indicates infants who are breastfed have a decreased risk of developing asthma, obesity, and type 1 diabetes (CDC, 2021). In addition, breastfeeding also decreases the risk of sudden infant death syndrome (SIDS) (CDC, 2021). Mothers who breastfeed decrease their risk of hypertension and diabetes as well as ovarian and breast cancer (CDC, 2021). As a result of these known health benefits, the American Academy of Pediatrics (AAP) recommends exclusive breastfeeding for the first six months of life (Eidelman et al., 2012). However, only 25% of infants within the United States (U.S.) are exclusively breastfed (CDC, 2021), indicating a need for further research to identify factors that may contribute to low compliance with this best practice recommendation.

Literature indicates multiple issues may prohibit or decrease the length of time mothers choose to breastfeed. One influencing factor is stress which has been found to increase cortisol levels and decrease a mother's lactation abilities (Nagel et al., 2022, Shukri et al., 2019). Relaxation therapies have been shown to positively impact milk production and promote infant weight gain (Shukri et al., 2019). Recently, the COVID-19 pandemic has contributed to the stress of many mothers around the world. According to the World Health Organization (WHO), COVID-19 has created a 25% increase in anxiety globally, particularly in women (WHO, 2022a). Moreover, COVID-19 also resulted in concerns and questions regarding breastfeeding and challenges in providing breastfeeding support (Walker et al., 2022). Due to the known impact of stress on breastfeeding, the

increased stress levels of mothers which have resulted from the COVID-19 pandemic cannot be ignored.

Workplace barriers have also been found to impact breastfeeding duration. Availability of private locations, as well as the provision of time for milk expression, are frequent issues faced by lactating mothers (McCardel & Padilla, 2020). These factors often result in mothers introducing formula to infants rather than complying with the AAP recommendation of exclusive breastfeeding for the first six months of life (McCardel & Padilla, 2020). As a result of the COVID-19 pandemic, workplace changes have occurred. Recommendations including masking, sanitation, and vaccinations were established to mitigate the spread of the disease (CDC, 2022a), but little is known regarding the effect of these changes on mothers breastfeeding in the workplace environment.

The combination of stress, workplace barriers, and a global pandemic may have had significant influences on the breastfeeding duration of working mothers within the U.S., particularly nurses. During the COVID-19 pandemic, many nurses encountered very challenging work conditions, often had difficulty leaving the bedside for breaks, and experienced extreme fatigue (Sagherian et al., 2021). Health care workers were also found to have high levels of stress and anxiety as a result of the pandemic (Gupta et al., 2021). Despite the known breastfeeding influences of workplace conditions, psychological stress, and COVID-19, a gap remains in the knowledge regarding the influence of these factors on lactation duration among nurses. This phenomenological study was performed to evaluate the lived experiences of lactating nurses who cared for COVID-19 patients during the height of the pandemic. Findings from the study will be

useful to promote a greater understanding of the impact of stress and workplace challenges created by COVID-19 on breastfeeding within the nursing workforce.

Problem Statement

Although research indicates stress, the workplace environment, and the COVID-19 global pandemic may have significant impacts on lactating mothers, little is known regarding the specific impact of these factors on women within the United States nursing workforce. Pre-pandemic literature had minimal findings regarding breastfeeding duration for nurses who return to work after delivery, especially within the United States. Since the pandemic, studies indicate that fatigue and stress increased greatly among nurses and health care workers who cared for COVID-19 patients (Aggar et al., 2022; Nie et al., 2020). Further, it was also found that breaks were limited or unavailable for many nurses caring for these critical patients (Sagherian et al., 2021). Prior to this study, the effect of these factors on lactation among nurses caring for COVID-19 patients across the U.S. is unknown.

The importance of breastfeeding has been established by many organizations including the AAP, ACOG, the WHO, and the CDC (AAP, 2021; ACOG, 2021; CDC, 2021; WHO, 2022a). Breastmilk provides a unique formulation of nutrients, promotes the growth and development of infants, and has been identified as "superior for infant feeding" (OSG 2011, para 14). The significant health benefits of breastfeeding have resulted in the Surgeon General's call to action established in 2011 (OSG, 2011) as well as the establishment of Healthy People 2030 objectives to increase the number of infants who receive exclusive breastfeeding for the first six months of life and are breastfed until one year of age (USDHHS, n.d.).

To aid in the achievement of these goals, it is important to note the obstacles women encounter when breastfeeding. Currently, in the U.S., only 25% of women breastfeed exclusively until six months and only 35% continue to breastfeed until infants are one year of age (CDC, 2021). Continued efforts are needed to encourage breastfeeding and promote health among U.S. mothers and babies.

Research regarding breastfeeding barriers experienced by women within the U.S. are limited, particularly among registered nurses. Outside of the U.S., studies have been performed which indicate elements of the hospital environment including, stress, workload, and policies may negatively impact or even prohibit breastfeeding among nurses (Ozcan & Kocak, 2019; Riaz & Condon, 2019). However, workplace conditions differ among nations, and the experiences of U.S. nurses need further exploration, particularly concerning the workplace impact of the COVID-19 pandemic.

Due to the pandemic, additional workplace stressors and experiences may have developed. Many women became concerned about the transmission of COVID-19 to infants while breastfeeding (Duru et al., 2022; Walker et al., 2022). These concerns among nurses and the impact on breastfeeding, specifically in the U.S., have not been evaluated. Today, approximately 49.6% of the nursing workforce within the U.S. are women between the ages of 18 and 49 (Smiley et al., 2021), and are considered to be of childbearing age. Exploration of the experiences of lactating nurses working during the COVID-19 pandemic may be helpful to further understand potential barriers and facilitators that promote breastfeeding within this specialized workforce.

Nature of the Study

A qualitative phenomenological methodology was used for this study. Specifically, hermeneutic phenomenology, which focuses on lived experiences (Creswell & Poth, 2018) was used to provide insight into the experiences of U.S. nurses who attempted to breastfeed while caring for COVID-19 patients. Participants were recruited based upon the inclusion criteria of registered nurses who were breastfeeding while also working within an Intensive Care Unit (ICU), Emergency Room (ER), or med-surg area in the United States during the COVID-19 pandemic between January 2020 and December 2021. Because ICU, ER, and med-surg departments were significantly impacted by the pandemic and most commonly housed COVID-19 patients, nurses working in these areas will be sampled to examine the impact that caring for COVID-19 patients had on breastfeeding nurses. Research questions to evaluate the experiences include:

1. What were the lived experiences of ER, ICU, and med-surg nurses attempting to breastfeed while caring for COVID-19 patients within the United States?
2. What are the effects of the U.S. workplace conditions on breastfeeding duration for ER, ICU, and med-surg nurses caring for COVID-19 patients?

Purpose of the Study

The purpose of this study was to examine the lived experiences of ICU, ER, and med-surg nurses who attempted to breastfeed while working and caring for COVID-19 patients during the global pandemic. Literature indicates stress and the workplace environment may impact a woman's breastfeeding duration (Dun-Dery & Laar, 2016; McCardel & Padilla, 2020; Shukri et al., 2019). Many nurses across the United States

encountered challenging and stressful working conditions in the midst of the pandemic, but there is a gap in the literature evaluating how this may have impacted the breastfeeding experiences and duration for this specific population.

An understanding of these lived experiences may provide greater insight into the breastfeeding challenges and barriers experienced by ICU, ER, and med-surg nurses who continue to care for COVID-19 and other critically ill patients. Although there has been a decline in COVID cases since the initial pandemic outbreak, the virus remains a public health concern, and nurses must continue to care for these acutely ill clients. Understanding the experiences of ICU, ER, and med-surg nurses who have cared for COVID-19 patients may provide insight into the needs of lactating nurses and ways nurse leaders can better support employees and promote compliance with breastfeeding recommendations.

Conceptual Framework

The conceptual framework used for this study is Roy's Adaptation Model (RAM). This model was developed by Sister Calista Roy in the 1960s while studying at Mount Saint Mary's College in Los Angeles (Fawcett & DeSanto-Madeya, 2013). Roy viewed individuals as "holistic adaptive systems" which respond to environmental stimuli (Roy, 2009, p. 32). According to RAM, a positive response to environmental stimuli results in adaptation (Roy, 2009).

Roy's model explains that stimuli may be internal or external and may be categorized as focal, contextual, or residual (Fawcett & DeSanto-Madeya, 2013). The stimuli of which individuals are most acutely aware are categorized as focal stimuli (Roy, 2009). Contextual stimuli are the additional stimuli that may impact the focal stimuli and

an individual's coping (Fawcett & DeSanto-Madeya, 2013). Residual stimuli are all remaining stimuli that are present, but the effects are unknown (Roy, 2009). In relation to this study, the care of critically ill patients in the midst of a global pandemic may have served as a focal stimulus for many nurses. Nurses returning to work post-delivery and attempting to breastfeed may have had an additional focal stimulus of providing nutrition for their babies. Contextual stimuli which may have contributed to the impact of these focal stimuli and adaptation were further explored through this study.

How individuals respond to environmental stimuli may be categorized into four adaptive modes (Roy, 2009). These include physiologic-physical, self-concept, role function, and interdependence. The below figure (Research Gate, n.d.) provides a visual explanation of the interrelation of the modes and the impact on an individual's behavior.

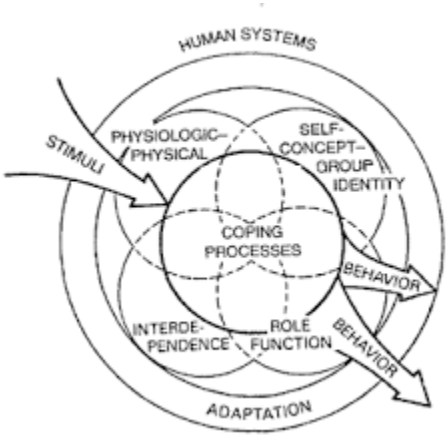

Figure 1. Roy's Adaptation Modes

Hormonal regulation and nutrition are components of the physiologic-physical mode (Roy, 2009), and are relevant to lactating mothers. The role function mode is also applicable to lactating mothers who are acting as both nurses and mothers. According to Roy, an individual's role based upon their relationship with others may change and grow throughout their lifespan (Roy, 2009). Participants of the study have experienced an

evolution in the role of motherhood as well as their role as a nurse due to the evolving COVID-19 virus. The use of RAM provides guidance regarding the evaluation of the adaptation of lactating nurses to the stimuli of the COVID-19 pandemic.

Roy's adaptation model has served as a framework for nurse researchers for many years. For example, studies evaluating pain management, Alzheimer's, and cancer have utilized the framework for guidance (Badr Naga & Al-Khasib, 2014; Flannagan, 2018; Garvey et al., 2019). Additionally, RAM has been used to guide phenomenological studies and explore the experiences of nurses. For example, Curcio (2017), used the model to guide phenomenological research examining the experiences of nurses who cared for pediatric patients who were dying. A phenomenological study performed by Cain (2021) also used the model to guide the exploration of nurses' experiences caring for patients with language barriers during the COVID-19 pandemic. The model has also been used to explore the experiences of mothers. For example, Anima et al. (2022), used RAM to guide the phenomenological exploration of teenage mothers in Ghana. Roy's (2009) model is useful to assist with the evaluation and understanding of influences on human behavior. Therefore, RAM serves as an appropriate framework to evaluate the influences of working conditions and stress resulting from the COVID-19 pandemic on the breastfeeding behaviors of nurses.

Operational Definitions

COVID-19

In December 2019, a novel respiratory virus, SARS-COV-2, was discovered in Wuhan, China which caused a disease known as COVID-19. (WHO, 2020). Symptoms of the disease ranged from mild to severe and included fever, chills, cough, loss of taste or

smell, shortness of breath, fatigue, body aches, and headaches (CDC, 2022a). In severe cases, respiratory failure occurred (CDC, 2022a) requiring supplemental oxygen or even mechanical ventilation (National Institutes of Health [NIH], 2022). The disease which is easily transmitted via airborne respiratory droplets quickly spread around the world, and in March 2020, the WHO classified the outbreak as a global pandemic (Dos Santos, 2020).

Exclusive Breastfeeding

The AAP recommends that infants are exclusively breastfed until six months of age (Eidelman et al., 2012). This is defined as feeding the baby with only breastmilk with the addition of medications or vitamins and minerals if necessary (CDC, 2022c). Mothers who exclusively breastfeed do not supplement feedings with additional foods or formula (CDC, 2022c). Health experts recommend that at six months of age, infants may begin to receive complementary foods to provide additional nutrients and energy, but breastfeeding should continue with these complementary foods until at least one year of age (WHO, 2022b).

Intensive Care Unit (ICU) Nurse

The term ICU nurse is synonymous with critical care nurse (Western Governor's University [WGU], 2022a). These nurses work in an intensive care setting caring for clients with complex illnesses. Many patients within the ICU setting require the management of multiple IV drips, mechanical ventilation, and cardiac monitoring (WGU, 2022a). ICU nurses must closely monitor these patients and be familiar with the multiple types of equipment and medications needed by these patients (WGU, 2022a). ICU nurses may require additional training, and certifications (WGU, 2022a).

Emergency Room (ER) Nurse

Emergency room nurses work in a fast-paced, quickly-changing setting within hospital emergency departments (Eisenhower Health, 2021). Assessment and triage of clients' severity are required skills of ER nurses (WGU, 2022b). Tasks may include wound care, medication administration (Eisenhower Health, 2021), and lifesaving interventions may be necessary (WGU, 2022b).

Med-Surg Nurse

Medical-surgical nursing also referred to as med-surg nursing, is the largest nursing specialty in the U.S. (Academy of Medical-Surgical Nursing [AMSN], 2021). These nurses care for patients who are experiencing a variety of medical diagnoses as well as individuals preparing for or recovering from surgical procedures (AMSN, 2021). Med-surg nurses on average care for five to seven patients at a time (The three B's, 2014), which requires skills in time management and prioritization. Wound care, management of IVs, feeding tubes, and oxygenation, as well as assessment and monitoring, are examples of tasks performed by med-surge nurses (Premier Medical Staffing Services [PMSS], 2020).

Workplace Conditions

According to the International Labor Organization (ILO, 2022), workplace conditions encompass the number of hours worked, rest periods allotted, the workplace environment, and the mental demands of a job. Within the United States, the Occupational Safety and Health Administration (OSHA, 2019) states that employers should ensure working conditions are safe and employees are protected from danger.

Potential workplace dangers are categorized as safety, biological, physical, ergonomic, chemical, and work organization hazards (OSHA, n.d.).

Safety hazards include falls, spills, as well as electrical and machinery-related dangers. Exposure to elements such as blood or bodily fluids, mold, viruses, bacteria, and insects are examples of biological hazards. Radiation exposure, temperature extremes, and loud noises are physical hazards. Ergonomic hazards include repetitive or awkward movements, frequent lifting, and poor posture. Exposure to liquids such as cleaning supplies, vapors, gases, pesticides, or flammable materials is considered a chemical hazard. Work organization hazards may include workload demands, intensity, control, or social support, and may result in employee stress (OSHA, n.d.)

Assumptions, Limitations, Delimitations, and Scope

Assumptions are "beliefs that are accepted as true without proof" (Gray et al., 2017, p. 49). Within this study, assumptions are formulated based on the methodology and conceptual framework used. These assumptions are listed below.

1. Hermeneutic phenomenology is used to understand individuals' realities based on their relationship with the world in which they live (Neubauer et al., 2019). Therefore, the assumption is made that the described experiences of breastfeeding nurses working during the COVID-19 pandemic reflect the reality experienced by these nurses.
2. An assumption of Roy's adaptation model is that individuals are adaptive systems influenced by stimuli (Roy, 2009). This guides the assumption within the study that external and internal stimuli, including the workplace

environment, stress, and the COVID-19 pandemic, had the potential to influence breastfeeding behaviors.

3. Roy also assumed that culturally specific experiences influence the components of the RAM (Roy, 2009). In this study, it is assumed that nurses can be classified as a culture group with unique experiences.

Limitations may impact the trustworthiness and credibility of data (Creswell & Creswell, 2018) and decrease the quality of a study (Gray et al., 2017). One potential limitation of this study includes a possible lack of geographic diversity amongst the participant sample. The states in which participants worked were primarily located in the northeast (New Jersey and Massachusetts) and southeast (Alabama, Florida, Louisiana, Mississippi, North Carolina, and Virginia). One participant worked in Ohio, and another in Kansas. Although the participants, represented ten different states, it must be noted that there was no representation from the western half of the U.S. Therefore, differences in nursing culture, if any, which may exist in western states may not be represented.

Another potential limitation is the impact on participants' life experiences. Culture and previous experiences may influence an individual's perception of a phenomenon (Neubauer et al., 2019). Specifically, regarding this study, it must be acknowledged that examination of the impact of COVID-19 on breastfeeding nurses has significant social considerations which may have shaped participants' perceptions. Trade, agriculture, education, and family dynamics were all affected by the pandemic (Nicola et al., 2020). Additionally, mental health was impacted by an increase in anxiety and depression (WHO, 2022c). These social factors which occurred during the time being

evaluated may have influenced and limitations the perceptions of nurses interviewed and data collected.

Delimitations are elements of a study that can be controlled by the researcher (Dusick, 2014). Participant inclusion criteria are a delimitation of this study. These criteria include female nurses who both worked in the U.S. during the COVID-19 pandemic and attempted to breastfeed while working. Additionally, these women should have worked in either the ICU, ER, or med-surg settings.

The aforementioned inclusion criteria also create the scope of the study. Only U.S. nurses who worked in ICU, ER, and med surg areas were included. The nurses should have attempted to breastfeed while working during the specified time of January 2020-December of 2021. Interview questions were specific to breastfeeding experiences and workplace conditions. The study's scope did not extend to evaluate other aspects of the nursing profession.

Significance of the Study

Breastfeeding is recommended to promote health for both mothers and babies, but the U.S. falls short of compliance with this best practice recommendation (CDC, 2021). While various factors affecting breastfeeding have been researched including stress and workplace barriers, there is limited U.S.-specific research. Additionally, there is a gap in the literature regarding the effects of COVID-19 on U.S. breastfeeding nurses. This study is intended to fill a gap in the literature and provide insight into factors that may be specific to U.S. nurses and influence their breastfeeding experiences and duration.

Study findings may be relevant to the nursing profession and aid nurse leaders and administrators in supporting nurses who attempt to breastfeed while working.

Workplace support may play a pivotal role in the breastfeeding experiences of women (McCardel & Padilla, 2020). Therefore, it is important for nurse administrators to understand the breastfeeding experiences of nurses and the potential challenges encountered to better support these women and promote breastfeeding.

The health benefits of breastfeeding often result in healthier babies and fewer days of missed work by parents (AAP, 2021). Currently, many nurses are retiring or simply leaving the profession resulting in staffing challenges that may affect patient safety and quality of care (American Association of Colleges of Nursing [AACN], 2020). In a profession already suffering due to staffing shortages, it would be significant for nurse administrators to identify methods that prevent staff absences. One consideration would be the encouragement of breastfeeding among nursing staff to promote infant health and decrease the probability of missed days needed to care for sick children.

The social implications and significance of the study should also be considered. Recently the U.S. has experienced a formula shortage due to supply chain issues (CDC, 2022b). Some infants require specialty formulas which may be difficult to find during this shortage (CDC, 2022b). However, breastmilk is readily available and is useful during emergency situations (AAP, 2021). Identification of methods to support mothers and encourage breastfeeding may be particularly important with the current state of formula shortages.

Additionally, breastfeeding is known to promote bonding between mothers and babies as well as impact mothers' emotional health. The intimacy provided through breastfeeding allows mothers to better understand infant cues and supports the holistic well-being of the family unit (Cleveland Clinic, 2018). Hormones produced while

breastfeeding positively support the emotional health of women (Cleveland Clinic, 2018), which may assist in their adaptation to the role of motherhood.

Summary

In summary, this study provided insight into the experiences of ICU, ER, and med-surg nurses who breastfed while working during the COVID-19 pandemic. The knowledge surrounding the needs of nurses who breastfeed is limited, specifically within the U.S. The COVID-19 pandemic has resulted in changes in healthcare settings which may have had significant impacts on nurses, and the effects on lactating nurses are unknown.

Knowledge gained from the study may be beneficial to promote change in policies and assist nurse leaders in better understanding the needs and accommodations required by lactating nursing staff. Findings may be applicable to society and relevant to working mothers throughout the United States. Promotion of breastfeeding is a national public health goal (USDHHS, n.d.). Therefore, identification of the experiences of breastfeeding nurses may be beneficial to promote breastfeeding among the nursing profession and working mothers throughout the United States.

CHAPTER II – REVIEW OF LITERATURE

Introduction

A woman's decision to breastfeed and the duration of breastfeeding may be influenced by many factors. Due to the COVID-19 pandemic, the nursing workforce has experienced unique and challenging circumstances which may have played a role in breastfeeding choices. This literature review was performed to evaluate potential factors which impact breastfeeding women and may have influenced the lived experiences of nurses who attempted to breastfeed while working during the COVID-19 pandemic.

To identify peer-reviewed articles from reputable journals, online databases used for the literature review included CINHAL, ProQuest, and EBSCOhost. Key terms which were utilized to identify applicable articles were *breastfeeding, breast-feeding, breastfeeding benefits, infant feeding, nursing, nurses, lactation, and lactating*. Additionally, to identify literature that addressed external influencing factors, the terms *COVID-19, SARS-Cov-2, workplace, work environment, job accommodation, working or work, and stress* were used.

Findings from the literature review provided information regarding external influences on breastfeeding. Both stress and workplace barriers have the potential to negatively impact breastfeeding duration (McCardel & Padilla, 2020; Nagel et al., 2022). Literature also revealed the COVID-19 pandemic created workplace challenges for nurses (Souza, 2020). As a result, many nurses experienced higher levels of anxiety and stress (Aggar et al., 2022; Crowe et al., 2020; Master et al., 2020). Based upon the review, a gap in the literature was identified regarding the breastfeeding experiences of

lactating nurses who worked during the COVID-19 pandemic and the impact on breastfeeding duration.

Breastfeeding Benefits

Breastfeeding has been identified to have many health benefits. According to research, breastfeeding has both immediate and long-term impacts and may improve the health of both mothers and babies. As a result, the AAP has identified breastmilk as the recommended source of nutrition for infants and encourages mothers to practice exclusive breastfeeding until infants are six months of age and continue breastfeeding with solid foods until at least one year of age (Eidelman et al., 2012).

Child Health Benefits

Breastmilk has a unique nutritional composition that has been proven to impact a child's growth and development; research supports the many advantages of breastfeeding from birth throughout childhood (Eidelman et al., 2012; OSG, 2011). These advantages include a decreased risk of obesity, chronic diseases, and infant mortality (CDC, 2021). World-wide breastfeeding has been recognized as an initiative to promote public health (WHO, 2022a).

According to the AAP, children who were breastfed have a 22% less chance of developing childhood obesity as compared to children who were never breastfed (Eidelman et al., 2012). A systematic review by Dewey et al. (2021), found multiple studies correlating breastfeeding to a lower risk of overweight and obesity classifications among children two years of age and older. Additionally, five out of seven observational studies indicate a longer duration of breastfeeding is associated with lower rates of obesity among children (Dewey et al., 2021). This relationship between obesity and

breastfeeding has been found around the world. A study by Rito et al. (2019), examined children from 22 European countries and findings indicate higher rates of obesity in children who were never breastfed or were breastfed for less than six months. It was also discovered that countries with lower breastfeeding rates had higher rates of obesity among children, thus suggesting breastfeeding reduces the risk of obesity (Rito et al., 2019).

Literature also provides evidence supporting the relationship between breastfeeding, sleep patterns, and obesity. In a cross-sectional study of children ages three to five, Herring et al. (2020), explored the relationship between breastfeeding and sleep. Findings indicate children who were breastfed as infants slept for longer periods of time as preschoolers. Researchers noted the importance of this due to the correlation between longer sleep patterns and decreased rates of childhood obesity (Herring et al., 2020).

Breastfeeding has also been proven to decrease the risk of both acute and chronic childhood illnesses. For example, in a cohort study performed in Australia, breastfeeding was associated with lower risks of developing type-1 diabetes (Binns et al., 2016). Prior to this study, an association had also been found between breastfeeding and lower rates of type-2 diabetes (Binns et al., 2016). Research indicates there are significant correlations with lower rates of asthma, respiratory infections, ear infections, and gastroenteritis for infants who are breastfed (CDC, 2021; Eidelman et al., 2012; Li et al, 2022). Breastmilk provides infants with immunologic protection through passive immunity, thus decreasing the risk of potential infections and illness (Walker et al., 2022).

The many health benefits have also been found to decrease the risk of infant mortality. Li et al. (2022), analyzed the deaths of 6,969 infants ranging from seven to 365 days of age. Findings indicated a 26% reduction in post-perinatal death for infants who were breastfed (Li et al., 2022). Data from the WHO indicates that over 500,000 childhood deaths each year are related to a lack of breastfeeding (Walters et al., 2019). The AAP notes a 36% lower risk of SIDS for infants who were breastfed for at least one month (Eidelman et al. 2012). Based on evidence within the literature, breastfeeding plays a significant role in decreasing the rate of infant mortality.

Maternal Health Benefits

Breastfeeding is not only beneficial to infants and children, but also for mothers. Studies indicate a correlation between lower risks of breast and ovarian cancers and breastfeeding (Binns et al., 2016; Eidelman et al., 2012; Ross-Cowdery et al., 2017). Breastfeeding has also been found to lower the risk of rheumatoid arthritis within women (Ross-Cowdery et al., 2017). Studies indicate estrogen is a contributing factor to the development of autoimmune disorders (Ross-Cowdery et al., 2017). Since lactation lowers estrogen levels in women, breastfeeding may decrease the risk of rheumatoid arthritis (Ross-Cowdery et al., 2017).

Additionally, breastfeeding has been proven to decrease the risk of obesity and cardiovascular disease. According to the AAP, breastfeeding may promote post-partum weight loss (Eidelman et al., 2012). Ross-Cowdery et al., (2017) explain that breastfeeding has been found to impact metabolic factors and visceral adiposity. Research findings indicate mothers who breastfed for at least six months weighed less than mothers who did not breastfeed (Eidelman et al., 2012). This weight loss has long-term impacts,

and women have a 4-12% lower risk of developing type-2 diabetes for each year they breastfed (Eidelman et al., 2012).

Breastfeeding has also been linked to maternal and infant bonding and the emotional well-being of mothers. Bonding and connection between mother and baby are strengthened through breastfeeding (Cleveland Clinic, 2018). The hormones oxytocin and prolactin released while breastfeeding is linked to positive emotions experienced by mothers (Cleveland Clinic, 2018). In a systematic review by Yuen et al. (2022), 29 of 36 studies reviewed indicated mothers who breastfed experienced fewer negative mental health conditions when compared to those who did not breastfeed. The bonding and positive emotional outlook created through breastfeeding may impact a mother's health and adaptation.

There is a substantial body of literature supporting the benefits of breastfeeding. The health of both mothers and babies may be improved through the act of lactation. Research findings of these benefits substantiate the need to promote and encourage breastfeeding among mothers.

Stress and Breastfeeding

One factor which has been found to decrease breastfeeding duration is that of stress. Literature indicates that psychological distress, which includes stress and anxiety, may reduce a woman's milk production (Nagel et al., 2022). This is due to a decrease in oxytocin which promotes milk ejection; therefore, if milk ejection and breast-emptying are impaired, milk production may decrease (Nagel et al., 2022). Maternal distress may also increase serum cortisol levels and decrease insulin sensitivity, both of which have been associated with lower levels of milk production (Nagel et al., 2022).

Research performed by Shukri et al. (2019), also indicates the negative impact of stress on milk production and breastfeeding. In a randomized control trial, mothers were assigned to a relaxation therapy group and a control group. Mothers receiving the relaxation therapy had lower stress levels and lower levels of cortisol within breastmilk. Infants of these mothers exhibited longer sleep durations and greater weight gain when compared to infants of mothers in the control group. The study, therefore, supported the importance of lowering stress levels among mothers to promote breastfeeding and infant growth (Shukri et al., 2019).

Valizadeh et al. (2018) explained many mothers experience high levels of stress due to demands accrued from the workplace, caring for children, and household responsibilities. Stress levels were found to be particularly high for breastfeeding mothers who work outside the home. In the study by Valizadeh et al. (2018) evaluating mothers in Iran, it was found that these multiple roles often resulted in fatigue among breastfeeding women. Help with household duties, religious practices, and family and workplace support were found to decrease stress levels. It was therefore recommended that intervention strategies to assist with coping may be necessary to support breastfeeding women (Valizadeh et al., 2018).

Stress has been found to be an influencing factor in breastmilk production (Nagel et al., 2022; Shukri et al., 2019). It has also been concluded that the demands of motherhood and working outside the home may increase stress levels among women (Valizadeh et al., 2018). However, the impact of stress specific to breastfeeding nurses while working is unknown. Additional research may be necessary to explore the

experiences of nurses and factors which may create high-stress levels and influence breastfeeding.

Effects of COVID-19 on the Nursing Workforce

The COVID-19 global pandemic created significant challenges and hardships among health care workers around the world, particularly nurses (Souza., 2020). The large number of hospitalizations due to COVID-19 infections significantly impacted nursing workloads (Hoogendoorn et al., 2021). Shortages of PPE, unclear communication, and lack of family support for patients were common occurrences during the midst of the pandemic (Crowe et al., 2020). Many nurses were at risk of exposure themselves (Souza, 2020). These experiences had a significant effect on the physical and mental well-being of the nursing workforce.

Fatigue, anxiety, and stress were experienced by many nurses working during the pandemic (Souza, 2020). Studies indicate the mental health of nurses was particularly affected. Master et al. (2020) performed a cross-sectional study of nurses in China. Findings indicate a high degree of psychological distress among ED nurses due to a lack of social support and measures to protect them from the disease (Master et al., 2020).

A study by Aggar et al. (2022) explored the psychological impact of the pandemic on Australian nurses. Findings indicated one-fifth of nurses surveyed experienced high levels of pandemic stress. Additionally, 27.5% and 22% of nurses reported mild to extremely severe levels of depression and anxiety, respectively. It was found that high levels of stress due to the pandemic resulted in higher levels of depression, and self-compassion played a role in decreasing depression rates (Aggar et al., 2022).

One particular concern of the effects of the pandemic is post-traumatic stress disorder (PTSD) among nurses. Crowe et al. (2020) performed a mixed methods study to examine the effects of COVID-19 on the mental health of critical care nurses in Canada. The researchers concluded that over 50% of the participants demonstrated either probable or significant symptoms of PTSD. Rapidly changing policies, poor communication, and difficulty with managing the demands of home and work were contributing factors to the distress of the nurses surveyed, and it was identified that these nurses needed additional support to assist with coping and psychological well-being (Crowe et al., 2020).

Research has concluded the COVID-19 pandemic resulted in increased stress, depression, and PTSD among nurses around the world (Aggar et al., 2022; Crowe et al., 2020; Souza, 2020). It is also indicated that additional support may be needed for nurses who care for critically ill COVID-19 clients (Crowe et al., 2020). However, additional research is necessary to evaluate the support needed by U.S. nurses, particularly those who breastfeed. The impact of stress due to the COVID-19 pandemic on U.S. breastfeeding nurses is unknown.

Breastfeeding and the Workplace Environment

The workplace environment may play a role in a woman's decision to breastfeed as well as the duration of breastfeeding. Literature indicates many women experience barriers to breastfeeding which may influence their breastfeeding experience (McCardel & Padilla, 2020). Evaluation of these barriers provides recommendations for employers to better support women who continue to breastfeed after returning to work.

McCardel and Padilla (2020) explored workplace support for U.S. breastfeeding mothers who worked in a variety of career fields including the service industry,

education, sales, operators/laborers, and administrative support. Study participants described an inflexible work schedule, lack of private places to express milk, and lack of employer resources as the most common barriers encountered. Many women were unclear on workplace policies and accommodations allowed. It was recommended that occupational health nurses advocate for resources to better support breastfeeding mothers (McCardel & Padilla, 2020).

Workplace conditions were also found to influence breastfeeding among working, urban mothers in Thailand (Tangsuksan et al., 2020). Findings from Tangsuksan et al. (2020), indicate that women who worked nine to fourteen hours a day were more likely to discontinue breastfeeding after returning to work from maternity leave. Additionally, very few women, 28.8%, had access to breastfeeding areas, and only 34.4% received emotional support while at work. Therefore, it was recommended that working hours and emotional support be considered by employers to promote breastfeeding among working mothers (Tangsuksan et al., 2020).

Similar information has been discovered in a study by Riaz and Condon (2019) which explored the experiences of Pakistan nurses returning to work. Lack of workplace flexibility and provision of time to breastfeed or express milk were experiences described by these mothers. Additionally, many of these women had a shortened maternity leave which has been proven to decrease breastfeeding duration. The study found a need for hospitals to provide better support and accommodations for breastfeeding nurses (Riaz & Condon, 2019).

Research findings indicate common workplace barriers and challenges for women who attempt to breastfeed while working. Employer support, workplace flexibility, and

shorter work hours were found to be key elements in promoting breastfeeding; however, this is lacking in many occupations (McCardel & Padilla, 2020, Tangsuksan et al., 2020). It has also been indicated that breastfeeding while working may be difficult for nurses (Riaz & Condon, 2019), but qualitative findings specific to U.S. nurses are limited. Additional qualitative research is necessary to explore the impact of working conditions on the experiences of U.S. nurses who attempt to breastfeed.

RAM in Nursing Literature

Roy's adaptation model has been used as a framework for qualitative nursing research since its publication in 1970 (Roy, 2009). Through the use of the model, an understanding of phenomena and individuals' adaptation to stimuli can be obtained (Fawcett & DeSanto-Madeya, 2013). Based on the science of human life processes, the model provides the framework for understanding behaviors (Roy, 2009). Research utilizing this model has been used to develop evidence-based findings and influence clinical practice (Roy, 2009).

One example of the use of RAM to guide qualitative nursing research can be found in the study by Curcio (2017) which examined the experiences of nurses who cared for dying pediatric patients. This phenomenological study acknowledged the care of dying pediatric patients as a stimulus, in accordance with Roy's model; after evaluation of themes, the researcher concluded censoring was an adaptive method used by the nurses (Curcio, 2017). Findings were important in providing insight into the practices of nurses caring for dying pediatric patients, as well as coping strategies, and may be useful in the education of student and novice nurses (Curcio, 2017).

Roy's model has also been used to aid with the understanding of chronic pain among older adults. Flanagan (2018) used RAM as the framework for a qualitative case-study approach to explore the evaluation of pain in the aging population. Guidance can be found in the model to explain how individuals cope with pain in relation to physiologic factors, their self-concept, and role functions (Flanagan, 2018). It is recommended that advanced practice nurses utilize RAM when assessing patients to identify multiple factors which may impact a patient's experience with chronic pain (Flanagan, 2018).

The experiences of bariatric surgery patients have also been explored while using RAM as the guiding theoretical framework. Kabu Hergul and Ozbayir (2021), used a phenomenological design to explore the experiences of bariatric surgery patients and analyzed their experiences in accordance with each of Roy's adaptative modes. Findings indicated that nonadaptive behaviors in the physiologic mode were frequently experienced by patients in the immediate post-operative period (Kabu Hergul & Ozbayir, 2021). Researchers suggest additional education and support may be necessary for these patients during this post-operative time to better assist with the physiological changes encountered (Kabu Hergul & Ozbayir, 2021).

Roy's adaptation model has been proven to be effective in qualitative nursing research and in guiding the exploration of individuals' adaptive behaviors (Fawcett & DeSanto-Madeya, 2013). Due to the focus on the influence of external stimuli, the model is applicable to phenomenological research (Fawcett & DeSanto-Madeya, 2013), and served as a guide in the exploration of influences on the experiences of breastfeeding nurses.

Summary

The review of the literature provides substantial research regarding the benefits of breastfeeding and the need for breastfeeding promotion. Findings from the literature also indicate that stress and the workplace environment may negatively impact a woman's ability to breastfeed as well as breastfeeding duration (McCardel & Padilla, 2020; Nagel et al., 2022; Shukri et al., 2019; Tangsuksan et al., 2020). Research indicates that the COVID-19 pandemic created challenging and stressful workplace conditions for nurses (Aggar et al., 2022; Crowe et al., 2020; Hoogendoorn et al., 202; Souza, 2020); however, there is a gap in the literature exploring the effects of stress and workplace conditions on breastfeeding nurses. Additionally, research specific to ICU, ER, and med-surg nurses within the U.S. who attempted to breastfeed while caring for COVID-19 patients cannot be found. Exploration of the experiences of these nurses through this study provided insight into the challenges lactating nurses face and guidance to assist nurse leaders and administrators in supporting and promoting breastfeeding practices among nursing staff.

CHAPTER III - METHODOLOGY

Introduction

This chapter will discuss the methodology used for the research study including the research design, data collection process, and ethical considerations. Phenomenological research is used to explore the experiences of individuals and may be particularly helpful to health professionals attempting to understand phenomena and health behaviors (Neubauer et al., 2019). Specifically, hermeneutic phenomenology acknowledges the influences of one's world on perceptions (Neubauer et al., 2019). Because the study evaluated the lived experiences of breastfeeding nurses, a phenomenological approach was appropriate to guide the collection of data and promote understanding of the study's research questions. In this chapter, the qualitative method of hermeneutic phenomenology will be elaborated upon and details regarding this research approach will be explained.

Research Design

Qualitative research attempts to interpret and understand the meanings of phenomena through the collection of data and identification of themes (Creswell & Poth, 2018). Specifically, a hermeneutical phenomenological approach is used to explore and give meaning to the lived experiences of individuals (Crowther & Thomson, 2020). As discussed in chapter two, little is known regarding the experiences of breastfeeding nurses who cared for COVID-19 patients during the recent global pandemic. Therefore, the use of phenomenology to explore these experiences and interpret what it means to breastfeed while caring for COVID-19 patients may be beneficial to the nursing

profession and future breastfeeding nurses who attempt to care for critically ill clients, including those infected with COVID-19.

Phenomenology was founded by the German philosopher, Edmund Husserl (Biemel & Spiegelberg, 2022). Initially trained as a mathematician, Husserl began to challenge traditional epistemology with the exploration of the relationship between one's being and consciousness (Biemel & Spiegelberg, 2022). Based upon the influences of Husserl, Martin Heidegger, later developed hermeneutic phenomenology to explore the influences of the world on individuals' realities (Neubauer et al., 2019). Heidegger differed from Husserl by evaluating lived experiences through an ontological viewpoint, and he also believed an individual's past experiences and culture could influence the meaning of experiences (Neubauer et al., 2019). Heidegger aligned his ontological view with the concept of "being" (Heidegger, 1962) which he referred to as Dasien (Horrigan-Kelly et al., 2016). He believed that reality and being can only be understood through an exploration of a phenomenon (Heidegger, 1962). Heidegger identified the importance of social context in his phenomenological approach (Al-Raisi et al., 2020), and referred to phenomenology as an ontological interpretation of "entities within-the-world" (Heidegger, 1962, p. 247). The use of Heidegger's hermeneutic phenomenology utilizes research questions to reflect upon elements that may contribute to and give meaning to a lived experience (Errasti-Ibarrondo et al., 2018), thus serving as an appropriate method for the study of breastfeeding experiences.

Phenomenological interpretation is cyclic and explained through the hermeneutic circle (Sebold et al., 2017). Interpretation is influenced by multiple factors including previous experiences, pre-conceptions, and the environment (Sebold et al., 2017).

Evaluation of all parts in relation to the whole leads to a more thorough understanding of a phenomenon (Suddick et al., 2020). The below graphic outlines the various parts of the hermeneutic circle.

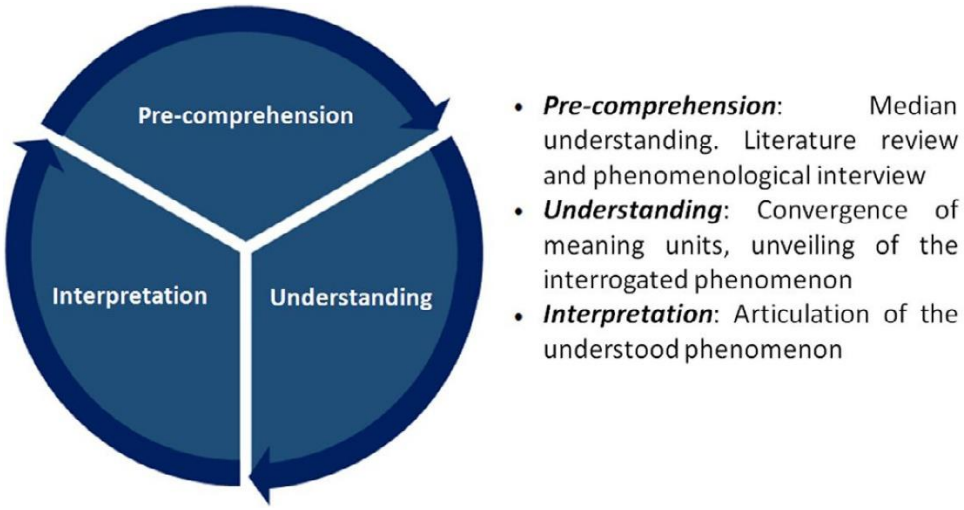

Figure 2. Hermeneutic Circle

(Guerrero-Castaneda et al., 2019, p. 6)

The first component of the circle, pre-comprehension, begins with preconceptions and understandings of a phenomenon from the researcher's perspective (Guerrero-Castaneda et al., 2019). The second concept, understanding, involves questioning and evaluation as well as identifying relationships among the moments of being (Guerrero-Castaneda et al., 2019). During the third phase, interpretation, meaning is given to a phenomenon as well as new pre-understanding (Guerrero-Castaneda et al., 2019). The use of the hermeneutic circle results in deriving a new meaning and interpretation of a specific phenomenon (Suddick et al., 2020). In the case of this study, the application of knowledge regarding the benefits of breastfeeding and potential environmental impacts was used to guide investigation and lead to a greater understanding and interpretation of the experiences of nurses breastfeeding during the COVID-19 pandemic.

Roy's adaptation model provides guidance as a conceptual framework for this phenomenological study, due to its recognition of the influence of stimuli on individuals' adaptation. Roy's model explains that the behavior of individuals and their response to the environment can be explained through the four adaptive modes of physiologic-physical, self-concept, role function, and interdependence (Roy, 2009). Each of these four modes may be applicable to the experiences of breastfeeding nurses, particularly to those with the environmental influences created by working in the midst of a global pandemic. Since hermeneutics acknowledges the influences of one's world on lived experiences (Neubauer et al., 2019), the use of Roy's model which focuses on responses created from environmental influences and experiences is appropriate to guide this hermeneutic phenomenological study.

Hermeneutic phenomenology is frequently used as a research method in the areas of health and social sciences (Crowther & Thomson, 2020). For example, in a study by Beck et al., (2017), researchers explored health care professionals' perceptions of protected mealtimes (PM). The purpose of PM is to stop all non-acute activities so health care professionals can focus on feeding patients (Beck et al., 2017). Researchers discovered that professionals perceived this experience in a positive manner and expressed increased bonding and a renewed view of neurological patients with the use of PM (Beck et al., 2017). The study provided insight into the phenomena of meal times and could be applicable to future research regarding the influence of surroundings on health care professionals (Beck et al., 2017).

Maternal and child health researchers have also utilized phenomenology to explore the breastfeeding experiences of first-time mothers in Australia (Charlick et al.,

2019). Charlick et al. (2019), used a phenomenological approach to identify barriers and concerns encountered by first-time mothers when attempting to exclusively breastfeed for six months. Common themes identified included personal determination, social norms, and feelings of judgment (Charlick et al., 2019). The mothers indicated they felt unprepared to face the opinions and criticisms from others regarding their decision to breastfeed, and researchers concluded that actions to normalize breastfeeding while limiting debate from those who choose not to breastfeed may be necessary (Charlick et al., 2019).

Hermeneutic phenomenology can be beneficial to the exploration of lived experiences not fully understood (Crowther et al., 2017). As previously described, the use of this method within health-related fields can provide interpretation and understanding of experiences and promote change. Hermeneutic phenomenology is an appropriate methodology for the study attempting to evaluate the lived experiences of breastfeeding nurses who worked while caring for COVID-19 patients. Providing meaning and interpretation of these experiences may be useful to create work environments that are accommodating and supportive of breastfeeding nurses.

Role of the Researcher

The researcher was involved in all phases of the study, including the collection and analysis of data as well as the dissemination of findings. It was the responsibility of the researcher to recruit and identify study participants through social media sites. The researcher developed interview questions and conducted interviews with study participants. Additionally, the researcher was responsible for ethical considerations

including obtaining IRB approval and maintaining the privacy and confidentiality of all participants.

The researcher attempted to limit the impact of personal beliefs on research findings. Heidegger acknowledged that a researcher's background and past experiences may influence their interpretation of data (Neubauer et al., 2019). Therefore, Heidegger believed that bracketing, or the removal of the influences of past experiences (Creswell & Poth, 2018), is not feasible for hermeneutic research (Neubauer et al., 2019). However, the researcher should be aware of these influences and acknowledge any preconceptions which may impact data interpretation (Neubauer et al., 2019).

Sampling and Setting

Nurse-specific, Facebook social media groups were utilized to recruit participants. Examples of groups used for recruiting included Nursing Education and Research, Nurses for Nursing Research and Science, Critical Care and Emergency Nurses, Professional Nurses Association, and Breastfeeding and Pumping Nurses. Social media groups such as these were used to advertise the study to potential individuals who would meet inclusion criteria. Snowballing also occurred through individuals sharing the study via social media or word of mouth. Interested study participants reached out to the researcher via social media or email and were reviewed by the researcher for selection in the study.

Purposeful selection is necessary for qualitative research to promote an understanding of research questions (Creswell & Creswell, 2018). In phenomenological research, study participants must have experienced the phenomenon being evaluated (Creswell & Poth, 2018). Participant recruitment for this study was directed toward ICU, ER, and med-surg nurses who breastfed while caring for COVID-19 patients. The

inclusion criteria for the sample included staff nurses who cared for COVID-19 patients from January 2020 through June 2022. These nurses must have worked in either an ICU, ER, or med-surg setting and must have also attempted to breastfeed while working in one of these clinical areas. Study volunteers were selected based on their fulfillment of inclusion criteria. There were volunteers who worked in labor and delivery. These volunteers were excluded from the sample since they did not have experience in one of the specified areas of ICU, ER, and med-surg. Once it was determined that volunteers fulfilled the study requirements, they were added to a list to interview. Volunteers were accepted until saturation of data was achieved.

Data is considered saturated when no additional themes or insights are obtained from research participants (Creswell & Creswell, 2018). A total of twelve participants were included and were considered a sufficient sample due to the achievement of data saturation. Typically, phenomenological studies require at least three to ten participants (Creswell & Creswell, 2018). In a phenomenological study by Cain (2021), seven interviews were conducted prior to achieving saturation of data while Dharma & Rahayu (2022) required 11 participants to achieve saturation of data. Once a researcher identifies that the interviews are no longer providing new insight and information, additional data collection is not deemed necessary (Creswell & Creswell, 2018). Within this study, the researcher felt saturation of data occurred after interviewing participant ten. Two additional interviews were conducted at that point to evaluate for additional information and confirm data saturation.

Data Collection

Interviews for the study were conducted virtually through a Zoom® format in a private setting. Study participants choose a convenient, private area in which they were comfortable answering interview questions. The use of the Zoom® platform for data collection allows for the recording of the interviews as well as audio transcription and closed captioning (Zoom, 2022). This permitted the researcher to re-play and review interview sessions when performing data analysis. Additional benefits of the Zoom® platform include convenience and time-effectiveness (Archibald et al., 2019). There are no travel expenses associated with the use of the virtual platform, and participants in studies utilizing Zoom® report satisfaction due to the flexibility with their busy schedules (Archibald et al., 2019). Additionally, interviews conducted via Zoom® have been shown to promote the development of trust and rapport between the participant and researcher in comparison to interviews conducted via phone or other methods which lack a visual component (Archibald et al., 2019). The researcher of this study found the use of Zoom® to be accommodating to the study participants as they were allowed to participate in the comfort of their homes. The use of Zoom® eliminated the need for childcare for the participants and allowed flexibility for the researcher in scheduling times that were most suitable for the participants.

Limitations to the use of Zoom® for data collection include various technical difficulties. In a study by Archibald et al., (2019) examining the use of the Zoom® platform for conducting interviews, poor internet connection and limited microphone or webcam capabilities were found to be the most frequent challenges. Video quality and lag time were also identified as potential technological issues (Archibald et al., 2019). Lack

of availability of high-speed internet may be one factor contributing to these problems (Archibald et al., 2019). The researcher was aware of these potential challenges and anticipated these barriers. However, there were very few technical issues encountered. There were occasional lag times during a few Zoom® sessions, but it did not impact the quality of the interviews and the process of collection of data.

The purpose of the interviews was to answer the research questions:

1. What were the lived experiences of ER, ICU, and med-surg nurses attempting to breastfeed while caring for COVID-19 patients within the United States?
2. Did U.S. workplace conditions influence breastfeeding duration for ER, ICU, and med-surg nurses caring for COVID-19 patients?

To provide further exploration of these questions, additional sub-questions were utilized. Sub-questions assist with analyzing the phenomenon being studied and its components (Creswell & Poth, 2018). It is recommended to utilize five to seven sub-questions when evaluating a central question (Creswell & Poth, 2018). The sub-questions which were utilized for the interviews are listed below.

1. What does it mean to be an ER, ICU, or med-surg nurse who cared for COVID-19 patients?
2. What does it mean to you to breastfeed your baby in general?
3. What were the workplace conditions while you were breastfeeding?
4. What was easy about breastfeeding while working as a nurse and caring for COVID-19 patients?
5. What was hard about breastfeeding while working as a nurse and caring for COVID-19 patients?

6. How did your occupation as a nurse impact your breastfeeding experience?

Probes were used to clarify and ask for more information (Creswell & Creswell, 2018). Examples included “Can you tell me more about that?”, or “Can you elaborate more?” Probes such as these are useful to encourage the elaboration of information by participants (Creswell & Creswell, 2018), and were helpful to obtain additional details from the participants. A follow-up question was used at the end of each interview, as recommended by Creswell and Creswell (2018). The researcher closed by asking if there was any additional information the participants would like to share which often prompted additional discussion of feelings and experiences by participants.

Additionally, a Qualtrics® questionnaire was utilized to obtain consent and demographic information. Participants completed this at their home, work, or any additional setting which provided them the privacy and the technology necessary. The questionnaire was completed by each participant prior to the initiation of the Zoom® interviews. Qualtrics® is a web-based software program, which enables researchers to create surveys from which results can be downloaded into reports for use when evaluating and analyzing data (Southern Illinois University, Edwardsville [SIUE], 2022). Demographic data collected for the study included participants’ age, race, geographic location, highest degree held, size of the hospital, nurse-patient ratio, and the setting in which they worked. Additionally, the questionnaire evaluated the duration of breastfeeding and identified if participants were referencing a first-time or subsequent breastfeeding experience.

Data Analysis

Analysis of data was performed using the data analysis spiral as outlined by Creswell and Poth (2018). This method acknowledges that steps of the analysis process are often related, and may occur in conjunction with one another (Creswell & Poth, 2018). This model begins with the organization of data (Creswell & Poth, 2018). Data was organized and stored in digital files, which were password protected.

Following this phase, the researcher should read and memo emerging ideas from the data (Creswell & Poth, 2018). The researcher thoroughly reviewed the transcripts from the interviews. This allowed for the understanding of the data as a whole prior to segmenting details (Creswell & Poth, 2018). Using memos, or short phrases assists with the notation of concepts and ideas from the interviews (Creswell & Poth, 2018), and this was completed by the researcher. Notations can then be coded and classified into themes which is the third phase of the spiral (Creswell & Poth, 2018). The researcher then used the themes identified to interpret and provide meaning to the data while also identifying relationships between concepts as outlined in the fourth phase of the spiral (Creswell & Poth, 2018). The last phase of this analysis method involves creating a visual display to represent the data (Creswell & Poth, 2018). The researcher utilized a table to organize and display themes identified from the study findings.

Rigor is important to promote the value and trustworthiness of qualitative research. (Brigitte, 2017). Assurance of a study's validity and reliability is necessary to guarantee that quality data is obtained (Brigitte, 2017). One method used to promote the reliability of a qualitative study is to verify the accuracy of transcripts and confirm that errors do not occur during the transcription process (Creswell & Creswell, 2018).

Another method is cross-checking to assure that passages from transcripts would be coded similarly by different researchers (Creswell & Creswell, 2018). Therefore, careful evaluation of transcript accuracy was performed during the data analysis phase of the study. Transcripts were reviewed and compared to interviews to ensure accuracy in dictation. It was also important that transferability and credibility were insured to maintain the trustworthiness of the study (Brigitte, 2017; Stahl & King, 2020). The methods of maintaining these aspects of trustworthiness will be further discussed in chapter four.

Researcher bias creates a threat to the validity of qualitative studies (Brigitte, 2017). Reflexivity, or self-reflection, is necessary to control this bias (Brigitte, 2017). The researcher of the study was aware of the potential influences of past experiences and biases.

A peer debriefing was also recommended by Creswell and Creswell (2018). The use of this debriefing promotes validity by allowing someone other than the individual performing the research to evaluate the study and research findings (Creswell & Creswell, 2018). Additionally, the use of "rich, thick, descriptions" (Creswell & Poth, 2018, p. 263), can be used as a validation strategy. This involves the inclusion of details and perspectives when describing themes and may create a more realistic representation of the experiences being discussed (Creswell & Poth, 2018). Evaluation by other researchers and the use of rich, thick descriptions are methods incorporated to promote the validity of this study.

Ethical Considerations

The protection of participants was of utmost priority during the conduction of the study. Prior to beginning the study, Institutional Review Board (IRB) approval from the sponsoring institution, The University of Southern Mississippi, was obtained (Protocol #22-1559, see Appendix A). The purpose of IRB approval is to evaluate potential risks and ensure the safety of study participants (Creswell & Creswell, 2018). Additionally, informed consent was received from all participants prior to the initiation of the study. Elements included in the informed consent were identification of the researcher, institution, study purpose, participation benefits, level of participant involvement, potential risks, confidentiality guarantee, assurance that the participant may withdraw at any time, as well as researcher contact information (Creswell & Creswell, 2018). The informed consent was provided to ensure the participants had a clear understanding of the study, and confirm that all participation was voluntary.

The privacy of study participants was maintained throughout all phases of the research. The identity of participants was protected by the use of participant numbers instead of names. The researcher asked all participants if they would be willing to have the Zoom® session recorded before beginning interviews, and all participants consented. The Zoom® platform allows for secure recordings which are able to be stored in an electronic "cloud" owned by the researcher (Archibald et al., 2019). This "cloud" is password protected and requires a dual sign-in process, therefore promoting the security of the recorded interviews. Demographic data collected from the Qualtrics® questionnaire was also password protected. Additionally, these security features of password protection and a dual sign-in process will be utilized for the storage of transcriptions and notations

of codes and themes in the data analysis phase of the study. All available precautions will be taken to protect the digital methods utilized and the privacy of study participants.

Summary

A qualitative research design using hermeneutic phenomenology was utilized to conduct the discussed study and provide guidance to adequately collect and analyze data for the interpretation of the lived experiences of ICU, ER, and med-surg nurses who attempted to breastfeed while caring for COVID-19 patients. Virtual methods to recruit volunteers and perform interviews were utilized, and benefits and challenges to the use of virtual platforms were identified by the researcher. Additionally, actions were taken to promote a safe, ethical study and protect the privacy of participants.

CHAPTER IV – RESULTS

Introduction

Chapter four will discuss the collection, analysis, and interpretation of data. Creswell and Poth's data analysis spiral was used as a guide to evaluate data and identify themes. Each theme identified was also aligned with an adaptation mode from RAM to evaluate for adaptative behaviors. Themes will be presented in this chapter to explain the findings from the research study and describe the experiences of the nurses interviewed.

Gathering, Generating, and Recording Data

Approval from The University of Southern Mississippi's Institutional Review Board, Protocol #22-1559, was obtained prior to the recruitment of participants. The IRB approval letter can be found in Appendix A. Recruitment for participants was performed through Facebook social media sites using the IRB-approved advertisement (see Appendix B). Additionally, snowballing occurred by individuals sharing the advertisement among peers through social media and word of mouth.

Participants reached out to the researcher via email or social media regarding their interest in participating in the study. Private correspondence with the participants through email or Facebook messenger occurred to establish meeting times and distribute Zoom® links for interviews. Participants were sent a Qualtrics® link to complete an electronic consent and obtain demographic information prior to the completion of the Zoom® interviews. The risks and benefits associated with the study were outlined in the consent. Confidentiality was also explained in the consent as well as at the beginning of each interview. To maintain confidentiality, all participants were assigned an identification number.

A total of twelve interviews were conducted. Due to the achievement of saturation of data, no further interviews were deemed necessary. Interviews ranged from 20 minutes to 38 minutes and averaged 29 minutes. Once interviews were completed, transcripts and video recordings were downloaded from Zoom®. Data analysis was guided by the Creswell and Poth (2018) spiral shown below.

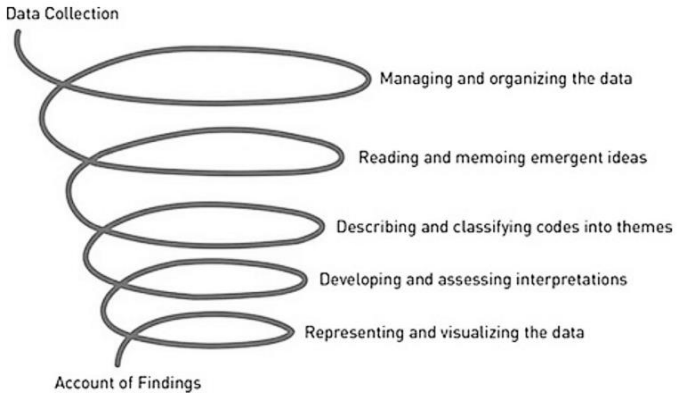

Figure 3. Creswell and Poth's Data Analysis Spiral

(Creswell & Poth, 2018, p.186)

The transcripts were reviewed and compared to video recordings. Errors in transcription were corrected to ensure data accuracy. Once transcripts were corrected, they were once again reviewed while making notations. Both notes and reflections of the data were organized in a table utilizing Microsoft Word. Keywords and phrases were identified which were then grouped into themes. Seven major themes were identified, and six of them contained subcategories. All themes were aligned with one of Roy's four adaptation modes. All data was stored in a password-protected file.

Research Findings

Demographic Information

Study participants ranged from 24-33 years of age with the average age being 29. One of the participants was African American; eleven participants were white. The educational degree of participants included associate degrees (8.3%), Bachelor's degrees (58%), and Master's degrees (33%). Of those participants who possessed master's degrees, only one of them worked in an advanced practice role during the time period being evaluated. Half of the participants stated it was their first time breastfeeding. The length of time the participants breastfed ranged from 8.5 months to 2.5 years, with at least a portion of their breastfeeding duration occurring during the COVID-19 pandemic.

The participants represented the specialty areas of ICU (35.29%), ER (29.41%), and med-surg (35.29%). Some of the participants worked in more than one location during the time period being investigated. The patient ratios of their workplace ranged from 1:1 to 1: 6. The size of the hospitals in which the participants worked ranged from less than 100 beds (8.3%) to greater than 500 beds (41.67%). Ten different states were represented by the participants. Half of the participants worked full-time during the time period being investigated while the remaining participants worked part-time or PRN.

Identified Themes

Data analysis revealed seven major themes which included:

1. COVID was Hard
2. Intrinsic Motivation
3. Health Benefits
4. Challenges of Breastfeeding

5. Workplace Relationship
6. The culture of Nursing was not Accommodating
7. Insufficient Education and Resources.

Subcategories were identified within most major themes. Additionally, each theme was analyzed with one of the four adaptation modes within Roy's adaptation model. A review of each theme in regard to RAM allowed for the evaluation of adaptive and non-adaptive behaviors. Participant responses revealed poor adaptation within two of the major themes. The below table outlines the major themes, subcategories, and adaptation modes.

Table 1

Lived Experiences of Nurses Breastfeeding with Roy's Adaptation Alignment

Themes	**Sub-themes**	**Roy's Adaptation Model Alignment**
COVID was hard	1. Uncertainty 2. Increased workload	Role Function Mode
Intrinsic Motivation	1. Pride 2. Determination	Self-Concept Mode
Health Benefits	1. Immune protection 2. Bonding	Physiologic Mode
Challenges of Breastfeeding	1. Accessibility of private locations 2. Physiological impact of milk production 3. Contamination and cleanliness	Physiologic Mode
Workplace relationships	1. Co-worker support 2. Being a burden	Interdependence Mode
The culture of Nursing was not accommodating	1. Unable to take breaks 2. A lack of value	Self-Concept/ Group Identity Mode
Insufficient Education and Resources		Role Function Mode

COVID was Hard

The depiction of the COVID pandemic as hard was unanimous among all participants. Participants described the time period as stressful and filled with uncertainty. Many of the participants discussed changes to their duties and an increased workload. The participants described working during the pandemic as "hard" or "difficult". One participant described working during this time as "life-altering". She explained,

> I can only remember maybe a handful of patients that even lived. It was the battlefield; you know because it was like people were constantly just the sickest I've ever seen in my life. It was really emotionally stressful. It was physically stressful (Participant #12).

One participant referred to the time as a "mass casualty event" and described working during COVID as "exhausting." Many participants noted the significance of the time and its impact on modern history.

Uncertainty

One common factor mentioned throughout the interviews was the uncertainty of the time. Many of the participants discussed the lack of knowledge surrounding the virus and the care of patients. The changing guidelines often created confusion. Participant #2 described working during the pandemic as "scary" and explained

> we didn't know what we were doing…We didn't even know which mask we were supposed to be using. Is it airborne? Is it a droplet? We were so ill-prepared. You didn't feel confident protecting ourselves and lacking the supplies that we needed.

Participant #4 described feeling like a different nurse after working through COVID. She stated the pandemic brought to life a "different side of [nursing]." She described seeing two to three body bags a day. Patients were described as "pitiful," "alone," and "terrified." She explained that conflicting information from various sources led to a significant amount of uncertainty.

Participants #5 and #6 described the time as "uncertain" and "difficult", respectively. Participant #7 felt it was "hard" and "scary". Participant #8 also mentioned the constantly changing guidelines and the uncertainty that resulted. Participant #9 explained that initially, they did not know how to care for patients and described the early phases of COVID as "back to basics nursing". She stated that basic nursing interventions such as turning, incentive spirometer, etc. were used because they lacked other treatment modalities.

In addition to the unknown of the disease and how to care for patients, participants were often displaced from their "home" units. Many were forced to work in unfamiliar settings and care for patients with higher acuity than to which they were accustomed. Participant #1 explained that she never wanted to work in the ICU; however, during the pandemic, she was frequently floated to ICU. Participant #2, an ER nurse, stated she frequently worked in the ICU due to the low ER census. Participant #6 explained that her unit transformed from a Neuro ICU to a COVID ICU, and stated she felt very "uneasy" before going to work each day. Participant #10 also stated she was frequently relocated from her home unit to different floors throughout the hospital. The uncertainty of working in areas and specialties which were different from their pre-COVID environment was a common experience of the study participants.

Increased Workload

Many participants explained that their increased workload contributed to the hardship of COVID. The majority of participants also expressed being responsible for additional duties, which had previously not been their responsibility. In efforts to decrease the number of potential exposures, many members of the health care team such as lab and housekeeping did not enter COVID rooms. As a result, responsibilities were added to the participant's workload such as phlebotomy and cleaning of patient rooms.

Participant #1 explained that nurses had additional duties which included cleaning rooms and taking out the trash. She felt this contributed to a decrease in the quality of patient care. Participant #9 stated that nurses became responsible for drawing labs and taking out the trash. Participant #12 discussed assuming the housekeeping role of cleaning rooms and floors. Participant #8 also explained that other disciplines such as housekeeping, physical therapy, and occupational therapy were not allowed to enter the COVID rooms. Therefore, she had to assume those responsibilities when caring for patients. She stated:

> At the time when we were having COVID patients who were symptomatic, the lab did not go in, so that was my responsibility. Housekeeping did not go in. That was my responsibility. Our tech didn't go in much, so then any of their things were my responsibility. PT, OT, and nobody else went in but me.

The method of patient care was also changed at that time. Participant #11 explained at her facility nurses were asked to limit the number of times they entered COVID rooms. She stated,

> The workflow was different. Only one person was supposed to go in at a time, and instead of being right at the bedside, we were really encouraged to only try to go in every 3 hours, even if they were on a vent… they actually made like these little, I hate to call it a hole in the wall, but it looks like a hole in the wall in negative pressure room[s], where IV tubing and the ventilator tubing, and everything, came outside of the room. You could finagle, with all that outside of the room, and then only go into the room as little as possible.

Other nurses also described a change in care delivery with a required clustering of care and limitation of exposure. The increased duties along with changes in care delivery were all factors that participants associated with the hardship of caring for COVID patients.

RAM and the Hardship of COVID

The hardship of COVID due to uncertainty and increased workload required adjustments by nursing staff. Adaptation to this difficult time can be analyzed and explained through Roy's adaptation mode of role function as an individual. This mode refers to the role an individual may fill within society and the relationship between the different roles an individual may possess (Roy, 2009). The elements of uncertainty and changes in work responsibilities created challenges for the participants and caused many of them to re-examine their role as nurses. As previously explained, many of the nurses felt uncertain regarding how to care for COVID patients, and the knowledge surrounding the novel COVID-19 virus was unclear and everchanging. The participants experienced a change in their care delivery methods as well as responsibilities while at work. Duties

that they had not previously been assigned were now required to be incorporated into their daily tasks.

Roy (2009) explains that one method of adaptation to stressors of role function is role transition. Through this method, adaptation occurs when an individual assumes secondary roles to fulfill their primary role function (Roy, 2009). In the case of the study participants, many of them had to assume additional responsibilities roles such as housekeeper and lab technician. Many of them changed their method of patient care to adapt to the workload demands and uncertainty of the time. Through this process of role transition, compensation and adaptation within the role function mode can be obtained (Roy, 2009).

Intrinsic Motivation

Intrinsic motivation is the drive to do something due to personal interests or satisfaction rather than external recognition or reward (Santos, 2019). Most of the study participants expressed internal motivation to work and contribute to the care of COVID patients. The decision to breastfeed was also based on intrinsic motivation. The participants did not receive external recognition for their actions but rather voiced their own internal satisfaction with their roles as nurses and mothers.

Pride

Many of the participants expressed feelings of pride for continuing to breastfeed their babies while working. Although they described pumping at work as difficult, they felt accomplished by being able to continue to breastfeed and provide nutrition for their baby while working. Regarding breastfeeding, one of the nurses stated,

> [It's] one of the things in my life that I've been most proud of…You know you grow them, which is wonderful, but then they're outside of you, and then you sustain them…It has meant the world to me (Participant #1).

Participant #2 stated that she was surprised by how she felt about breastfeeding. She stated, "I was proud to be able to do [it], and I feel like it's definitely the best choice for my kids". Participant #6 stated, "I was very proud of being able to provide for my baby". Participant #7 also expressed feelings of pride and stated "The most proud I was of myself as a parent was being able to breastfeed while working full time." Participant #10 expressed feelings of pride due to breastfeeding and "breaking a generational curse." She went on to explain:

> It's well known that a lot of black mothers don't get to breastfeed, or you know they don't have success in doing it. It was liberating, and then also helped me to look forward to generations. If I get this right, and I can help my grandkids or whoever is down the line (Participant #10).

Participant #12 also was very proud of being able to breastfeed. She described it as "life-giving." She stated,

> I feel like I personally took it as my job, and I know that people put pressure on themselves to breastfeed and do that, and I always told myself if I could do it I wanted to try. So, I made every effort to try to be able to do that because it was so important to me (Participant #12).

When asked to explain what breastfeeding meant to them and what it meant to breastfeed while working and caring for COVID patients, most of the participants expressed feeling

pride and accomplishment to have been able to breastfeed while working during the pandemic.

Self Determination

A second common intrinsic motivation element discussed among the participants was the determination to breastfeed. The consensus among the participants was that their personal drive and resolve enabled them to continue to breastfeed while working. Although breastfeeding was described as difficult by many participants, they did not view it as optional. Many of the participants expressed that they often lacked support from co-workers and managers, and therefore, they were required to act as their own advocates. Participant #1 stated,

> It took a lot of setting your mind on it and deciding this is what I am going to do, and I am not going to negotiate…If somebody tells me I can't go pump, that's them telling me I can't feed my baby and that's not going to happen (Participant #1).

Participant #3 discussed how she made pumping a priority. She would explain to her patients where she was going, and stated most were understanding. Participant #7 also acknowledged the determination required to breastfeed. She stated, "It was about doing hard things that you didn't know you would be able to do when you started. It was about persistence, determination." The theme of determination was also supported by Participant #8 who stated "ultimately, I had to come down to the conclusion that I give everything I've got to my patients when there. I owe my baby the same." Participant #11 also expressed determination by stating "It's important to me. It's not even a question to me. It's not, am I going to? It's just something I do."

RAM and Intrinsic Motivation

The intrinsic motivation demonstrated by the participants indicates adaptation through the self-concept mode of the person. Self-concept is defined by Roy as the perceptions and beliefs one has about themselves (Roy, 2009). Adaptation within this mode may occur through focusing which includes being "in touch with self in a way that surfaces hope, energy, continuity, meaning, purpose, and pride" (Roy, 2009, p. 329). The concepts of meaning, purpose, and pride were all expressed by the study participants and their perceptions of themselves.

As previously explained, many of the participants were proud to have been able to breastfeed. They acknowledged that it was difficult and required a commitment. The participants expressed feeling accomplished by pumping while working as a nurse during the COVID-19 pandemic. When elaborating on their determination, most of the mothers revealed breastfeeding was a source of meaning. The participants believed their purpose of providing nutrition and sustaining their infants was essential, and this role appeared to give them hope and energy and promote their determination to pump while working. Their identification of purpose, as the primary source of nutrition for their baby, resulted in pride and determination which promoted adaptation as they sought ways to pump and continue to breastfeed while working.

Health Benefits

While interviewing participants, the topic of breastfeeding health benefits was frequently mentioned. Many of the participants believed breastmilk was the best source of nutrition for their babies. Despite the challenges encountered while breastfeeding and

working, all but one of the participants stated health benefits as a reason for breastfeeding their baby.

Immune Protection

One of the primary health benefits discussed by the participants was the provision of antibodies and immune protection for their infants. Research has identified that antibodies and immunological factors found in breastmilk can be beneficial to babies. Immunoglobins and cytokines have all been found in breastmilk (Atyeo & Alter, 2021). Many of the mothers referenced these properties within breastmilk, particularly in regard to protection against COVID. Though little was known about the transmission of COVID antibodies through breastmilk at that time, the mothers felt that breastfeeding could potentially provide their babies with immune protection against the virus.

Participant #2 expressed feeling more determined to breastfeed her baby because of the potential immunities provided through breastmilk. Participant #3 also referenced the immune response and antibodies provided through breastmilk. Participant #5 stated, "I just really wanted to give my baby the best and that's what I saw was the best." She went on to explain that she had been infected with COVID during her pregnancy and believed there would be antibodies within her breastmilk that would help protect her baby.

Participant #7 also referenced breastmilk as a way to give her baby the best. She felt that breastfeeding was important for the physical, social, and emotional well-being of her baby. Participant #8 had concerns due to her constant exposure to organisms and wanted to pass her antibodies on to her child. Participant #11 also felt some relief by protecting her baby through breastfeeding. She explained that her baby was not sick until

after discontinuing breastfeeding, despite any exposures she may have brought to her baby due to her job. Participant #12 stated that she had received both COVID vaccines and her booster while breastfeeding. She felt that this would provide antibodies to the baby and give him what was needed should the baby become sick.

Bonding

Many of the participants also referenced the bonding benefit as a reason for breastfeeding. Breastfeeding may increase oxytocin levels in mothers and provide feelings of comfort and security for babies (Health Resources and Services Administration [HRSA], 2021). One study participant described breastfeeding as a "great parenting tool" which allowed for the consoling of her infant.

Participant #4 believed bonding was different if breastfeeding verse bottle feeding. Participant #5 described a "closeness" with her baby which was experienced by breastfeeding. Participant # 10 felt the bonding experience through breastfeeding was very important after working a 12-hour shift. She explained that breastfeeding allowed for time to bond with her baby each day after work. After having been away from her baby for 12 hours or greater, she explained that she needed that bonding experience with her baby each evening.

RAM and Health Benefits

The physiological mode of Roy's adaptation model can be divided into needs and processes (Roy, 2009). Roy (2009) explains that protection is one of the basic needs of humans, specifically the immune process. Adaptation occurs when the body is able to attack and defend against pathogens (Roy, 2009). The antibody protection provided

through breastmilk promotes this immune process among infants, and therefore, breastfeeding helped to support the adaptation of the infants.

Endocrine function is also a process outlined in Roy's physiologic adaptation mode. As previously explained, oxytocin promotes infant security and bonding (HRSA, 2021). The hypothalamus is responsible for the production of oxytocin while the pituitary gland is responsible for storage (Cleveland Clinic, 2022b). The release of hormones from these glands is identified as an adaptive response in Roy's model (2009). Roy's explanation of the endocrine function and hormonal secretions aligns with the positive experiences of bonding described by study participants.

Challenges of Breastfeeding

Most of the participants interviewed described barriers and challenges encountered while breastfeeding. The experiences of pumping at work were often described as difficult. Participant #7 specifically explained that there was nothing easy about trying to pump at work. She simply stated, "it was very hard." Sub-themes regarding the challenges encountered included accessibility of private locations, impact on milk production, and concerns about contamination and cleanliness.

Accessibility of Private Locations

A lack of lactation rooms available for pumping was a common barrier experienced by the nurses interviewed. Of the 12 participants, only one felt that her facility had adequate and accessible lactations spaces. Several of the participants revealed that there were no designated pumping spaces within their facilities. Participant #8 stated "They didn't even have a pumping room… I think I was one of the youngest nurses they'd had, so it was not something they had to accommodate in the past. Pumping was a

hot mess there." Participant #3 also reported not having a designated pumping room. She was allowed to use her director's office; however, it was not always available. She used the Willow wearable pumps and would wear them while caring for patients and charting. She explained:

> I honestly would just go to the break room and put them on. Half the time if it was busy I would literally take them off in our [dictation room] …You'd see 20 to 30 patients in a 10-hour shift [in the ER], so a lot of times I would be sitting there charting, and just take them off. The doctor would be facing the opposite wall and he would hear it obviously. Most of them would never say anything (Participant #3).

The majority of the nurses reported having a lactation room within their facility; however, they felt it was difficult to access. One common issue reported was the distance to the lactation room from the unit on which they worked. Many of the participants expressed concern over the amount of time it would take to walk to the lactation room in addition to the time spent off the floor pumping. Several participants also reported that access to the lactation rooms was often limited and locked. Many times, lactation spaces were located in a locked area and were in use by someone else when the participants needed them.

Participant #1 explained that her facility had 3 lactation rooms in the Neonatal Intensive Care Unit (NICU), but they were behind locked doors. Sometimes she would have to wait for someone to let her onto the unit. She stated. "it's really inconvenient, how sparse it is". Participant #2 also described relying on someone else to provide her access to the lactation room. She stated that it was located on one side of the department.

If she were working on the other side it was a quarter of a mile walk. The door was locked and required security access. She explained:

> They have one room that nurses can pump in, but they don't give you access to it. You have to go fetch a security guard to go get the key, walk you all the way down to the end of the hall, knock on the door, and let you in. You have to pump. Then you have to walk all the way to the other side of the unit to the break room for the refrigerator. God forbid you go down to the [pump] room and somebody is using it. Now you've just wasted your time (Participant #2).

Because of limited accessibility or distance to the lactation rooms, many nurses sought out alternative pumping sites. Locations the nurses mentioned using were break rooms, locker rooms, family conference rooms, supply closets, restrooms, and ante rooms. Participant #4 explained:

> They had a room upstairs that they call the pumping room, but it's also where they [the cath lab] keep their clothes. So, they would try and come in. There was a bathroom in there...so I'd be in the middle of pumping and the door sometimes wouldn't lock, and they'd bust in and I'm sitting there pumping. It's kind of embarrassing. I mean it's a private thing in my opinion (Participant #4).

Participant #5 stated that due to the location of the designated pumping room and the distance from her unit, she used a break room for pumping. She described this as "an uncomfortable situation" due to the lack of privacy and coworkers knocking on the door while she was pumping. Participant #6 also explained that she utilized alternative pumping sites due to the location of the lactation room in her facility. She stated

> It is a very far walk. It's not very accessible if you do not work in that building. It's in a separate part of the hospital, and I only pumped in there one time because it was just too far of a walk and I couldn't leave my patients for that long. So that was really annoying honestly for me because I didn't have the accessibility to be able to pump freely as I needed to. I felt really exposed because there wasn't a designated area like there should be. I started pumping in some of the on-call rooms. That slowly got taken away from me because then the doctors were like, well we need our on-call rooms (Participant #6).

Participant #6 went on to explain that after being unable to use the on-call rooms she began to use the ante-rooms of her isolation patients. She stated, "the way that our ante-rooms are set up it's a pretty big space. The patients couldn't see me, but there wasn't a lock, so the privacy component of it really bothered me" (Participant #6).

Participant #7 also referred to the location of the lactation rooms as a barrier. She frequently floated around the hospital and explained that her pumping locations varied depending on the unit at which she was stationed. She stated, "We had two lactation rooms, but the hospital is enormous and I did not have time to walk to the lactation rooms unless I was working on a unit that was right next to the lactation room." She went on to describe the difficulty of finding a pumping location as stressful. She stated, "there was nowhere to go. I had to figure out where I was going to pump? Not even just each day, but each time I needed to pump each day" (Participant #7).

Participant #10 also experienced a lack of accessibility to lactation rooms. She felt the time it took to walk to the lactation room made the pumping sessions too long.

Therefore, she utilized a supply closet which often resulted in intrusion by staff during her pumping sessions. She explained:

> I was told initially that I could go to the mother-baby, labor, and delivery unit. That was down the hall from my unit. I mean it takes five minutes just to walk over there and then you got to set up and pump and all that, so that's a lot of time taken away from your patients and what you need to do. So, I just found a room nobody really uses, but there's lots of equipment in there so people [were] coming in and out there for equipment (Participant #10).

The common theme of limited access to private lactation rooms was found among all but one of the nurses interviewed. Challenges with access were most commonly linked to a lack of designated pumping rooms and the proximity of lactation rooms to the units on which the nurses worked. This lack of private spaces for pumping was frequently a source of frustration expressed by the nurses and viewed as a barrier to pumping while at work.

Physiological Impact of Milk Production

Many of the nurses reported that working and breastfeeding had physical effects on their bodies and milk production. Being unable to find locations and taking breaks to pump as frequently as needed were common issues encountered by the participants. They discussed problems such as engorgement and mastitis. Participants also mentioned the impact of the pumping environment on their milk supply.

There were two major factors the participants discussed that impacted milk supply. One was a limitation on the times and frequency at which they were able to pump. Most of the nurses stated when their infants were less than six months of age, they

needed to pump 3-4 times a day; however, they found it difficult to pump that frequently. Several participants mentioned that the inability to pump negatively impacted their milk supply and the amount they were able to provide to their babies. Participant #1 stated:

> I was not one of those nurses who had an abundance of supply. I would pump 4 ounces and that was max, so if I skipped a pump session I was just out of luck. I remember he was in daycare, and they would say, oh, we need more. They always needed more, and that caused me no end of stress.

This need for additional milk was also experienced by participant #3. She stated that she supplemented with formula while breastfeeding due to a limited milk supply. Participant #12 explained that she had a decrease in supply while working in the midst of a COVID surge. She attributed this to delayed pump sessions and a decreased consumption of fluids related to work demands. She stated:

> I probably slacked a lot more during that time with at least drinking fluids like I should and trying to pump at a time that I needed to. It was constantly being delayed because at that point at least one of my patients was passing every day or coding or something drastic. The last five to six months of breastfeeding were the most stressful I had out of my entire time of breastfeeding (Participant #12).

Several of the participants discussed how hard it was to relax while trying to pump. The majority of participants expressed concerns and worry over leaving their patients. As a result, a few of them experienced difficulty with a let-down while pumping. Participant #8 explained that she tried to pump every 4 hours, but being unable to do that affected her milk supply. She went on to explain that she was frequently unable to relax while pumping due to hearing overhead calls within the unit and felt this affected

her let-down and milk production. Participant #10 also discussed the inability to relax and the impact on her letdown. She stated:

> When you're pumping or breastfeeding your body is not going to really release the milk well if you're not fully relaxed. It's hard to encourage your body to release the milk when you're thinking 'what about my patient in this room'? (Participant #10).

She went on to explain that she attempted using headphones and listening to music while pumping to promote relaxation and let-down.

Aside from impacts on milk production, the participants also experienced physiological effects such as mastitis, engorgement, and clogged ducts. Participant #4 contributed her experience with mastitis to an inability to take breaks when needed. She stated that she would sometimes have to skip pumping sessions, particularly when working with specific nurses. She described getting mastitis once after working three days in a row with insufficient time to pump.

Engorgement and clogged ducts were also experienced due to pumping limitations. Participant #5 verbalized experiencing both of those physical symptoms while breastfeeding. Participant #10 described clogged ducts resulting in significant discomfort and symptoms similar to mastitis. She referenced a day that she was not able to pump at work. She stated, "I ended up getting really engorged, and whenever I get too engorged I get a clogged duct and actually react like I have mastitis. I get a fever and just feel horrible."

Contamination and Cleanliness

Other physical aspects of breastfeeding that concerned study participants were contamination and cleanliness of breastmilk while caring for infectious patients. The majority of the participants worried about contaminating their milk and passing illnesses to their children. Participant #3 felt the structure of her ER resulted in "a breach in isolation." She went on to refer to the setting as creating a worrisome situation with the concern of contamination and becoming sick herself or infecting her baby.

Participant #4 described cleanliness and contamination as major concerns for her. To address this, she explained that she was very particular about cleaning and sanitation while pumping. She stated:

> I had a room upstairs that was technically a closet, but it was a closet that no one used anymore. I bought these little things on Amazon® and I had my own cleaning wipes because I didn't want the Clorox® on stuff. I cleaned the counter and an old bedside table I duct-taped together. I laid my little mat out and washed my hands and tried not to touch anything (Participant #4).

Participant #5 expressed worry about not only COVID but also contamination with other organisms such as clostridium difficile (c-diff). She described herself as being very particular about cleanliness when pumping. She explained that contamination with her body and clothes was a concern. She stated:

> Yeah, you wash your hands, but your body, your clothes. You know, I'm removing these clothes over my head, and I'm hoping that I'm not rubbing whatever is on my outside clothing on my skin (Participant #5).

Participant #7 also acknowledged worry about contamination. She stated, “I was nervous about getting COVID on my milk… not just COVID, but all kinds of infectious diseases.” She explained that she would wear a jacket while caring for patients to protect her scrubs and removed it before pumping. She would also clean tables and her pumping equipment.

Participant #11 discussed the procedures she implemented to prevent contamination of her milk. She explained that she would sanitize the area including the chair, pumps, and tables prior to pumping. She would also store supplies in a pillowcase to prevent contamination. She would wear an undershirt and then remove her top shirt before pumping. She also expressed concern about contamination, not only with COVID but also with other infectious organisms.

Another concern with contamination was the use of wearable pumps while performing patient care. Some of the participants questioned the cleanliness of wearing them in patient rooms. Participant #4 stated that there was no literature to support the safety of wearing them in airborne rooms, and she worried that her milk would become contaminated. Other participants reported physical discomfort and leakage of milk while performing physical activity. One participant explained that if she leaned over too far milk would spill, and she was concerned with that occurring while performing patient care.

RAM and Challenges of Breastfeeding

The challenges of accessibility to lactation rooms and an impediment to pumping resulted in physical effects including decreased milk production. These physical symptoms indicate that many of the participants experienced physiological

maladaptation. Body processes and physical stimuli are classified into Roy's physiological adaptation mode (Roy, 2009). As previously explained, when discussing health benefits, physiologic adaptation may include endocrine function (Roy, 2009). The hormonal regulation of milk production falls into the realm of endocrine production. Nutrition is also an adaptive process within the adaptation mode. Nutrition is significant due to the fact that the participants were acting as their babies' primary source of nutrition. "Adaptive responses promote the integrity of the human system," (Roy, 2009, p. 39); however, if survival, growth, or reproduction are negatively affected, it is concluded that adaptation did not occur (Roy, 2009).

Poor adaptation to stimuli was indicated by the nurses who experienced negative effects from breastfeeding challenges including inadequate let-downs and decreased milk supply. The external factors such as lack of available lactation spaces, insufficient time, and the inability to relax due to worry and stress associated with job duties and contamination negatively impacted the production of milk. Thus, ineffective coping and adaptation can be identified among a portion of the study sample.

Workplace Relationships

The relationship with coworkers was commonly discussed by participants. Factors such as support and feelings of guilt were frequently mentioned. The support provided by coworkers varied among the participants and influenced their experiences; however, regardless of the support they received, most all participants felt a commitment to coworkers and experienced guilt when asking others to assist with their patients

Coworker Support

As a general consensus, the relationship with co-workers played a significant role in the breastfeeding experiences of the participants. Participants who were supported by their co-workers voiced more positive reflections on their experiences of working and pumping. Participants with supportive co-workers were grateful for the consideration they had received while breastfeeding. A lack of supportive relationships with coworkers was identified as a factor that negatively impacted the breastfeeding experiences of participants.

Participants who received support from their co-workers described feeling less worried about leaving their patients while breastfeeding when compared to participants who did not feel supported by coworkers. Participants #11 and #12 both described their co-workers as supportive and verbalized being able to easily leave their unit or floor to pump. Those who had unsupportive co-workers often felt it was very difficult to leave and pump.

Participant #5 discussed working with another nurse who was also breastfeeding. She stated, "it was really nice to have a peer going through the same situation." Participant #8 felt like peer support differed based on age. She stated

> Some of the nurses I worked with are much older. It just wasn't something they do. They didn't understand it, and I felt like made it challenging trying to explain why I needed to leave for half an hour (Participant #8).

Many of the participants voiced having difficulty with finding time to pump due to a lack of support from co-workers. Participant #9 felt that she had a difficult time with finding someone to watch her patients. She explained that everyone was busy and often

unavailable. Participant #6 also encountered difficulty with patient coverage. She stated, "Some people supported me as far as being my neighbor and stuff and watching out for my patients. Some people [would] roll their eyes because they were a little annoyed that I would be gone."

Participant #4 explained that both her coworkers and manager had negative attitudes toward her breastfeeding. She stated, "they weren't mean about it… the little snippy comments got annoying." Her manager questioned her when returning to work and pumping. "My manager was like, I'm proud of you for sticking this out, but are you going to keep going or is this something that you're just doing until he's six months old" (Participant #4). She went on to explain that when she stopped pumping her manager stated "I'm so glad you're not leaving the floor anymore" (Participant #4).

Being a Burden

Many of the participants expressed concern about being a burden to their coworkers. They recognized the increased workload everyone was experiencing at the time and understood that fellow nurses often struggled to cover their own patients. Participants often worried about how their need to step away from pumping would be perceived and felt guilt over asking coworkers to watch their patients. Participant #1 described feeling that it was a "burden" for someone else to watch her patients and felt guilty when leaving the floor. Participant #7 was also concerned with being a burden on coworkers. She stated:

> I didn't want to be a burden on my coworkers, and I didn't want to be perceived as lazy or not as hardworking as other people who didn't breastfeed. After going

> back to work, I didn't want to be demanding to my manager and a burden on people (Participant #7).

Participant #9 also experienced guilt regarding asking coworkers to watch patients. She stated,

> There's a lot of guilt associated with making my co-workers do double work because they already have their own patients and now I'm stepping off to do this. You know their patients are struggling, my patients are struggling, but I need to do this and I need to do this now, and it's not always convenient (Participant #9).

Participant #5 discussed the guilt associated with leaving patients and voiced a need for better coverage for breastfeeding nurses. She stated,

> I just wish there was more support with actually having a nurse leave, and not feeling so bad about leaving their patients behind. If there was maybe a free-floating nurse…who can just step in and give their undivided attention to just your patients (Participant #5).

RAM and Relationships

The interdependence mode of Roy's model explains the adaptation of humans in regard to their relationships with others. Roy (2009) explains in relational systems, groups function together for a purpose. A workforce can be defined as a relational system (Roy, 2009), such as the participants and their co-workers in this study. Relational adequacy is an indicator of positive adaptation for this mode (Roy, 2009). Significant others and support systems are key players in the achievement of relational adequacy (Roy, 2009), and aligns with the more positive experiences described by those participants who had stronger support from their co-workers. Aggression and isolation

are recognized as non-adaptive behaviors and may explain why nurses who experienced a lack of support and acceptance of breastfeeding from co-workers found it very difficult to leave the floor for pumping sessions.

Culture of Nursing was not Accommodating

Many of the nurses interviewed discussed the culture of nursing and its impact on their breastfeeding experiences. The participants commonly mentioned the inability to take breaks as well as not feeling valued as an employee. Upon reflection, some of the participants expressed bitterness and resentment for the lack of concern and support received from hospital managers and administrative personnel. The relationship between the culture of nursing adapted breastfeeding while working difficult for some participants.

Nursing Doesn't Accommodate for Breaks

Many of the participants felt their occupation as a nurse made their breastfeeding experience much harder. Commonly the participants referenced "nine to five office jobs" which they perceived would allow for greater ease of pumping. Participant #2 elaborated on the comparison of nursing to other careers. She stated,

> When I think about other careers, I think I have a little bit of envy, because it seems… easy. My sister… works in an office, and she can close her door, and she can take time away…That seems like that would be so easy [to] have a dedicated lunch time…When I think of other careers it seems a bit more straight forward. I think the nursing role, it's kind of on the fly, making your own time, and not really guaranteed to break at all. It just feels a bit more difficult (Participant #2).

Participant #8 also felt the ability to take breaks impacted her pumping experience. She stated, “there’s just not the support there, in general for breaks, let alone pumping when you have to do it 2 or 3 times.” Participant #9 also addressed the culture of not being allowed breaks. She described breastfeeding and working as a nurse as “trailblazing” because of the environment which is not conducive to pumping. She noted that she used wearable pumps because she felt like it was necessary. She stated,

> Hands-free pumps are amazing. They’re great and fine and neat, but I also wish we didn’t have to use them. I wish that there was a culture in that we were able to leave the floor, pump in a relaxing environment, and come back without the stress and guilt that you have leaving your patients. It [hands-free pumps] was very useful and essential for my pumping journey, but I also wish it wasn’t necessary (Participant #9).

Participant #1 also expressed concern over the inability to take breaks. She felt it negatively impacted her milk supply. She expressed the need for better coverage when breaking for pumping. She described this coverage as someone who can “actively cover your patients. Not just another nurse who also has five patients” (Participant #1).

Not Feeling Valued

During this time period, many of the nurses discussed the culture of their facility and its impact on their feeling of value as an employee. Many factors were described as contributing to this including the demands and expectations of the job as well as accommodations for breastfeeding. Participant #2 explained that the burnout within her department led her to not feel valued as a nurse. Participant #11 also discussed the importance of feeling appreciated by her employer. She explained that support for

breastfeeding contributes to a greater feeling of value by employees. Participant #11 went on to state that she was willing to work at a facility that paid less if it was accommodating to breastfeeding moms.

The culture and lack of appreciation resulted in negative feelings from several participants. Participant #3 stated that hospital administrators needed to improve upon making their employees feel appreciated. She stated she was looking to leave the hospital setting. Participant #7 described the negative impact of the culture of the facility and the lack of value she experienced as a nurse. She stated,

> The experience was disheartening in the sense that I felt like the hospital administration did not care about the well-being of nurses and their families. It made me feel anger and jaded. At the expense of employees, [hospitals] were promoting the health and well-being of the community. I still hold a lot of sadness and anger because of that (Participant #7).

Overall, the participants felt the culture of nursing was not conducive to pumping. Taking breaks to pump was very difficult. The majority of participants felt there was no guarantee they would be allowed breaks. The culture often contributed to feeling unimportant to their administrators and organization. Although breastfeeding was important to participants, they did not perceive it as a priority of employers, thus leading to dissatisfaction.

RAM and the Culture of Nursing

The experiences of the participants which were influenced by the culture of nursing can be explained through the self-concept/group-identity mode of Roy's model. Roy (2009) describes group identity as "shared relations, goals, and values which act

within and create a social milieu and culture" (pg. 434). Many of the participants described feelings in which their goals and values of breastfeeding did not align with those of their hospital and administrators.

Community cohesiveness is one process that promotes adaptation within the group-identity mode and is achieved when all parties possess similar values and goals (Roy, 2009). The feeling of cohesiveness was not experienced by many of the participants. Non-adaptive processes include low morale. Terms used to describe this time period included "horrible", "burn-out," "exhausting", "overwhelming" and "low-morale." A lack of cohesiveness and low morale are all indicators of poor adaptation. Many of the nurses described these maladaptive processes thus indicating a struggle with adaptation in regard to the self-concept/group-identity mode.

Insufficient Education and Resources

Many of the nurses voiced a lack of preparation and knowledge regarding breastfeeding and pumping. The study sample consisted of nurses in the ER, ICU, and med-surg areas, and many of them expressed a lack of familiarity with the mother-baby aspects of nursing. Many participants felt that the prenatal education they received was insufficient. Participant #4 described breastfeeding as a "struggle". She explained that she had very little help with instruction on how to breastfeed, and described it as "trial and error". She stated that after delivery she received very limited lactation support.

Participant #6 also discussed having a lack of knowledge regarding breastfeeding. She reflected that being a nurse did not make her knowledgeable regarding how to breastfeed. She stated,

> My daughter had a tongue tie the first month of her life, so that was very difficult. We had a rocky journey at first, and I didn't have a lot of education on it, which sounds silly because I'm a nurse, but you know, if you don't work around that, you don't really think about it (Participant #6).

Participant #8 also reflected on the need for additional training and support. She felt it was important for nurses to have support from the beginning regarding how to breastfeed and pump. Participant #12 felt it would have been helpful to have had prenatal education regarding a pumping schedule. She stated she looked to other ICU nurses who had breastfed to learn details about pumping.

The participants expressed that there were limited resources available to working nurses to explain how to pump and develop a pumping schedule. They described it as difficult trying to establish a plan and schedule for pumping. Participant #7 discussed the lack of nurse-specific resources. She stated,

> The resources are not for nurses. It's for people who work nine to five. It's for people who sit at a desk. They're not applicable to nurses. When you read about working moms who breastfed it's not applicable to you at all…it just felt very hard (Participant #7).

RAM and Insufficient Education and Resources

Insufficient knowledge of breastfeeding and pumping was commonly expressed by participants. An individual's role can be explained in relation to another, such as a parent-child relationship (Roy, 2009). Specifically, developing roles may occur as individuals enter new stages of life (Roy, 2009). Adaptation occurs when individuals demonstrate effective, goal-oriented behaviors (Roy, 2009). In the case of these

participants, half of whom were entering into motherhood for the first time, many of them identified knowledge deficits regarding their role as the primary nutritional source for their child and expected behaviors.

As explained previously, many of these participants had determination in breastfeeding and did demonstrate adaptive goal-oriented behaviors. They overcame the challenges of insufficient knowledge and resources. Many first-time moms relied on friends and family for guidance regarding the specifics of pumping while working as a nurse. Participants who had previously breastfed felt that their breastfeeding experiences prior to COVID were important to their success during the pandemic. Although many participants voiced a lack of education and resources, they were able to overcome those barriers through support from friends and family.

Trustworthiness

When qualitative research possesses a high degree of truthfulness and authenticity it is considered to be trustworthy (Brigitte, 2017). Aspects of trustworthiness and rigor in qualitative research include credibility, transferability, and dependability (Brigitte, 2017; Stahl & King, 2020). Methods were implemented during the analysis process to assure the trustworthiness of the findings.

Credibility

Credibility attempts to determine how accurately the findings depict reality (Stahl & King, 2020). One method to promote credibility is the use of triangulation (Stahl & King, 2020). Triangulation can be defined as the use of multiple data sources, including participant reflections, to identify themes (Creswell & Creswell, 2018). Specifically, environmental triangulation or the use of findings from various locations can be used to

ensure credibility (Stahl & King, 2020). In the case of this study, the experiences of nurses from 10 different states, and hospitals ranging in size from fewer than 100 beds to over 500 beds provided a variety of settings and environmental triangulation.

Transferability

Transferability refers to the application of findings across settings and situations (Stahl & King, 2020). Achievement of transferability can be obtained through the use of purposeful sampling and rich, thick descriptions (Brigette, 2017). The purposeful selection was utilized to assure that participants met the study inclusion criteria. The use of rich, thick descriptions includes the incorporation of multiple perspectives (Creswell & Creswell, 2018). To promote this method, multiple participant perspectives and reflections were utilized when analyzing data and describing each theme.

Dependability

Dependability in qualitative research provides confidence in the data (Stahl & King, 2020). Meticulous attention to the data analysis process is necessary to achieve dependability and includes a detailed review of transcripts and correction of mistakes, the use of memos regarding codes, and continual evaluation of data in relation to codes (Creswell & Creswell, 2018). These methods were incorporated into the data analysis process of this study. Transcripts were reviewed and corrected and the applicability of data to the developed codes and themes was continually evaluated.

Summary

This qualitative phenomenological study evaluated the lived experiences of ICU, ER, and med-surg nurses who attempted to breastfeed while caring for COVID-19 patients. The findings of the study identified seven major themes and revealed the

experiences of the nurses were hard. Breastfeeding during this time required intrinsic motivation and health benefits were significant influencing factors. Additionally, most of the nurses experienced challenges with breastfeeding and believe the culture of nursing did not accommodate their breastfeeding needs. Workplace relationships were important, and most nurses felt they needed more resources and education. Actions were taken to ensure the trustworthiness of the data. Findings reveal opportunities for future research. The application of findings and recommendations for future research will be discussed in Chapter V.

CHAPTER V – DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This phenomenological study was conducted to explore the experiences of ICU, ER, and med-surg nurses who attempted to breastfeed while working during the COVID-19 pandemic. Twelve nurses from ten different states across the U.S. were interviewed to obtain a greater understanding of the feelings and circumstances these nurses encountered. Many factors such as workplace barriers and stress may impact a woman's breastfeeding experience (McCardel & Padilla, 2020; Nagel et al., 2019; Shukri et al., 2019; Tangsuksan et al., 2020), but there is a gap in the literature surrounding the impact of these elements on breastfeeding nurses within the United States. Using a hermeneutic phenomenological method, this study attempted to gain insight into the breastfeeding experiences of U.S. nurses. Roy's adaptation model was used as a guide for the exploration of themes to identify potential non-adaptive behaviors among participants. The application of the research findings and recommendations for future research will be further outlined in this chapter.

Research Methodology

Phenomenology is used to explore the lived experiences of individuals (Neubauer, 2019). Specifically, hermeneutic phenomenology allows insight into unknown elements of a phenomenon and gives meaning to individuals' experiences (Crowther et al., 2017). Through the use of semi-structured interviews, this research study explored the experiences of ICU, ER, and med-surg nurses to answer the following questions:

1. What were the lived experiences of ER, ICU, and med-surg nurses attempting to breastfeed while caring for COVID-19 patients within the United States?

2. Did U.S. workplace conditions influence breastfeeding duration for ER, ICU, and med-surg nurses caring for COVID-19 patients?

After the completion of the interviews, data was analyzed using the data analysis spiral by Croswell and Poth (2018) as a guide. Seven major themes were identified. Applying Roy's adaptation model, analysis of the data revealed both adaptive and maladaptive behaviors were demonstrated by study participants.

Interpretation of Findings

The reflections of the nurses interviewed provided insight into the challenges and barriers to breastfeeding encountered by the participants as well as strategies used to promote adaptation. The themes identified described the experiences of breastfeeding while caring for COVID-19 patients as challenging. The experiences were influenced by workplace relationships, the culture of nursing, and a lack of education and resources. Regarding the evaluation of breastfeeding duration, most of the participants voiced achieving their minimum breastfeeding goals; the themes of intrinsic motivation and health benefits assisted to explain adaptive behaviors which encouraged breastfeeding and potentially prolonged duration; however, other themes such as the challenges and culture of nursing provided insight into aspects of the experiences that negatively influenced the duration of breastfeeding in a few participants.

COVID was Hard

The first theme identified, COVID was hard, was depicted in interviews with all of the participants. Descriptions of the pandemic including "hard," "difficult," and "exhausting," were frequently used. Many participants reflected on the uncertainty of the time and the increased workload experienced. A lack of knowledge regarding how to care

for COVID patients along with increased duties made it a particularly difficult time for the participants.

Studies in Canada reported nurses experiencing anxiety and stress due to changing guidelines and poor communication during the pandemic (Crowe et al., 2020). This was confirmed by the U.S. nurses interviewed in this study, as many of them discussed uncertainty regarding both knowledge of the virus and care modalities as contributing factors to the hardship of the pandemic. Additionally, the description of the increased workload by the U.S. nurses interviewed aligned with research performed on nurses in the Netherlands (Hoogendoorn et al., 2021). The U.S. nurses interviewed for this research study reported an increased workload due to both additional duties and increased nurse-patient ratios. Participant #1 explained that nurses experienced burnout and were emotionally drained.

Despite the hardship experienced, the participants demonstrated role transition which promotes adaption within the role function mode of Roy's adaptation model (Roy, 2009). Fulfillment of a primary role occurs when secondary roles and responsibilities are assumed (Roy, 2009). Many of the participants discussed assuming secondary roles. For example, participant #9 described taking on responsibilities of housekeeping and phlebotomy. Other participants also referenced the adoption of secondary duties to meet the needs of their patients, thus indicating adaptation and fulfillment of their primary role and responsibilities as a nurse.

Intrinsic Motivation

The willpower and determination expressed by the participants were inspiring to the researcher. Despite the hardships and challenges described, all of the participants

interviewed indicated a strong pride in their contribution to the pandemic and their ability to breastfeed while working. The participants voiced an unwavering commitment to breastfeeding their babies. This was so eloquently explained by participant #7 who stated "the most proud I was of myself, as a parent was being able to breastfeed while working full time." Participant #11 explained the resolve required to breastfeed by stating "It's not am I going to? It's just something I do."

The pride and determination demonstrated by the participants were interesting in comparison to the literature regarding the emotional state of nurses caring for COVID-19 patients. Psychological distress including anxiety, depression, and PTSD was found to exist among nurses around the world who cared for COVID-19 patients (Aggar et al., 2022; Crowe et al., 2020; Master et al., 2020;). The release of oxytocin and milk production can be impacted by psychological distress (Nagel et al., 2022); however, research indicates that breastfeeding may improve maternal mental health (Yuen et al., 2022). Descriptions from study participants show that intrinsic motivation played a significant role in their experiences and duration of breastfeeding and indicated adaptation to external stimuli and physiological stressors.

This adaptation can be specifically analyzed through a review of Roy's adaptation mode of self-concept which refers to one's beliefs about themselves (Roy, 2009). The participants believed that breastfeeding was essential for their babies' growth and development. It was described by many participants as being "best" for their baby. Adaptation in the self-concept mode may occur through focusing which includes an awareness of one's roles (Roy, 2009). It also includes the setting of goals and developing plans to accomplish them (Roy, 2009). These behaviors were demonstrated by the

participants interviewed. The participants were very clear on their role as the primary source of nutrition for their infants and set breastfeeding goals to fulfill that responsibility Therefore, intrinsic motivation was an important component of their experiences and an influencing factor in breastfeeding duration.

Health Benefits

The health benefits of breastfeeding were mentioned by most participants as a primary rationale for their decision to breastfeed. Research indicates multiple infant health benefits due to breastfeeding which include a decreased risk of asthma, respiratory infections, gastrointestinal illnesses, and SIDS (CDC, 2021). Breastfeeding may also prevent chronic illnesses such as obesity and diabetes (Binns et al., 2016; CDC, 2021; Dewey et al., 2021; Rito et al., 2019). Additionally, babies benefit from the immune protection provided through breast milk. Various forms of antibodies including IgG and IgA as well as cytokines and leukocytes are found in breastmilk which helps protect infants with vulnerable, non-developed immune systems (Atyeo & Alter, 2021). Almost every participant referenced the immune protection and antibodies their infants would receive through breastmilk as an important reason for breastfeeding.

The health benefit of bonding was also mentioned by several participants. Participant #4 described it as a "very personal journey. It's a different bond." Participant #6 also expressed the importance of bonding and the "closeness" she experienced with her baby. These feelings of bonding are supported by the literature. Research indicates that breastfeeding promotes bonding between mom and baby (Cleveland Clinic, 2018, 2022b). Oxytocin, which is released while breastfeeding, has been linked to human behaviors including trust and mother-baby bonding (Cleveland Clinic, 2022b).

Additionally, breastfeeding promotes the mental health of mothers, as noted by research that indicates mothers who breastfeed have fewer mental health conditions such as depression and anxiety (Yuen et al., 2022).

Roy's adaptation model can be useful when analyzing these physiological responses of immune protection and bonding (Roy, 2009). The processes of immune protection and endocrine production are part of the physiological adaptation mode (Roy, 2009), and explain two of the primary factors influencing the study participants. Immune protection and endocrine function are considered adaptive responses (Roy, 2009), and participants described these processes as central to their motivation for breastfeeding and factors which influenced breastfeeding duration.

Challenges of Breastfeeding

The experiences of the participants were noted to contain many challenges. The three primary challenges encountered included accessibility of private locations, a reduction of milk production, and concerns about contamination and cleanliness. Each of the participants interviewed identified at least one of these challenges as a part of their breastfeeding experience.

The most common challenge mentioned throughout the study was a lack of accessibility to private locations. Most of the participants felt that their facility did not have adequate spaces for pumping. Several participants felt that their privacy was infringed upon when attempting to pump. Participants #4 and #10 both reported pumping in rooms that were used for other purposes such as locker rooms and storage closets, respectively. These participants described situations in which co-workers would interrupt and enter the rooms while the participants were pumping. Participant #6 reported using

anterooms for pumping regarding which she stated “there wasn’t a lock, so the privacy component of it really bothered me.”

Participants also reported negative impacts on milk production as challenges of breastfeeding while working. Experiences included a decrease in milk production due to the inability to adequately pump in a timely manner. Participant #12 reported a noticeable decrease in her milk production which she contributed to stress, a decrease in fluid consumption related to workload, and delaying of pump sessions. She explained working during a COVID surge as an extremely stressful time which impacted her ability to pump at work. Participant #10 reported difficulty relaxing while pumping which impacted let-down and decreased milk production. Participants also expressed issues such as engorgement and mastitis which they attributed to the inability to maintain an adequate pump schedule while at work.

Maintaining cleanliness was another challenge expressed by the study participants. Many of those interviewed reported concerns with contamination of milk as well as transmission of illnesses and infections to their infants. While COVID was a primary concern, it was interesting to note that several participants reported concern of contamination with other organisms such as c-diff. Participant #6 explained,

> I did my best to eliminate the direct contact of what was on my skin or my hair. C-diff, that’s another one. That’s a big one I make sure I get clean, or you know the precautions that you find out about after you’ve been through eight hours of your shift.

Several participants reported the use of gowns, lab coats, or an outer covering to protect their scrubs. Participant #11 described wearing an undershirt under her scrub top and removing the scrub top inside out prior to pumping to prevent contamination.

The challenges of limited availability of private lactation spaces and decreased milk production among working mothers are supported by the literature. Research has found that working mothers experience challenges while breastfeeding which commonly influences breastfeeding duration (Dun-Dery & Laar, 2016; McCardel & Padilla, 2020; Tangsuksan, 2020). A study by McCardel and Padilla (2020) reported access to lactation spaces as a common barrier. Research by Dun-Dery and Laar (2016) evaluated exclusive breastfeeding among mothers and found that 75% of those who did not exclusively breastfeed reported inadequate pumping locations. Exploration of working mothers in Turkey revealed 51% of non-nurse mothers and 71% of mothers who worked as nurses reported a decrease in milk supply while working (Ozcan & Kocak, 2019). While the literature has explored working mothers around the world, there is a lack of research regarding the experiences of U.S. mothers, specifically nurses. This study provides unique and previously unexplored insight into the breastfeeding experiences of U.S. nurses who worked during the COVID-19 pandemic.

One unique discovery of the exploration of nurses attempting to breastfeed during the COVID-19 pandemic was the worry and challenges associated with cleanliness and potential contamination. This is not a common finding in other studies regarding workplace breastfeeding challenges. This sub-theme identifies an experience that was specific to ICU, ER, and med-surg nurses who attempted to breastfeed while caring for COVID-19 patients.

The adaptive responses of nurses to the challenges of breastfeeding can be evaluated through the physiological adaptation mode of Roy's model, specifically the processes of endocrine function and nutrition. The endocrine system plays a role in milk production. Oxytocin, which is regulated by the endocrine system, causes contractions within the breast tissue to promote the movement of milk throughout the breast (Cleveland Clinic, 2022b). Stimulation of the breasts through infant sucking causes the release of oxytocin (Cleveland Clinic, 2022b). The limited availability of pumping locations and lack of timely pumping and stimulation which decreased milk production aligns with maladaptive responses explained through the physiological adaptation mode of Roy's model.

Nutrition is also a physiological adaptive process which was a part of the experiences of the study participants. Roy (2009) explains that nutrition is the "foundation for life and health" (p. 129), and nutritional needs vary across the lifespan. The participants of the study identified their breastmilk as the optimal source of nutrition for their baby and sustainment of their infants through breastmilk was a priority. Nutrition and hydration are also important for mothers while breastfeeding (U.S. Department of Agriculture [USDA], n.d.; Zhou et al., 2019), and insufficient fluid consumption can affect maternal health (Zhou et al., 2019). It is recommended that mothers increase fluid consumption while breastfeeding (USDA, n.d.).

While most of the mothers indicated they were able to achieve their breastfeeding goals, a few of the participants did indicate that the duration of breastfeeding and nutritional supply for their babies may have been impacted due to attempting to breastfeed while working. There were several mothers who reported a decrease in milk

production. Participant #3 reported supplementing with formula. Both adaptive and maladaptive responses in regard to the concept of nutrition within the physiological adaptive mode were reported.

Workplace Relationships

Workplace relationships were found to be an influential component of the breastfeeding experiences of the nurses interviewed. Participants who described supportive co-workers expressed a more positive reflection of breastfeeding experiences, while participants who felt they were not supported by co-workers, voiced more negative experiences. Participant #12 explained that she felt it would have been more difficult to have continued breastfeeding without her co-worker's support. Participant #9 explained that working with other individuals who were also breastfeeding was helpful. However, many of the participants voiced a lack of support from co-workers. Participant #4 explained that many fellow employees made comments regarding her breastfeeding needs and duration. Her manager also did not demonstrate an understanding of her continuation of breastfeeding her baby after six months of age.

Many of the participants also verbalized guilt about breastfeeding and asking co-workers to watch patients while they pumped. Frequently, participants mentioned not wanting to be a burden to others. Participant #1 stated, "you never wanted to take too much time because it is a burden to watch someone else's patient." The majority of the participants shared this sentiment and felt rushed to complete their pumping sessions to avoid inconveniencing their co-workers.

Co-worker support has been identified in the literature as a factor influencing breastfeeding in various workplaces not specific to nursing. McCardel and Padilla (2020)

found co-worker support as a factor that promoted breastfeeding and pumping within the workplace. Jantzer et al. (2018), explained that workplace support was important for employee satisfaction and influenced breastfeeding duration.

The experiences described by participants of this study align with previous research and indicate that support within the workplace is also important to nurses. One aspect of the co-worker relationships that was particularly unique to the experiences described by study participants was the feelings of guilt and burden. Several participants mentioned the need for better coverage of their patients while pumping and included suggestions such as a float nurse or charge nurse to assist. The feelings of guilt many of the participants expressed were a significant component of their breastfeeding experiences and unique to them as nurses.

The influence of co-worker relationships aligns with the interdependence mode of Roy's adaptation model. This mode references adaptive behaviors regarding the relationships between individuals (Roy, 2009). Support systems promote adaptive responses (Roy, 2009) which were expressed by participants with supportive co-workers. However, not all nurses shared this experience, and several expressed a lack of social support from co-workers and managers. In a few cases, they described experiencing aggressive or non-accepting behavior from co-workers which are known to prohibit adaptation within the interdependence mode (Roy, 2009).

Culture of Nursing

Interviews with participants identified the culture of nursing was not accommodating to breastfeeding. The participants felt that they were unable to adequately take breaks, and as a result, believed they were not valued by their employers.

Participant #2 expressed great concern for this culture and explained that there needs to be a change where breaks are accepted and employees are valued. She stated, “it’s almost celebrated that we are slaying ourselves.” Other participants noted the lack of concern they perceived displayed for their well-being and voiced a need for change within the culture of nursing.

This aspect of the experiences of the nurses interviewed is concerning in regard to the overall well-being of the profession. The mental health of nurses has been examined in recent years due to the COVID-19 pandemic. Research indicates an increase in depression, anxiety, and PTSD (Aggar et al., 2022, Crowe et al., 2020; Master et al., 2020). However, physical well-being, which the participants referenced in regard to breastfeeding, has not been deeply explored. This study found that the majority of participants felt the culture of the nursing profession and their places of employment did not value their overall physical health and the well-being of their babies.

Utilizing the self-concept/group-identity mode of Roy’s adaptation model, it can be identified that regarding the culture of nursing, most of the participants experienced non-adaptive behaviors. Congruency in values and goals is an important concept necessary for adaptive behaviors within this mode (Roy, 2009). However, the majority of the participants did not feel that their workplace shared their values in regard to breastfeeding and their physical needs. Although the health and well-being of themselves and their babies were important to the participants, they did not believe it was important to their employers. Many of them described feeling insignificant and thus, expressed dissatisfaction with their employers.

Insufficient Education and Resources

The last major theme identified was insufficient education and resources. Many of the participants explained they lacked knowledge regarding how to breastfeed and pump. Some of the participants also expressed that their prenatal education and lactation resources were limited. Several participants mentioned that the resources which were available for working mothers were not applicable to the nursing profession. Participant #7 described the pumping resources available as inappropriate for nurses and intended for mothers who work "nine to five" jobs. This was a common sentiment expressed by participants resulting in frustration during their breastfeeding experience.

There is a noted gap in the literature regarding the topic of pumping while working as a nurse. Although it has been noted that the workplace environment may influence breastfeeding experiences (McCardel & Padilla, 2020), there is a lack of information regarding mothers who work as nurses and breastfeed. Additionally, there is a lack of resources specific to nurses regarding pumping in the workplace. This study has identified a need for resources that are applicable to the nursing profession.

Despite a lack of resources, the participants demonstrated perseverance to achieve their goal of breastfeeding. Participants referenced the use of friends and family as resources. A few participants described utilizing lactation resources at the facility where they worked. The transition to the new role of motherhood is an adaptive process within the role function mode of Roy's adaptation model. Findings indicate the participants of this study were able to effectively cope and overcome the barriers of limited resources and education.

Implications for Social Change

Discoveries from this study indicate that breastfeeding, which is essential to the health and well-being of mothers and babies (Binns et al., 2016; CDC, 2021; Eidelman et al., 2012; Rito et al., 2019; Ross-Cowdery et al., 2017), should be recognized as a physical need for many nurses. The requirements for breastmilk to support the nutritional demands of infants have been particularly essential due to the recent formula shortage. Surveys in November of 2022 found families continued to report difficulty obtaining formula as a result of the formula recall which began in February of 2022 (Slack, 2022). With an insufficient supply of formula, support of breastfeeding mothers, including nurses, has significant social implications.

The COVID-19 pandemic brought attention to the nursing profession and its essential role in healthcare. Nurses have been identified as the "backbone of the health care industry" and make up the largest portion of health care professionals (Mercer University, 2021, para 1). However, there remains a staffing shortage within the nursing workforce. One factor influencing this shortage is the number of nurses nearing retirement age. It is expected that over one million nurses will retire by 2030 (AACN, 2020).

Research also indicates that the pandemic impacted the job satisfaction of nurses and their dedication to the profession. A survey by the American Nurses Foundation (ANF,2022) found 52% of nurses interviewed have considered leaving the profession as a result of the pandemic. The primary reasons for nurses' dissatisfaction were staffing insufficiencies and the negative effects of the profession on their health and well-being

(ANF, 2022). These issues were also commonly described in the experiences of study participants.

The breastfeeding experiences of nurses during the COVID pandemic were often very difficult and resulted in feelings of insignificance within the workplace. Many of the issues identified in this study can be attributed to factors non-related to the pandemic such as the location of lactation rooms and adequate staffing for coverage during pumping breaks. With a nursing shortage already identified, and concerns regarding additional loss of nursing staff in the near future, it is important to consider the needs of nurses and the actions necessary to promote nurse satisfaction and retain those who are currently working. The healthcare system relies on nurses, and staffing shortages result in increased mortalities and a poorer quality of patient care (AACN, 2020). To promote quality and safe healthcare services within our society, the health and well-being of nurses must be considered. Nurse leaders and administrators should identify methods to promote the health of nurses which includes providing support and resources for those who are breastfeeding.

Recommendations for Action

Findings from this study have identified opportunities for improvement in the working conditions of breastfeeding nurses. Understanding the experiences of the study participants may help nurse leaders to better support employees who are breastfeeding and promote the overall health and well-being of their nursing staff. Maladaptive behaviors identified with the guidance of Roy's adaptation model resulted from issues including a lack of private spaces and contamination concerns, poor co-worker support, and an overall non-accommodating culture of nursing. It would be important for nurse

administrators to seek solutions for these common barriers encountered within the breastfeeding experiences of nurses.

Addressing Workplace Challenges and Barriers

The difficulty of locating a private location was a frequent challenge identified by participants in this study. A few participants reported no designated lactation spaces within their facilities. Many of the participants encountered problems with lactation rooms which included a lack of accessibility due to location, no privacy, and the inability to relax in the provided pumping environments. These issues made pumping difficult and affected milk production in some participants.

The Federal Labor Standards Act states nursing mothers have the right to breastfeeding breaks while working (U.S. Department of Labor [USDL], 2023). Additionally, employers are required to provide a private location for pumping other than a bathroom (USDL, 2023). This law was extended by the Providing Urgent Maternal Protections for Nursing Mothers Act which was signed into law on December 22, 2022 (USDL, 2023). As a result of this law, facilities that currently do not have a designated pumping area should identify a location that breastfeeding nurses may use for lactation purposes.

Nurse leaders and hospital administrators must also consider the location of lactation rooms. Many of the nurses interviewed reported significant distances to the lactation room within their facilities. They did not perceive these rooms as accessible due to the length of time required to walk to the lactation spaces. Strategic placement of lactation rooms must be considered. Many of the nurses referenced lactation rooms located in labor and delivery units. However, it may require nurses working in ICU, ER,

and med-surg areas significant time to reach lactation spaces located in other departments of the facility, thus, prolonging pumping sessions and deterring nurses from pumping.

Administrators and nurse managers should recognize that the location of lactation rooms can be a significant barrier for nursing mothers, and should be considered when identifying potential lactation spaces. Lactation rooms are not required to be permanent and are only necessary as long as the mother is breastfeeding (Office on Women's Health [OWH], 2021). Options for breastfeeding spaces include offices, closets, storage areas, or even mobile pumping spaces (OWH, 2021). Each lactation space must have a chair and flat surface for pump supplies, be private and without intrusion from co-workers, and be available when needed by lactating mothers (OWH, 2021). Nurse leaders should also consider the concerns of contamination as identified in this study; based on study findings, the researcher would recommend providing cleaning supplies within lactation rooms. A sink for handwashing would also be beneficial to alleviate nurse concerns and decrease the risk of contamination.

Coworker Support

Many of the study participants felt their breastfeeding experiences were negatively impacted by a lack of co-worker support. Participants reported feeling that co-workers did not possess an understanding regarding lactation needs. As previously explained, breastfeeding is a physiological process. Just as accommodations may be given to expectant mothers, breastfeeding may also require accommodations. The Pregnant Workers Fairness Act which goes into effect June 27, 2023, prevents harassment and discrimination against women due to pregnancy-related conditions including breastfeeding (U.S. Equal Employment Opportunity Commission [USEEOC],

n.d.). Education regarding the importance of breastfeeding, necessary accommodations, and professionalism may be useful to improve sensitivity to breastfeeding needs and promote positive working relationships among breastfeeding and non-breastfeeding nurses.

The Culture of Nursing

Evidence from this study indicates the culture of nursing does not promote breaks and self-care and therefore resulted in participants feeling unappreciated and undervalued. These perceptions must be acknowledged by nurse leaders. Many nurses feel the profession has negatively impacted their health and well-being (ANF, 2022). Nurses report feeling discouraged and express a desire to leave the profession (ANF, 2022). If this discontentment continues, the nursing profession may experience additional strain and staffing difficulties.

One method to combat these feelings of discouragement is a review of policies and staffing models by nurse administrators and an exploration of approaches to promote breaks among nursing staff. Many of the study participants referred to the need for coverage while leaving the floor to pump. One recommendation by participants was a float nurse to assist with coverage. Many of the participants felt that they would be able to better relax while pumping and could have more easily maintained their pump schedule if someone had been available who could actively care for their patients during lactation breaks.

Research within one hospital has found that scheduling breaks among all staff members at the beginning of each shift allowed for employees to receive essential break times throughout the day (Pearce, 2018). Management checked on employees

periodically during each shift to identify needs and ensure staff was obtaining breaks (Pearce, 2018). This initiative was created to decrease errors associated with fatigue and burnout (Pearce, 2018). Findings indicated employees were more likely to leave on time and work fewer overtime hours using this model (Pearce, 2018). Nurse administrators should evaluate staffing flexibility and initiatives to change the culture and ensure nurses receive adequate break times for pumping to promote their health, feelings of value, and overall job satisfaction.

Dissemination of Findings

The nature of the findings from this study and recommendations for change requires action by organizational and nursing leaders. Therefore, dissemination of findings should occur in academic journals which may be viewed by hospital and nurse administrators. Examples include *The Journal of Nursing Administration, Nursing Management, Nurse Leader,* and *The Journal of Healthcare Management.* Additionally, presentations at the state board of nursing meetings and professional conferences would provide opportunities to share study findings among nurse administrators.

Recommendations for Future Research

This qualitative study identified many opportunities for improvement within the nursing profession to better accommodate the needs of breastfeeding nurses. Although the study evaluated breastfeeding nurses during the COVID-19 pandemic, several findings have implications that will last past the pandemic and are important to the future of nursing. Attention to these findings and additional research may be necessary to further evaluate breastfeeding needs.

Purposeful sampling was used for this study to specifically explore the experiences of nurses who worked in ICU, ER, and med-surg settings while caring for COVID-19 patients. Future studies may include nurses who work in specialty areas such as surgery, endoscopy, and cath lab. The schedule and structure of these units are different than those explored in this study. Therefore, a comparison of the experiences of nurses in various settings may be useful to identify common barriers and factors which may impact breastfeeding experiences.

One of the most prevalent issues discussed by the study participants was the culture of nursing, which remains significant post-pandemic. Experimental studies may be helpful to evaluate the impact of alternative scheduling or relief nurses to assist with break times. It would be beneficial to explore if either of those options improves the breastfeeding experiences and duration of breastfeeding among nurses as well as the morale and feelings of value experienced by nurses.

One opportunity for improvement discovered in the study was the need for nurse-specific resources to provide breastfeeding guidance. Studies on the use of support groups, both face-to-face and virtual, may aid in the identification of resources for breastfeeding nurses. Additionally, the development and exploration of breastfeeding education programs specific to nurses and the availability of lactation consultants may help to assist nurses in their breastfeeding journey.

Reflections from the Researcher

The experience of interviewing the participants was both enlightening and heartbreaking for the researcher. Prior to the interviews, the researcher had concerns and preconceptions regarding the number of women who choose not to breastfeed. One

concern was a lack of commitment by individuals. However, it was inspiring to see the commitment to breastfeeding the participants demonstrated and the success they did have despite the barriers encountered.

The researcher was surprised by the lack of available lactation rooms which the participants described. While the availability of breaks was expected as a potential barrier, the researcher did not anticipate encountering the number of nurses who did not have adequate pumping spaces. There was only one study participant who reported adequate pumping locations, and the researcher believes descriptions of the locations by this participant can be useful to organizations for the improvement of lactation rooms. This study has emphasized a critical problem encountered by many nurses, and the researcher feels that hospitals and nurse leaders should re-evaluate the availability of spaces provided for breastfeeding nurses.

Additionally, the researcher was saddened by the feelings the nurses expressed regarding their value as an employee and the culture of nursing. Although the work conditions of nurses have been emphasized over recent years, the researcher did not anticipate the degree of frustration and disheartenment that several of the participants described due to the lack of concern for their well-being. In a profession that is currently struggling to meet the growing health care needs of a nation, the researcher feels the morale and well-being of nurses cannot be ignored.

Lastly, the researcher experienced a deep ethical obligation to the study participants regarding the dissemination of study findings. Many of the participants depicted a pleading desire for their experiences, feelings, and the barriers encountered to be shared. The participants identified a need for improved conditions for breastfeeding

nurses and a hope that attention to their experiences will promote change within the nursing profession.

Conclusion

This study has explored the experiences of ICU, ER, and med-surg nurses who attempted to breastfeed while caring for COVID-19 patients. Using Roy's adaptation model as a guide, findings were reviewed and both adaptive and maladaptive behaviors were identified. Results indicate challenges including the accessibility of lactation spaces and cleanliness concerns had significant impacts on the physiological adaptation of the nurses interviewed. Additionally, workplace support and the culture of nursing were noted to result in non-adaptive behaviors.

Findings from this study may be useful for nurse leaders and hospital administrators as healthcare currently faces staffing shortages and nursing strikes. The challenges encountered by participants may continue into the future, despite the resolution of the COVID-19 pandemic. Although evaluation of the effect of the pandemic on breastfeeding experiences has been explored, issues identified may continue to affect the culture and state of the nursing profession. The well-being of nurses and their families must be protected, and addressing breastfeeding needs is one potential method to promote the physical and emotional health of nursing professionals throughout the United States.

APPENDIX A – IRB Approval

Office *of*
Research Integrity

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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident submission on InfoEd IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER:	22-1559
PROJECT TITLE:	Amy Seay Dissertation: The Lived Experiences of ICU, ER, and Med-surg Nurses in the United States Attempting to Breastfeed During the COVID-19 Pandemic
SCHOOL/PROGRAM	Systems Leadership & Health Outcome
RESEARCHERS:	PI: Amy Seay Investigators: Seay, Amy~Jordan, Marti~
IRB COMMITTEE ACTION:	Approved
CATEGORY:	Expedited Category
PERIOD OF APPROVAL:	14-Dec-2022 to 13-Dec-2023

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

APPENDIX B – Study Advertisement

Are you a Registered Nurse Who Has Breastfed While Caring for COVID-19 Patients?

If you worked in an ICU, ER, or med-surg area anytime between January 2020 and December 2021, and were breastfeeding a baby during this time we want to hear about your experiences with breastfeeding (including pumping, influencing factors, etc.).
This study is being conducted in fulfillment of dissertation requirements through the University of Southern Mississippi.
No travel required! Participation will involve a Zoom interview (approximately 30 minutes).
All responses will remain confidential!
Findings may help to promote breastfeeding support among nurses working in acute care settings.
If interested contact Amy Seay, MSN
A.seay@usm.edu [redacted]
This study has been reviewed by USM Institutional Review Board. For questions call 601-266-1000.
Protocol # 22-1559

REFERENCES

Academy of Medical-Surgical Nurses (AMSN). (2021). What is med-surg nursing? https://www.amsn.org/about-amsn/what-med-surg-nursing#:~:text=Medical%2Dsurgical%20nursing%20is%20the,are%20experts%20in%20their%20practice.

Aggar, C., Samios, C., Penman, O., Whiteing, N., Massey, D., Rafferty, R., Bowen, K., & Stephens, A. (2022). The impact of COVID-19 pandemic-related stress experienced by Australian nurses. *International Journal of Mental Health Nursing*, *31*(1), 91–103. https://doi-org.ezproxy.una.edu/10.1111/inm.12938

Al-Raisi, U., Al Sami, I., Magarey, J., Rasmussen, P., & Hannawi, S. (2020). Hermeneutic phenomenology research approach: A review of the continuing professional development in the clinical specialty of cardiology. *Cardiology and Vascular Research, 4*(4). 1-9. https://scivisionpub.com/pdfs/hermeneutic-phenomenology-research-approach-a-review-of-the-continuing-professional-development-in-the-clinical-speciality-of-card-1392.pdf

American Academy of Pediatrics. (AAP). (2021). *Breastfeeding overview.* https://www.aap.org/en/patient-care/breastfeeding/breastfeeding-overview/

American Association of Colleges of Nurses. (AACN). (2020). *Nursing shortage.* https://www.aacnnursing.org/news-information/fact-sheets/nursing-shortage

American College of Obstetricians and Gynecologists. (ACOG). (2021). Breastfeeding challenges. *Obstetrics and Gynecology, 137*(2). https://www.acog.org/-/media/project/acog/acogorg/clinical/files/committee-opinion/articles/2021/02/breastfeeding-challenges.pdf

American Nurses Foundation. (ANF). (2022). *Pulse on the nation's nurses survey series: COVID-19 two-year impact assessment survey.* American Nurses Association. https://www.nursingworld.org/~4a2260/contentassets/872ebb13c63f44f6b11a1bd0c74907c9/covid-19-two-year-impact-assessment-written-report-final.pdf

Anima, P. A., Kumi-Kyereme, A., Mariwah, S., & Tampah-Naah, A. M. (2022). Reflections on lived experiences of teenage mothers in a Ghanaian setting: A phenomenological study. *International Journal of Adolescence and Youth*, *27*(1), 264–280. https://doi.org/10.1080/02673843.2022.2085052

Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using Zoom videoconferencing for qualitative data collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods, 18,* 1-8. https://journals.sagepub.com/doi/10.1177/1609406919874596

Atyeo, C., & Alter, G. (2021). The multifaceted roles of breast milk antibodies. *Cell*, *184*(6), 1486–1499. https://doi-org.ezproxy.una.edu/10.1016/j.cell.2021.02.03

Badr Naga, B.S.H., & Al-Khasib, E.A. (2014). Roy adaption model: Application of theoretical framework. *Middle East Journal of Family Medicine, 12*(8), 48-51.

Beck, M., Martinsen, B., Birkelund, R., & Poulsen, I. (2017). Raising a beautiful swan: A phenomenological-hermeneutic interpretation of health professional's experiences of participating in a mealtime intervention inspired by protected mealtimes. *International Journal of Qualitative Studies on Health and Well-Being, 12*(1), 1-13. doi: 10.1080/17482631.2017.1360699

Biemel, W., & Spiegelberg, H. (2022, August 23). Phenomenology. *Encyclopedia Britannica.* https://www.britannica.com/topic/phenomenology

Binns, C., Lee, M., & Yun Low, W. (2016). The long-term public health benefits of breastfeeding. *Asia-Pacific Journal of Public Health, 28*(1), 7-14. doi: 10.1177/1010539515624964

Brigitte, C. (2017). Rigor or reliability and validity in qualitative research: Perspectives, strategies, reconceptualization, and recommendations. *Dimensions of Critical Care Nursing, 36*(4), 253-263. doi: 10.1097/DCC.0000000000000253

Cain, T. (2021). *Lived Experiences of Nurses Caring for Limited English Proficient Patients During a Pandemic* [Doctoral Dissertation, Walden University]. https://scholarworks.waldenu.edu/dissertations/11166/

Centers for Disease Control and Prevention. (CDC). (2021). *Breastfeeding.* https://www.cdc.gov/breastfeeding/index.htm

Centers for Disease Control and Prevention. (CDC). (2022a). *COVID-19.* https://www.cdc.gov/coronavirus/2019-ncov/index.html

Centers for Disease Control and Prevention. (CDC). (2022b). *Information for families during the infant formula shortage.* https://www.cdc.gov/nutrition/infantandtoddlernutrition/formula-feeding/infant-formula-shortage.html

Centers for Disease Control and Prevention. (CDC). (2022c). *Nutrition.* https://www.cdc.gov/nutrition/

Charlick, S. J., McKellar, L., Gordon, A. L., & Pincombe, J. (2019). The private journey: An interpretative phenomenological analysis of exclusive breastfeeding. *Women*

and Birth: Journal of the Australian College of Midwives, *32*(1), e34–e42. https://doi.org/10.1016/j.wombi.2018.03.003

Cleveland Clinic. (2018). *The benefits of breastfeeding for baby and for mom.* https://my.clevelandclinic.org/health/articles/15274-the-benefits-of-breastfeeding-for-baby--for-mom

Cleveland Clinic. (2022a). *Breastfeeding*. https://my.clevelandclinic.org/health/articles/5182-breastfeeding

Cleveland Clinic. (2022b). *Oxytocin.* https://my.clevelandclinic.org/health/articles/22618-oxytocin

Creswell, J.W., & Creswell, J.D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches.* (5th ed.). SAGE.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches.* (4th ed.). SAGE.

Crowe, S., Howard, A. F., Vanderspank-Wright, B., Gillis, P., McLeod, F., Penner, C., & Haljan, G. (2020). The effect of COVID-19 pandemic on the mental health of Canadian critical care nurses providing patient care during the early phase pandemic: A mixed method study. *Intensive and Critical Care Nursing*, *63*, 1-8. https://doi.org/10.1016/j.iccn.2020.102999

Crowther, S., Ironside, P, Spence, D., & Smythe, L. (2017). Crafting stories in hermeneutic phenomenology research: A methodological device. *Qualitative Health Research, 27*(6), 836-835.

Crowther, S., & Thomson, G. (2020). From description to interpretative leap: Using philosophical notions to unpack and surface meaning in hermeneutic

phenomenology research. *International Journal of Qualitative Methods*, *19*, 1-11. doi: 10.1177/1609406920969264

Curcio, D. L. (2017). The lived experiences of nurses caring for dying pediatric patients. *Pediatric Nursing*, *43*(1), 8–14.

Dewey, K. G., Gungor, D., Donovan, S. M., Madan, E. M., Venkatrumanan, S., Davis, T. A., Kleinman, R. E., Taveras, E. M., Bailey, R. L., Novotny, R., Terry, N., Butera, G., Obbagy, J., de Jesus, J., & Stoody, E. (2021). Breastfeeding and risk of overweight in childhood and beyond: A systematic review with emphasis on sibling-pair and intervention studies. *American Journal of Clinical Nutrition, 114*, 1774-1790.

Dharma, K. K., & Rahayu, H. (2022). The effective post-stroke adaptation behavior model requires a family support system. *Enfermeria Clinica* (English Edition). doi: 10.1016/j.enfcli.2020.11.001.

Dos Santos W. G. (2020). Natural history of COVID-19 and current knowledge on treatment therapeutic options. *Biomedicine & Pharmacotherapy*, *129*, 110493. https://doi.org/10.1016/j.biopha.2020.110493

Dun-Dery, E. J., & Laar, A. K. (2016). Exclusive breastfeeding among city-dwelling professional working mothers in Ghana. *International Breastfeeding Journal, 11*(23). doi: 10.1186/s13006-016-0083-8

Duru, P., BaEaran, F., & Eursal, E. (2022). Breastfeeding practices during the SARS-CoV-2 pandemic were influenced by women's life event. *Journal of Perinatal & Neonatal Nursing*, *36*(1), 68-76 https://doi.org/10.1097/JPN.0000000000000619

Dusick, D. (2014). *Writing the limitations and delimitations.* BOLD Educational Software. http://bold-ed.com/barrc/limitations.htm

Eidelman, A. I., Schanler, R. J., Johnston, M., Landers, S., Noble, L., Szucs, K., Viehmann, L. (2012). Breastfeeding and the use of human milk. American Academy of Pediatrics Policy Statement. *Pediatrics, 129*(3), 827-841. https://publications.aap.org/pediatrics/article/129/3/e827/31785/Breastfeeding-and-the-Use-of-Human-Milk

Eisenhower Health. (2021). *Emergency room nurse job description.* https://careers.eisenhowerhealth.org/emergency-room-nurse-job-description/#:~:text=An%20Emergency%20Room%20Nurse%20is,medication%20administration%2C%20and%20much%20more.

Errasti-Ibarrondo, B., Jordan, J.A., Díez-Del-Corral, M.P., & Arantzamendi, M. (2018). Conducting phenomenological research: Rationalizing the methods and rigour of the phenomenology of practice. *Journal of Advanced Nursing Practice, 74*(7), 1723-1734. doi: 10.1111/jan.13569.

Fawcett, J., & DeSanto-Madeya, S. (2013). *Contemporary nursing knowledge: Analysis and evaluation of nursing models and theories* (3rd ed.). Davis.

Flannagan, N. M. (2018). Persistent pain in older adults: Roy's adaption model. *Nursing Science Quarterly, 31*(1), 25-28. doi:10.1177/0894318417741095

Garvey, J.M., Dalton, J. M., & Magny-Normilus, C. (2019). A conceptual-theoretical-empirical structure for the study of Alzheimer informal caregivers and home health nursing services. *Home Health Care Management and Practice, 31*(4), 231-238. doi:10.1177/1084822319844263

Gray, J. R., Grove, S. K., & Sutherland, S. (2017). *The practice of nursing research: Appraisal, synthesis, and generation of evidence.* (8th ed.) Elsevier.

Guerrero-Castañeda, R. F., Menezes, T. M. de O., & Prado, M. L. do. (2019). Phenomenology in nursing research: reflection based on Heidegger's hermeneutics. *Escola Anna Nery*, *23*(4).

Gupta, N., Dhamija, S., Patil, J., & Chaudhari, B. (2021). Impact of COVID-19 pandemic on healthcare workers. *Industrial Psychiatry Journal*, *30*(1), 282–284. https://doi.org/10.4103/0972-6748.328830

Health Resources and Service Administration. (HRSA). (2021). Understanding breastfeeding benefits. https://mchb.hrsa.gov/programs-impact/focus-areas/perinatal-infant-health/understanding-breastfeeding-benefits

Heidegger. M. (1962). *Being and Time.* (Macquarrie, J. & Robinson, E., Trans.). Harper and Row.

Herring, A., Kolbo, J., Hwanseok, C., Gordy, X. Z., Harbaugh, B., Molaison, E., Hardin, L., & Ismail, O. (2020). Breastfeeding history, preschool children's sleep, and obesity. *Comprehensive Child and Adolescent Nursing, 45*(1), 11–21. doi: 10.1080/24694193.2020.1797235

Hoogendoorn, M. E., Brinkman, S., Bosman, R. J., Haringman, J., de Keizer, N. F., & Spijkstra, J. J. (2021). The impact of COVID-19 on nursing workload and planning of nursing staff on the Intensive Care: A prospective descriptive multicenter study. *International Journal of Nursing Studies, 121,* 104005. https://doi.org/10.1016/j.ijnurstu.2021.104005

Horrigan-Kelly, M., Millar, M., & Dowling, M. (2016). Understanding the key tenets of Heidegger's philosophy for interpretive phenomenological research. *International Journal of Qualitative Methods, 15*(1). https://doi.org/10.1177/1609406916680634

International Labor Organization. (ILO). (2022). *Working Conditions.* https://www.ilo.org/global/topics/working-conditions/lang--en/index.htm

Jantzer, A. M., Anderson, J., & Kuehl, R.A. (2018). Breastfeeding support in the workplace: The relationship among breastfeeding support, work-life balance, and job satisfaction. *Journal of Human Lactation, 32*(2), 379-385. https://doi.org/10.1177/0890334417707956

Kabu Hergul, F., & Ozbayır, T. (2021). I am as normal as everyone now: Examination of experiences of patients undergoing bariatric surgery according to Roy's adaptation model: A qualitative study. *Clinical Nursing Research,* 3*0*(4), 511–521. https://doi.org/10.1177/1054773819880291

Li, R., Ware, J., Chen, A., Nelson, J. M., Kmet, J. M., Parks, S. E., Morrow, A. L., Chen, J., & Perrine, C. G. (2022). Breastfeeding and post-perinatal infant deaths in the United States, A national perspective cohort analysis. *The Lancet, 5*, 1-14. https://doi.org/10.1016/j.lana.2021.100094

Master, A. N., Su, X., Zhang, S., Guan, W., & Li, J. (2020). Psychological impact of COVID-19 on frontline nurses: A cross-sectional survey. *Journal of Clinical Nursing*, *9,* 4217–4226. doi: 10.1111/jocn.15454

McCardel, R. E., & Padilla, H. M. (2020). Assessing workplace breastfeeding support among mothers in the United States. *Workplace Health and Safety, 63*(4), 182-189. https://doi.org/10.1177/2165079919890358

Mercer University. (2021, November 8). Why the role of nurses is important in healthcare. https://absn.mercer.edu/blog/why-the-role-of-nurses-is-important-in-healthcare/

Nagel, E. M., Howland, M. A., Pando, C., Stang, J., Mason, S. M., Fields, D. A., & Demerath, E.W. (2022). Maternal psychological distress and lactation and breastfeeding outcomes: A narrative review. *Clinical Therapeutics, 44*(2). https://www.clinicaltherapeutics.com/article/S0149-2918(21)00461-6/fulltext

National Institutes of Health. (NIH). (2022). *COVID-19 Treatment Guidelines.* https://www.covid19treatmentguidelines.nih.gov/management/critical-care-for-adults/oxygenation-and-ventilation-for-adults/

Neubauer, B.E., Witkop, C.T., & Varpio, L. (2019). How phenomenology can help us learn from the experiences of others. *Perspectives on Medical Education, 8,* 90–97. https://doi.org/10.1007/s40037-019-0509-2

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery, 78,* 185–193. https://doi.org/10.1016/j.ijsu.2020.04.018

Nie, A., Su, X., Zhang, S., Guan, W., & Li, J. (2020). Psychological impact of COVID-19 outbreak on frontline nurses: A cross-sectional survey study. *Journal of*

Clinical Nursing, *29*(21–22), 4217–4226. https://doi-org.ezproxy.una.edu/10.1111/jocn.15454

Occupational Safety and Health Administration. (OSHA). (2019). *Worker's Rights.* https://www.osha.gov/sites/default/files/publications/osha3021.pdf

Occupational Safety and Health Administration. (OSHA). (n.d.) *Circle chart.* https://www.osha.gov/sites/default/files/2018-11/fy10_sh-20839-10_circle_chart.pdf

Office of the Surgeon General. (OSG). (2011). *The Surgeon General's call to action to support breastfeeding.* The U.S. Department of Health and Human Services. https://www.ncbi.nlm.nih.gov/books/NBK52687/

Office on Women's Health. (OWH). (2021). Location for breaks. U.S. Department of Health and Human Services. https://www.womenshealth.gov/supporting-nursing-moms-work/break-time-and-private-space/location-breaks#13

Ozcan, H., & Kocak, D. Y. (2019). Breastfeeding behaviors among working mothers in Turkey: A comparison between nurses and non-nurse mothers with >1 month to 2 years old children. *International Journal of Caring Science, 12*(3), 1448-1456.

Pearce, L. (2018). Creating a 'take a break' culture. *Nursing Standard, 33*(3), 64. doi:https://doi.org/10.7748/ns.33.3.64.s29

Premier Medical Staffing Services. (PMSS). (2020). *The med surg nurse.* https://premiermedstaffing.com/blog/med-surg-nurse/

Research Gate. (n.d.). *Roy's adaptation model.* https://www.researchgate.net/figure/Roys-adaptation-model-featuring-four-modes-of-adaptation-From-The-Roy-Adaptation_fig1_326464118

Riaz, S., & Condon, L. (2019). The experiences of breastfeeding mothers returning to work as hospital nurses in Pakistan: A qualitative study. *Women and Birth, 32*, e252-e258. https://doi.org/10.1016/j.wombi.2018.06.019

Rito, A. I., Buoncristiano, M., Spinelli, A., Salanave, B., Kunešová, M., Hejgaard, T., García Solano, M., Fijałkowska, A., Sturua, L., Hyska, J., Kelleher, C., Duleva, V., Musić Milanović, S., Farrugia Sant'Angelo, V., Abdrakhmanova, S., Kujundzic, E., Peterkova, V., Gualtieri, A., Pudule, I., Petrauskienė, A., … Breda, J. (2019). Association between characteristics at birth, breastfeeding and obesity in 22 countries: The WHO European childhood obesity surveillance initiative - *Obesity Facts*, *12*(2), 226–243. https://doi.org/10.1159/000500425

Ross-Cowdery, M., Lewis, C. A., Papic, M., Corbelli, J., Schwarz, E. B. (2017). Counseling about the maternal health benefits of breastfeeding and mothers' intentions to breastfeed. *Maternal and Child Health Journal, 21*, 234-241. doi:10.1007/s10995-016-2130-x

Roy, C. (2009). *The Roy Adaption Model* (3rd ed.). Upper Saddle River, NJ: Pearson.

Sagherian, K., McNeely, C. A., & Steege, L. M. (2021). Did rest breaks help with acute fatigue among nursing staff on 12-h shifts during the COVID-19 pandemic? A cross-sectional study. *Journal of Advanced Nursing*, *77*(12), 4711–4721. https://doi.org/10.1111/jan.14944

Santos, A. (2019). Intrinsic Motivation: How to pick up health motivation techniques. *Healthline*. https://www.healthline.com/health/intrinsic-motivation

Sebold, L. F., Honório Locks, M. O., de Almeida Hammerschmidt, K. S., Ropelato Fernandez, D. L., Reis Tristão, F., & Balbinot Reis Girondi, J. (2017). Heidegger's Hermeneutic Circle: A Possibility for Interpreting Nursing Care. *Texto & Contexto Enfermagem*, *26*(4), 1–8. https://doi.org/10.1590/0104-07072017002830017

Shukri, N. H., Wells, J., Eaton, S., Muckhtar, F., Petelin, A., Jenko-Praznikar, Z., Fewtrell, M. (2019). Randomized controlled trial investigating the effects of a breastfeeding relaxation intervention on maternal psychological state, breast milk outcomes, and infant behavior and growth. *American Journal of Clinical Nutrition, 110*(1), 121-130. https://doi.org/10.1093/ajcn/nqz033

Slack, D. (2022). In desperate need: Moms still search frantically for baby formula months after shortage. *USA Today*. https://www.usatoday.com/story/news/politics/2022/12/04/baby-formula-shortages-persist-after-biden-fixes/10795557002/

Smiley, R.A., Ruttinger, C., Oliveira, C. M., Hudson, L. R., Allgeyer, R. Reneau, K. A. Silvestre, J. H., Alexander, M. (2021). The 2020 national nursing workforce survey. *Journal of Nursing Regulation, 12*(1), S1-S96. https://www.journalofnursingregulation.com/article/S2155-8256(21)00027-2/fulltext#t0020

Southern Illinois University, Edwardsville. (SIUE). (2022). Qualtrics FAQ's. https://www.siue.edu/its/qualtrics/faq.shtml

Souza D. O. (2020). Health of nursing professionals: Workload during the COVID-19 pandemic. *Revista Brasileira de Medicina*, *18*(4), 464–471. Retrieved from the

National Library of Medicine. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7934175/

Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding trustworthiness in qualitative research. *Journal of Developmental Education, 44* (1), 26-29. https://www.jstor.org/stable/45381095

Suddick, K. M., Cross, V., Vuoskoski, P., Galvin, K. T., & Stew, G. (2020). The work of hermeneutic phenomenology. *International Journal of Qualitative Methods*, *19*. https://doi.org/10.1177/1609406920947600

Tangsuksan, P., Ratinthorn, A., Sindhu, S., Spatz, D.L., & Viwatwongkasem, C. (2020). Factors influencing exclusive breastfeeding among urban employed mothers: A case-control study. *Pacific Rim International Journal of Nursing Research*, *24*(1), 54-72.

The three Bs of med-surg nursing. (2014, September 4) *Health* https://www.wolterskluwer.com/en/expert-insights/the-three-bs-of-medsurg-nursing#:~:text=Med%2Dsurg%20nursing%20is%20busy&text=Many%20manage%205%2D7%20patients,Admission%2Fdischarge

U.S. Department of Agriculture. (USDA). (n.d.). *Taking care of you.* https://wicbreastfeeding.fns.usda.gov/taking-care-you

U.S. Department of Health and Human Services. (USDHHS). (n.d.). *Healthy People 2030. Child and adolescent development.* https://health.gov/healthypeople/objectives-and-data/browse-objectives/child-and-adolescent-development

U.S. Department of Labor. (USDL). (2023). FLSA Protections for Employees to Pump Breast Milk at Work. [Fact Sheet #73]. https://www.dol.gov/agencies/whd/fact-sheets/73-flsa-break-time-nursing-mothers

U.S. Equal Employment Opportunity Commission. (USEEOC). (n.d.). Pregnancy discrimination and pregnancy-related disability discrimination. https://www.eeoc.gov/pregnancy-discrimination

Valizadeh, S., Hosseinzadeh, M., Mohammadi, E., Hassankhani, H., Fooladi, M. M., & Cummins, A. (2018). Coping mechanism against high levels of daily stress by working breastfeeding mothers in Iran. *International Journal of Nursing Sciences, 5,* 39-44. https://doi.org/10.1016/j.ijnss.2017.12.005

Walker, K., Green, J., Petty, J., Whiting, L., Staff, L., Bromley, P., Fowler, C., Jones, L. K. (2022). Breastfeeding in the context of the COVID-19 pandemic: A discussion paper. *Journal of Neonatal Nursing, 28*(1), 9-15. https://doi.org/10.1016/j.jnn.2021.08.003.

Walters, D. D., Phan, L. T. H., & Mathisen, R. (2019). The cost of not breastfeeding: Global results from a new tool. *Health Policy and Planning*, *34*(6), 407–417. doi: 10.1093/heapol/czz050

Western Governors University. (WGU). (2022a). *Critical care nurse career guide.* https://www.wgu.edu/career-guide/healthcare/critical-care-nurse-career.html#close

Western Governors University. (WGU). (2022b). *How to become an ER nurse.* https://www.wgu.edu/career-guide/healthcare/er-nurse-

career.html#:~:text=An%20ER%20nurse's%20primary%20responsibility,admitted%20to%20the%20emergency%20room.

World Health Organization. (WHO). (2020). *Archived WHO timeline – COVID-19.* https://www.who.int/news/item/27-04-2020-who-timeline---covid-19

World Health Organization. (WHO). (2022a). *Breastfeeding.* https://www.who.int/health-topics/breastfeeding#tab=tab_1

World Health Organization. (WHO). (2022b). *Infant and young child feeding.* https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding

World Health Organization. (WHO). (2022c). *COVID-19 pandemic triggers 25% increase in prevalence of anxiety and depression worldwide*. https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide#:~:text=COVID%2D19%20pandemic%20triggers%2025,of%20anxiety%20and%20depression%20worldwide

Yuen, M., Hall, O. J., Masters, G. A., Nephew, B. J., Carr, C., Leung, K., Griffen, A., McIntyre, L. Byatt, N., & Moore Simas, T.A. (2022). The effects of breastfeeding on maternal mental health: A systematic review. *Journal of Women's Health, 31*(6), 787-807. http://doi.org/10.1089/jwh.2021.0504

Zhou, Y., Zhu, X., Qin, Y., Yong, M., Zhang, M., Liu, W., Huang, H., & Xu, Y. (2019). Association between total water intake and dietary intake of pregnant and breastfeeding women in China: A cross-sectional survey. *BMC Pregnancy Childbirth*, 19(127). https://doi.org/10.1186/s12884-019-2301-z

Zoom. (2022). Audio transcriptions for cloud recordings. https://support.zoom.us/hc/en-us/articles/115004794983-Audio-transcription-for-cloud-recordings