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## Assessing the Impact of COVID-19 Restrictions on the Perinatal Experience in Mississippi

Baylee Grimsley

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Assessing the Impact of COVID-19 Restrictions on the Perinatal Experience in  
Mississippi

by

Baylee Grimsley

A Thesis  
Submitted to the Honors College of  
The University of Southern Mississippi  
in Partial Fulfillment  
of Honors Requirements

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## ABSTRACT

The purpose of this study is to assess how COVID-19 restrictions affected the perinatal experience of women in Mississippi. A flyer detailing the purpose and inclusion criteria of the study was sent via social media platforms. Five postpartum women from the Hattiesburg, Mississippi area participated in this study. Eight open-ended questions were asked in an interview format, and a seven-question demographic survey was given to each participant at the conclusion of the interview. Five restrictions related to COVID-19 were identified: visitor restrictions in the hospital, mask requirements in healthcare facilities, screening of patients upon admission to the Labor and Delivery unit, a shorter length of stay in the hospital, and visitor restrictions at prenatal and postnatal appointments. Overall, four themes were identified based on participant responses: stress, fear/anxiety, missed experiences, and loss of control. Further research is needed to investigate how COVID-19 related restrictions affected women in Mississippi on a larger scale.

**Keywords:** perinatal, COVID-19 restrictions, pregnancy, postpartum, nursing care

## **DEDICATION**

I would like to dedicate my thesis to my Granny, Delores, and my mother, Jennifer, who both showed me what it meant to be a nurse before I even knew I wanted to become one.

To Granny: When I decided to pursue a career in nursing, I knew I wanted to be like you. Your love for my sister and me is something we will never forget. From eating chocolate in your bedroom to you teaching us how to make a bed perfectly, I will forever cherish our memories with you.

To my mother: Thank you for your constant love and support throughout my whole life. Your strength, compassion, and willingness to serve others are the qualities I admire most about you, and I hope to be half the woman you are one day.

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## **CHAPTER I: INTRODUCTION**

During the COVID-19 pandemic, hospitals and healthcare clinics implemented policies in an effort to reduce the spread of the coronavirus among patients, visitors, and staff members. These policies varied from facility to facility, but they involved the same principles. COVID-19-related restrictions included limiting hospital visitations or restricting them completely, screening and testing for COVID-19 upon admission to the facility, implementing mask mandates within the hospital, and reducing admissions as much as possible. These policies, although implemented for the safety of both patients and healthcare workers, impacted patients throughout the pandemic.

One patient population of particular concern is pregnant women. At the start of the pandemic, it was largely unknown whether pregnancy was considered a condition that put women at risk for complications caused by contracting COVID-19. Many women have faced this fear of the unknown throughout their pregnancy, leading to modifications in behavior to reduce their risk of contracting the virus (Zaigham and Andersson, 2020). Modifications varied widely but included limiting physical interactions with others, participating in virtual events or meetings, attending virtual prenatal care appointments, and staying home as much as possible to reduce the risk of contracting the virus.

Periods of lockdown, quarantine, and social distancing caused people across the globe to become more isolated, resulting in concerns about the strain of the pandemic on mental health and mental health resources (Pfefferbaum and North, 2020). This issue affected pregnant women significantly, with some studies reporting up to 44% of pregnant women exhibiting symptoms of depression (Ostacoli et al., 2020). Postpartum depression is a mood disorder experienced after the birth of a child, and it affects nearly 1

in 8 women (Center for Disease Control and Prevention, 2020). Stressful events, low social support, and pregnancy complications are all risk factors associated with postpartum depression that have been exacerbated throughout the pandemic, potentially leading to higher rates of postpartum depression than before the pandemic.

Since the start of the pandemic in the United States in March 2020, researchers have studied the possible effects that the pandemic has had on various aspects of the perinatal experience. However, these studies have not been conducted in specific regions, such as Mississippi, which had the highest rate of postpartum depression in 2020 (United Health Foundation, 2020). Because of the impact of pregnancy and the perinatal experience on maternal and infant outcomes, it is important to study how the pandemic affected women in these areas. Studying pandemic-related restrictions is necessary so that healthcare providers can evaluate which aspects, if any, of perinatal care have changed due to the pandemic and identify areas where care can be improved. The purpose of this study was to investigate how restrictions related to COVID-19 have affected the perinatal experience of women in Mississippi.

## **CHAPTER II: LITERATURE REVIEW**

### **COVID-19 Infection and Pregnancy**

At the beginning of the COVID-19 pandemic in March of 2020, there was little information known about the effects of SARS-CoV-2 infection during pregnancy and the postpartum period. Because of this, pregnant women were advised to take precautions against COVID-19 based on what was known about how other coronaviruses affect pregnancy, such as Severe Acute Respiratory Syndrome (SARS) and Middle Eastern Respiratory Syndrome (MERS). SARS is known to cause atypical pneumonia, which can result in shortness of breath, fever, productive cough, and body aches; these symptoms are similar to those initially reported as signs of COVID-19. Studies have shown that SARS and MERS had a 25.8% and 28.6% maternal mortality rate, respectively, and were also associated with adverse outcomes for the fetus (Wastnedge et al, 2021). This knowledge, combined with the knowledge of physiologic changes to the body during pregnancy, led to the concern that pregnant women were a population that was particularly vulnerable to COVID-19.

During pregnancy, the body changes to accommodate the growth of a fetus in the uterus. Along with physical changes, the immune system experiences changes during pregnancy. These changes include changes to the immune response that promote the humoral responses of the immune system over the cellular responses (Wastnedge et al, 2021). These changes can potentially cause the pregnant woman to be more susceptible to disease, as well as the adverse effects caused by diseases. The female body also experiences physiologic changes during pregnancy, including changes to respiratory function. As pregnancy progresses, the thoracic cage increases in diameter and the

diaphragm becomes elevated to accommodate the growing fetus. This physiologic process can cause symptoms such as shortness of breath, especially in the third trimester (Ricci, 2020).

As the pandemic has progressed, researchers have learned more about how COVID-19 infection can affect women who are pregnant. In a systematic analysis of studies related to COVID-19 and pregnancy, researchers found an increased risk for preeclampsia, stillbirth, and preterm birth in women with COVID-19 infection compared to women without COVID-19 infection. Additionally, studies found that women with severe COVID-19 infections were more at risk for preeclampsia, gestational diabetes, preterm birth, and low birth weight (Wei et al., 2021).

Ko et al. (2021) conducted a retrospective cohort analysis that included data from patients in 703 hospitals across the United States. Of the 489,471 patients included in the study, 6,550 were diagnosed with COVID-19 at the time of admission to the hospital. Patients diagnosed with COVID-19 at delivery experienced a 4.5% admission to the ICU, with 3.3% women experiencing acute respiratory distress syndrome (ARDS); in the same facilities, patients not diagnosed with COVID-19 were only admitted to the ICU at a rate of 1.5%, with 0.1% developing Acute Respiratory Distress Syndrome. COVID-19-positive patients in this study experienced acute renal failure, adverse cardiac events, shock, and/or thromboembolic disease at a higher rate than women without COVID-19. This study found that patients diagnosed with COVID-19 were 17 times more likely to die than those that were not diagnosed with COVID-19.

## **COVID-19 Restrictions in the Obstetric Setting**

During the height of the COVID-19 pandemic, recommendations were made for obstetric healthcare providers to protect the safety of both patients and healthcare workers. These changes were made in the prenatal, intranatal, and postnatal care settings.

Boelig et al., (2020) published an extensive document of guidelines for labor and delivery units across the United States during the COVID-19 pandemic. This five-section document laid out processes for screening and testing women upon admission to Labor and Delivery units, changing how L&D units operate, limiting visitation policies, and implementing interventions specific to COVID-19 infection during labor and delivery. Clinicians suggested screening obstetric patients before admission to L&D units, including asking questions about exposure to COVID-19 and COVID-19 symptoms; it was recommended for women who screened positive to be tested for COVID-19 and isolated accordingly. Changes to the operation of L&D units included wearing surgical masks when treating non-COVID-19 patients and N95 masks for patients with COVID-19 infection. Clinicians also recommended that L&D units limit visitors on the unit, suggesting that each patient be allowed one visitor for the entire stay, without swapping of visitors. Along with restrictions on L&D units, the authors suggested that postpartum care be expedited, with the goal for vaginal deliveries to be discharged on their first day postpartum, and cesarean deliveries with a discharge goal of day two (Boelig et al., 2020).

Poutoukidou et al., (2021) conducted a comprehensive literature review on the topics of COVID-19 management in relation to pregnancy, obstetric care, prenatal care, and antenatal care. The review found that preventive measures were the most significant

consideration for pregnant women due to the lack of standardized treatment methods for COVID-19 infection. Preventive measures in the prenatal period included proper hand hygiene using the seven-step method, avoiding close contact with large groups of people, clustering in-person prenatal appointments, and opting to receive telehealth services when possible. Intrapartum recommendations were mainly for healthcare facilities, advising that obstetric providers screen patients for COVID-19 prior to admission, wear an N95 mask during the second stage of labor due to aerosolization, and use obstetric indications to make decisions on delivery route.

At the onset of the pandemic, many questions arose about how COVID-19 infection could affect the labor and delivery process, particularly regarding how it would affect maternal respiratory status and fetal oxygenation during delivery. Cesarean section delivery became the primary delivery mode during the early months of the pandemic, possibly due to those concerns. As more research was done, however, healthcare providers were recommended to make decisions about delivery mode and time based on obstetric indications, not COVID-19 (Pountoukidou et al., 2021). In 2021, Papapanou et al. conducted an overview of systematic reviews on maternal and neonatal outcomes during the COVID-19 outbreak, with 39 total studies included. This review identified that rates of cesarean sections in these studies ranged from 52.3% (390 out of 746 deliveries) to 95.8% (46 out of 48 deliveries), with the review with the largest number of participants having a CS rate of 54.8%, or 1060 out of 1933 patients (Papapanou et al., 2021). However, this study did not identify whether these cesarean deliveries were due to COVID-19 or other obstetric complications.



Although these systematic reviews thoroughly outlined the recommended restrictions for healthcare facilities to implement in order to protect patients and staff from spreading COVID-19, these guidelines do not address how these restrictions have affected women. Particularly, more information is needed on how these restrictions have affected pregnant and postpartum women psychologically, whether positive or negative.

### **Maternal Mental Health During the COVID-19 Pandemic**

DeYoung and Mangum (2020) conducted a survey to gain an understanding of how the pandemic affected women's social relationships, birthing and lactation experiences, and family and work-related stress. The survey consisted of a 40-question, web-based survey that was sent via Facebook to members of Facebook groups related to motherhood, breastfeeding, parenting, and COVID-19 concerns. One hundred and sixteen women from 34 states participated in the survey. The survey also asked two open-ended questions that allowed participants to describe their self-care activities and to share any other information about their experience during the pandemic. All of the participants were women who were either pregnant or gave birth from December 2019 to summer of 2020. The study found that the participants reported experiencing general stress about the pandemic, with concerns mostly stemming from lack of knowledge about the virus. In the open-ended questions, participants also reported stress due to social distancing, going to appointments alone or via telehealth, and not knowing what information to follow about the coronavirus. The study also found that many women felt isolated from social systems, particularly in the postpartum period; participants reported that their interactions with their usual support systems were limited as they tried to social distance for the safety of themselves and their newborn.

Ahlers-Schmidt et al., (2020) found that the pandemic impacted women's pregnancy behaviors, financial stability, access to healthcare, and other behaviors related to infant and self-care. This study consisted of a 58-question survey that was emailed to women enrolled in programs designed for women at risk for poor birth outcomes in Sedgwick County, Kansas. 114 women participated in the study, with 59.8% being postpartum and 40.4% being pregnant at the time of the survey. The results showed that 63.2% of participants reported increased stress levels since the beginning of the pandemic, while 50% reported increased anxiety. Additionally, 40.4% reported experiencing increased fearful thoughts. In response to questions about pregnancy-related behaviors, 21.4% of participants reported a change in birth plan; this included changing from vaginal delivery to induction, having only one support person in the hospital during delivery, or cancelling elective procedures. Although this study drew important conclusions about women's reports of how the pandemic affected their mental health and other behaviors, it is limited to a small population of women in Kansas who were enrolled in a program specific to their risk for poor maternal outcomes.

## **CHAPTER III: METHODOLOGY**

### **Design**

The purpose of this study was to assess the effect of COVID-19-related restrictions on various aspects of the perinatal experience. This qualitative study aimed to investigate how mothers in Mississippi perceived that COVID-19-related restrictions impacted their pregnancy and childbirth experiences. This study used an interview format to assess maternal perceptions of multiple areas, including changes in prenatal and postnatal care, COVID-19 restrictions in healthcare facilities, and the strain of the pandemic on the women's mental health.

### **Participants**

The inclusion criteria for participation in this study included the following: female gender, age 18 years or older at the time of the interview, pregnancy or childbirth in the period from March 2020 to March 2021, and residency in Mississippi during the defined period. This study included five participants. The interview was conducted in accordance with COVID-19 restrictions defined by the Center for Disease Control and Prevention. Interviews were conducted in an in-person setting, and the interviewer was an individual who was fully vaccinated for COVID-19. If participants were fully vaccinated, the interview was conducted in an outdoor setting, with the interviewer and the participant sitting six feet apart. If the participant was not fully vaccinated, the interviewer and participant sat six feet apart and wore a face covering for the duration of the interview (Center for Disease Control and Prevention, 2021).

Participants were recruited via social media and via network sampling. A flyer was sent out over various social media platforms, including Facebook, Instagram, and

email (See Appendix D). The flyer gave a description of the purpose of the study and details about the interview process. Inclusion criteria for participation in the study was listed in the flyer.

### **Informed Consent**

Each participant was provided with a document that detailed the purpose and description of the study, as well as the risks and benefits of participating in the study (See Appendices A, B, C, and E for approved IRB materials). The document also informed participants that they could opt out of the study at any time without being penalized. Participants who agreed to participate in the interview signed the document before beginning the interview process. Although full anonymity cannot be provided because of the nature of an interview, confidentiality of each participant has been protected by using random identifiers for each individual.

### **Interview**

The interview consisted of eight open-ended questions regarding participants' experiences in the prenatal, labor, and postnatal periods. Participants were asked to describe their experiences in the healthcare setting during the COVID-19 pandemic. They were also asked to describe their mental health and stress levels during the pandemic, particularly regarding their pregnancy. The interviews took from 10-30 minutes to conduct and also included a demographic survey with seven questions. The interview questions were developed based on a review of literature surrounding the topics of COVID-19, pregnancy and labor during the COVID-19 pandemic, and changes in perinatal healthcare during the pandemic. Because reflecting on mental health during the pandemic was discussed during the interviews, participants were given a flyer with

information about local and national postpartum mental health resources (See Appendix F).

### **Theoretical Framework**

This study operated under Betty Neuman's Neuman Systems Model. According to the Neuman model, patients' care should be viewed holistically. Neuman's Systems Model defines five variables that make up a patient: physiological, psychological, sociocultural, developmental, and spiritual. These five variables explain how environmental forces affect patients, as well as help explain how patients respond to stressors, and how nursing interventions based on levels of prevention can facilitate patient-system stability and wellness (Neuman and Fawcett, 2011).

This study considered the Neuman Systems Model by assessing how the COVID-19 pandemic has affected the perinatal experience considering physiological, psychological, and sociocultural factors. By assessing how the pandemic has altered the mental health and social aspects of pregnancy, as well as the physiological well-being of patients, healthcare practitioners can begin to understand the effect of COVID-19 restrictions on patient care with a holistic view.

## CHAPTER IV: RESULTS

### Demographic Results

Information was sent via social media to prospective participants detailing the purpose of the study and requirement for participation. Five prospective participants responded, and interviews were set up. A total of five interviews were conducted; all five participants were currently living in Hattiesburg, Mississippi at the time of the interview. Each participant completed a demographic survey before the qualitative portion of the interview began. All participants were between the ages of 21 and 31. *Table 1* compiles the demographic information of the five participants.

**Table 1: Demographics**

| Demographics              |                     |                        |
|---------------------------|---------------------|------------------------|
|                           | Categories          | Number of Participants |
| <b>Age</b>                | 21-25               | 2                      |
|                           | 26-30               | 2                      |
|                           | 31-35               | 1                      |
| <b>Level of Education</b> | Some college        | 1                      |
|                           | 2- or 4-year degree | 3                      |
|                           | Graduate degree     | 1                      |
| <b>Employment Status</b>  | Part                | 1                      |
|                           | Full                | 2                      |
|                           | Unemployed          | 2                      |

|   |                        |   |
|---|------------------------|---|
| <b>Marital Status</b>   | Single                 | 1 |
|   | Partnered/married      | 4 |
| <b>Cohabitation with Partner</b>  | Yes                    | 5 |
|   | No                     | 0 |
| <b>Living Environment</b>   | Multi-bedroom dwelling | 5 |
| <b>Change in Living Situation</b>   | Yes                    | 2 |
|   | No                     | 3 |
| <b>Was change positive or negative? (Out of participants who answered “Yes” to previous question)</b> | Very Positive          | 1 |
|   | Somewhat positive      | 0 |
|   | Somewhat Negative      | 0 |
|   | Very Negative          | 0 |
|   | No Impact              | 1 |

### **Qualitative Results**

All five participants responded to each of the seven questions in the qualitative portion of the interview. The interviews lasted between 10 and 30 minutes. Additional inquiries were made using a structured approach when participants shared experiences that required more investigation. Five restrictions related to COVID-19 were identified: visitor restrictions in the hospital, mask requirements in healthcare facilities, screening of patients upon admission to the Labor and Delivery unit, a shorter length of stay in the hospital, and visitor restrictions at prenatal and postnatal appointments. Additionally, two participants identified social isolation as a restriction that they enforced in their

households for their own safety. Themes were identified based on the responses of the participants: stress, fear and anxiety related to contracting COVID-19, loss of control, and missed experiences.

### ***Policies Related to COVID-19***

All of the participants reported that they experienced restrictions in healthcare facilities that were implemented to prevent the transmission of COVID-19. The third interview question prompted participants to share the restrictions that they experienced while in the hospital or during their prenatal and/or postnatal appointments. The most frequently mentioned restriction by all participants was that they were restricted on how many visitors they could have while in the hospital for delivery. Four of the participants reported that they were only allowed one visitor, and their one visitor had to stay for the entire hospital stay; one participant reported that she was allowed one visitor, but the visitors were allowed to switch out. Some of the participants reported that they found the one visitor policy to be enjoyable, stating that it allowed them to rest and to spend time with their newborn. Each of the participants responded that they were required to wear a mask upon admission to the hospital but that they could remove their masks once they were in their room. Additionally, all five participants reported that they were screened for COVID-19 before being admitted to the Labor and Delivery unit, with two of the patients directly stating that they were tested for COVID-19 upon admission.

Many participants mentioned that they were also limited on having visitors with them at their prenatal and/or postnatal appointments. One participant expressed her disappointment in not being able to have her other children come to her appointments, saying, “One thing I was looking forward to was that my oldest daughter was old enough



to remember this pregnancy, and I wanted her to be able to go with me. And she wasn't able to do that." Another participant indicated that going to her appointments alone "generally made it more stressful... because you never know what's going to happen or what they're going to find on the ultrasound."

One participant reported that her stay in the hospital was shorter in comparison to her hospital stay with her first child. She stated, "As soon as you had your baby and could feel your legs again, they were shoveling you out. They just had way more pregnant people coming in. There was also a nursing shortage, so they were having to get NICU nurses to come to Labor and Delivery to help take care of people." Although expedited hospital stays have been recommended as a measure to reduce the transmission of COVID-19 in hospitals, it is unknown whether this specific facility implemented this policy because of COVID-19 or because of other factors, such as bed and staff shortages. Despite the reasoning behind this expedited stay, the participant felt that she was unprepared to leave the hospital in a shorter time frame.

### *Themes*

Four themes were identified based on participants' responses to the interview questions: stress, fear/anxiety, missed experiences, and loss of control. Many respondents expressed their feelings that COVID-19 and policies implemented because of the virus heightened their stress during their perinatal experiences. One participant reported that one of the most stressful parts of the pandemic was being pregnant while all of her kids were at home: "It was very stressful having the kids home and our lives being turned upside down. It was very stressful having everyone at home, just because that is not what I'm used to." Another participant discussed her difficulty in the postpartum period. She

said, “It was very hard... I was crying all the time... It was just a lot more stressful. I think a lot of it had to do with the pandemic because I couldn’t go anywhere.” This participant also reported that some of her stress was due to concern over her newborn contracting COVID-19. Stress was a common theme throughout many of the participants’ responses, as well as fear and anxiety.

Multiple participants reported feeling fear and anxiety related to contracting COVID-19 themselves or their newborn contracting COVID-19. Participants used words such as “terrified,” “worried,” and “scared” to describe their feelings about contracting COVID-19. One participant stated that she felt paranoid about being around other people, especially when she didn’t know how many other people they had been around. Many of the participants’ concerns stemmed from a fear of their newborn becoming sick with the virus. Additionally, participants frequently identified the lack of information about COVID-19 at the onset of the pandemic as a factor that contributed to their anxiety.

One of the interview questions was designed specifically for participants who had pregnancies and/or births prior to COVID-19. The question inquired whether their pregnancy and birth experiences during the pandemic differed from their pregnancy and birth experiences prior to 2020. One participant shared that she felt that she had missed out on experiences because of the pandemic; specifically, she mentioned that she was unable to have a baby shower and that she felt that only a handful of her friends and family were present during the pregnancy. She said, “It was definitely a very isolated pregnancy... Compared with the older kids, a lot of the joy of being pregnant was taken because I wasn’t around anyone.” She felt that her missed experiences were mostly due to COVID-19 restrictions and cancelled activities rather than a personal choice to socially

isolate. Another participant indicated that she also felt that she had missed out on experiences because of the pandemic. This participant shared these feelings in response to the last interview question, which asked participants to share any other information about their perinatal experience related to COVID-19 restrictions that they felt was relevant. The participant felt that she missed out on having her family and friends visit her in the hospital because she was only allowed one visitor for her entire stay; she said, “That part hurt because no one could come. I have a part in her baby book where visitors were supposed to sign, and it had a box for who came to the hospital and what they bring and stuff, and so in her baby book I just have, ‘No one was allowed to come because of COVID.’ It was just kind of sad.” While both of these responses elicited similar themes, the experiences that were missed were due to different COVID-19 restrictions; one occurred due to social distancing and cancelled activities, while the other occurred due to hospital policies.

The last theme that emerged from participant responses was that of a loss of control. Many of the participants felt that the pandemic introduced many obstacles that impeded their ability to control their situations. Examples of these obstacles included stay-at-home orders early in the pandemic, quarantine due to COVID-19 exposure or a positive COVID-19 test, cancellation of normal activities, social isolation, and more. For many participants, visitor restriction policies in the hospital setting were a factor that limited their ability to control who was in the room with them during their labor and delivery. One participant, whose first pregnancy and delivery was during the pandemic, expressed this, stating, “I did plan on having both my boyfriend and my mom there, but my mom wasn’t able to be there... I wanted my mom to be there as a young girl having a

baby, who's never had a baby before." Many women had to choose between their significant other or their other family members being in the hospital with them. Multiple participants remarked that only being able to have one visitor was difficult for them, particularly the participants whose first pregnancy was during the pandemic. Participants who had other children prior to the pandemic also felt like they were not in control. One participant directly stated that she felt as though she had lost control of what her family could and couldn't do: "From my perspective as a mom with more children, I just didn't really feel in control of what my family did. At one point, I was super pregnant and one of the kids got quarantined from school."

## **CHAPTER V: CONCLUSION**

### **Limitations**

This study had a few limitations. First, this study had a small sample size, and 80% of the participants gave birth at the same facility. With a small sample population, it is difficult to determine whether the results would be the same as with a larger sample size. In future research, it is important to investigate the impact of COVID-19 restrictions on the perinatal experience on a larger scale. Another limitation was that this study was conducted almost a year after each of the women gave birth, which could have led to participants forgetting important details and/or feelings regarding COVID-19 restrictions and their pregnancy and birth experiences. However, this time period may also have given them more time to reflect on the pandemic and better understand how it affected their perinatal experience.

### **Relevance for Nursing Practice**

The purpose of this study was to evaluate how COVID-19 restrictions affected the perinatal experience of women in Mississippi. The results of this study are significant for nurses and other healthcare professionals who work directly with this population, particularly in the Labor and Delivery setting. Understanding the psychological and social strain that the pandemic put on pregnant and postpartum women is vital for nurses so that they can base their plan of care around meeting these specific patient needs. This study showed that the participants in this study felt that the pandemic altered their perinatal experience. Many of the participants reported feelings of anxiety, fear, and isolation, and a few participants felt that they felt unable to control aspects of their life due to the pandemic. This finding is similar to those found in prior studies, which

reported that women reported facing general stress during the pandemic. This stress was due to not knowing much about the virus at that time, as well as due to policies in healthcare facilities to protect against COVID-19 (DeYoung and Mangum, 2021).

The Neuman Systems Model suggests that patient care should be viewed holistically, meaning that physical health and wellness are only a portion of what nursing care should address. Additionally, this model encourages nurses to consider how stressors affect the physiological wellbeing of patients (Neuman and Fawcett, 2011). The findings of this study can be used to directly apply Neuman's theory to patient care. Although staff nurses are unable to change hospital policies that affect patients, such as visitor restrictions and mask mandates, the nurse can facilitate a return to system stability through appropriate nursing interventions. For example, nurses can acknowledge the feelings that these restrictions may cause for patients. The process of labor and delivery of a newborn can already cause stress, fear, and anxiety for the mother and her support person without the added stress of a pandemic, so nurses should encourage their patients to share their feelings so that the nurse can address them. Nurses can also seek out ways to help patients cope with not having their support systems with them in the hospital; for example, technology can help patients stay connected with their support systems virtually. Additionally, it is vital for nurses to screen pregnant women and newborn mothers for risk factors that can contribute to postpartum depression and other problems, and they should provide all patients with mental health and postpartum resources offered in their area or facility.

## **APPENDIX A: INTERVIEW QUESTIONS**

### Interview Questions

1. Were there any changes to your birth plans as a result of the COVID-19 pandemic? If so, what were they?
2. Did any of your postnatal experiences change as a result of the COVID-19 outbreak?
3. During the pandemic, restrictions were put in place to protect patients and healthcare providers and help minimize risks associated with COVID-19. Some changes that were made involved implementing visitor restrictions, mask mandates, and COVID-19 screenings. Did you experience any of these changes (or others), and how did these changes make you feel?
4. If this was not your first pregnancy, how did your experience differ from your first pregnancy?
5. From March 2020 to March 2021, how did the COVID-19 outbreak change your stress levels or mental health?
6. What aspects of your life changed as a result of the COVID-19 pandemic? (i.e. social activities, work activities, support groups, access to healthy meals, financial well-being, etc.)
7. During the pandemic, what concerns did you have about your pregnancy and/or postpartum period?
8. What other information would you like to share about COVID-19 and its effects on your perinatal experience?

## APPENDIX B: DEMOGRAPHIC SURVEY

1. What is your current age in years?
2. What is the highest level of education that you have completed?
  - a. Less than 10<sup>th</sup> grade
  - b. 10<sup>th</sup>-12<sup>th</sup> grade
  - c. High school degree/GED
  - d. Trade school/apprenticeship
  - e. Some college
  - f. College degree (2 or 4 year degree)
  - g. Graduate Degree
  - h. Unknown/unsure
3. Which of the following best describes your employment status?
  - a. Full-time employment
  - b. Part-time employment
  - c. Unemployed
  - d. Other (if other, please describe)
4. Which best describes you?
  - a. Single
  - b. Partnered/married
  - c. Divorced/separated
  - d. Widowed
  - e. Other (if other, please describe)
5. Do you currently cohabit with a partner?
  - a. Yes
  - b. No
6. Which best describes where you currently live?
  - a. A studio dwelling
  - b. A 1-bedroom dwelling
  - c. A multi-bedroom dwelling
  - d. I do not have a stable housing arrangement
  - e. I decline to answer
7. Has your living environment changed since the beginning of the pandemic?
  - a. Yes
  - b. No
  - c. If yes, has the change to your living environment had a positive or negative impact?
    - i. Very positive
    - ii. Somewhat positive
    - iii. Somewhat negative
    - iv. Very negative
    - v. No impact



## APPENDIX C: 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 template on Cayuse IRB.

The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-21-310

PROJECT TITLE: Assessing the Impact of COVID-19 Restrictions on the Perinatal Experience in Mississippi

SCHOOL/PROGRAM: Professional Nursing Practice

RESEARCHER(S): Baylee Grimsley, Kathleen Masters

IRB COMMITTEE ACTION: Approved

CATEGORY: Expedited

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

PERIOD OF APPROVAL: August 11, 2021

Donald Sacco, Ph.D.

Institutional Review Board Chairperson

## **APPENDIX D: PARTICIPANT RECRUITMENT FLYER**

My name is Baylee Grimsley, and I am a senior nursing student at the University of Southern Mississippi. I am a member of the Honors College, where I am currently working on my honors thesis with my adviser, Dr. Kathleen Masters. The purpose of my project is to assess the effects of COVID-19 restrictions in the healthcare setting on the experience of women who were pregnant or gave birth from March 2020 to March 2021. I will be conducting interviews consisting of 8 open ended questions and a short demographic survey. In total, the interview should only take around 30 to 60 minutes of your time. To participate in my study, you must be a female resident of Mississippi who gave birth from March 2020 to March 2021, and you must be over the age of 18 at the time of the interview. I would greatly appreciate if you would participate in my study.

All data collected during the interview will remain confidential, and all personal identifiers will be removed. You will sign an informed consent form before beginning the interview. This study is voluntary; participants can withdraw participation from the study at any time. Permission for this study has been obtained from the USM Institutional Review Board (IRB) under IRB number IRB-21-310. If you have any additional questions, you can contact me at [baylee.grimsley@usm.edu](mailto:baylee.grimsley@usm.edu).

Thank you so much for your time and participation,  
Baylee Grimsley

## **APPENDIX E: PARTICIPANT CONSENT FORM**

Participant Consent Form

Project Title: Assessing the Impact of COVID-19 Restrictions on the Perinatal Experience

Principal Investigator: Baylee Grimsley

Email: [baylee.grimsley@usm.edu](mailto:baylee.grimsley@usm.edu)

College: Nursing and Health Professions

Program: Bachelors of Science in Nursing

**Purpose:** The purpose of this study is to understand the effects of COVID-19 restrictions in the healthcare setting on the experience of women in the perinatal period. Throughout the COVID-19 pandemic, changes have been made in hospitals and healthcare clinics in an effort to protect patients and healthcare providers from the risks associated with the coronavirus. These policies have affected Labor and Delivery units other areas that provide maternal care. The results of this study can help healthcare facilities evaluate the effect their policies regarding COVID-19 may have had on childbearing patients

**Description of Study:** Participation in this research consists of participating in an interview in an outdoor setting. The interview will last 20 to 30 minutes. Participants will be interviewed individually with one interviewer. Participants, if not fully vaccinated for COVID-19, will be asked to wear a mask. Participants and the interviewer will sit 6 feet apart for the duration of the interview. Interviews will be conducted on the USM campus outside of the front of Asbury Hall. Participants will also be asked to complete a demographic survey at the end of the interview. The interview will be audio recorded.

**Benefits:** We do not anticipate any direct benefits to participants, although participants may indirectly benefit from reflecting on their experience during the COVID-19 pandemic.

**Risks:** We do not anticipate any risks from participating in this research; however, participants may end participation in the study at any time if they wish.

**Confidentiality:** The confidentiality of each participant will be maintained by removing all participant identifiers from discussion of the interviews. Sensitive data will be kept secure using a password protected platform and will only be accessed by the researcher.

**Alternative Procedures:** There are no alternative procedures available for participants. Participants are permitted to end the interview at any point if they wish.

**Participant's Assurance:** This project and this consent form have been reviewed by USM's Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5125, Hattiesburg, MS 29406-

0001, 601-266-5997. Any questions about this research project should be directed to the Principal Investigator using the contact information provided above.

I hereby consent to participate in this research project. All research procedures and their purpose were explained to me, and I had the opportunity to ask questions about both the procedures and their purpose. I received information about all expected benefits, risks, inconveniences, or discomforts, and I had the opportunity to ask questions about them. I understand my participation in the project is completely voluntary and that I may withdraw from the project at any time without penalty, prejudice, or loss of benefits. I understand the extent to which my personal information will be kept confidential. As the research proceeds, I understand that any new information that emerges and that might be relevant to my willingness to continue my participation will be provided to me.

\_\_\_\_\_  
Research Participant

\_\_\_\_\_  
Person Explaining the Study

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

## APPENDIX F: RESOURCES FOR PARTICIPANTS

### Mental Health Resources

#### Postpartum Support International - 1-800-944-4773

- Postpartum Support International is an organization which provides mental health resources for women experiencing Postpartum Depression (PPD). Women can call the hotline number, and a volunteer will contact them to provide support. Additionally, the PSI website offers support groups for women to become involved in.

#### The Women's Clinic at Pine Grove – 601-288-8050

- The Women's Clinic is a program based in Hattiesburg, MS that specializes in psychiatric care for women who experience mental health crises at any point during the perinatal period. Women can receive individualized care based on their unique perinatal experiences. The Women's Clinic also offers Group Therapy sessions.

#### Pine Belt Mental Healthcare Resources – 601-544-4641

- Pine Belt Mental Health is a local mental health center that provides healthcare services to adults, children, patients with chemical dependencies, and patients with intellectual or developmental disabilities. PBMH offers outpatient treatments for adults, including individual, group, and family counseling. PBMH has a mobile crisis response team that will respond to reports of individuals in a mental health crisis. To access this service, you can call 601-544-4641.

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