"Exploring the Effects of COVID-19 on the Racial Disparities and Inequities of Maternal Health: A Survey-Based Study"

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Utilizing a cross-sectional survey design, undergraduate researchers at the University of Pittsburgh launched an investigation into the impact of the COVID-19 pandemic on maternal health, with a particular focus on inequity in care. This study utilized a survey, titled COVID-19 Maternal Health Experiences (CMHE) Survey, to explore stress levels and personal accounts of perceived differences in maternal health care in the United States following March 2020. It was hypothesized that the pandemic, having upended and permanently reshaped health systems in the U.S., would reveal broader truths about privilege and inequity in the context of women's health and motherhood. The responses gathered from 119 participants, predominantly from Pennsylvania, revealed heightened stress concerning health and childcare since the national outbreak of the pandemic. The homogeneity of participant demographics limits this survey results' generalizability and the ability to perform a racial analysis, emphasizing the need for diverse samples in future research. Despite limitations, the findings of this study highlight the importance of continued research on issues in maternal health care, as well as the importance of providing mothers of all ethnic backgrounds with equitable care and an outlet to express concerns related to their physical, mental, and emotional health.

Keywords

maternal health • COVID-19 • health inequalities • stress • racism in healthcare • healthcare experiences

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1. Introduction

Evidence of systemic racism and discrimination are gradually receiving more attention in the medical field and specifically in maternal health (Kamal, et al., 2019). This recognition brings to light the fact that the infant mortality rate (number of infant deaths per 1,000 live births) is not only the highest in the United States among comparable countries but also significantly higher for Black populations in America (Kamal, et al., 2019). Notably, Black mothers are disproportionately affected by adverse maternal health conditions and are dying from preventable complications at a rate that is between 3 and 4 times that of white mothers (Taylor, el al., 2019). These national trends are also evident in data collected specifically within the city of Pittsburgh, Pennsylvania; in fact, the 2019 report "Pittsburgh's Inequality across Gender and Race" spotlights that Black women living in Pittsburgh have a higher maternal mortality rate than Black women living in 97% of similar cities (Howell, et al. 2019). Looking at the data at both a national and local scale, it is imperative that work is done to address this discrimination found in maternal health care.

Furthermore, the COVID-19 pandemic has placed a strain on the United States' healthcare infrastructure, which has further exacerbated the discrimination faced by Black women. With these additional strains, now more than ever, Black women have shown immense concern over being able to receive adequate prenatal care and an overall positive birthing experience (Erickson, 2020; Minkoff, 2020; Gur, et al., 2020). As students approaching careers in healthcare following the outbreak of one of the deadliest pandemics in modern history, we were acutely and personally aware of the wave of effects that COVID-19 was having on life in the United States. The pandemic not only revealed vulnerabilities within our healthcare infrastructure but also laid bare the stark disparities that exist, particularly within maternal care. It was our shared conviction that understanding the repercussions of COVID-19 on maternal health, specifically in a racially diverse community like Pittsburgh, could serve as a microcosm of the larger healthcare challenges faced worldwide. We embarked on this research project with a deep sense of responsibility to shed light on the unfiltered experiences of mothers and to explore the potential role of the pandemic in exacerbating maternal stressors, as well as pre-existing racial divides in maternal care. We hope that through this study, and future studies, anecdotes from a diverse group of people can be collected and shared in a way that will be sustainable and accessible to all, ultimately allowing mothers of all backgrounds to feel heard while also providing a starting point for further exploration of the effects of COVID-19 on maternal health inequity.

2. Methods

2.1 Overview

This exploratory study, developed and dissected at the University of Pittsburgh, used a cross-sectional survey to gather quantitative and qualitative data on maternal health, with the hypothesis that COVID-19 had a significant impact on maternal health and potentially disparate effects on Black and white mothers. To acquire a complete, accurate portrayal of the realities and potential inequities in maternal health as it stands today, we designed a survey, which we titled the COVID-19 Maternal Health Experiences (CMHE) Survey. Through the use of both multiple-choice and open-ended questions in the CMHE Survey, we were able to gain a better understanding of overall trends as well as individual experiences relating to maternal care.

2.2 Survey Design

We employed this cross-sectional survey design to investigate the impact of the COVID-19 pandemic on the maternal health of mothers in the United States. The study aimed to compare the personal experiences of Pittsburgh mothers before and after March 2020 and assess how COVID-19 influenced stress levels and access to healthcare, with a focus on racial disparities between Black and white mothers.

The CMHE Survey was designed as an online survey consisting of multiple-choice questions, scale items, and open-ended questions to gather both quantitative and qualitative data. In order to collect demographic information, participants were given the opportunity to disclose personal information including race/ethnicity, education level, household income, and employment status. Participants were then asked about their maternal health experiences before and after March 2020. Specific questions addressed changes in stress levels, access to healthcare, and any COVID-19-related health concerns they may have encountered. Participants were also asked about their healthcare-seeking behaviors.

2.3 Participants and Survey Recruitment

Participants in this study included self-identified mothers mostly residing in Pennsylvania, but also from other states across the country. Originally, we intended to recruit participants solely from the Pittsburgh metropolitan area. However, given our limited capabilities and financial resources to recruit within local communities, we decided to rely on online social media platforms to share the CMHE survey, thus increasing our scope from Pittsburgh citizens to those living anywhere in the United States. With this decision, we were able to increase the number of participants who responded to the CMHE survey while also being able to analyze potential trends found in maternal health experiences throughout the country. The sampling frame for recruitment included mothers in the United States, with the objective of obtaining a diverse and representative sample. Participants were recruited through advertisements on social media platforms, such as Instagram and Twitter, and physical flyers dispersed throughout the University of Pittsburgh's campus and surrounding areas across Pittsburgh. Physical flyers were posted at public establishments including, but not limited to, bus stops, maternity stores, and lactation clinics.

Data collection took place between July 21, 2021 and March 28, 2022. Informed consent was obtained from all participants prior to survey participation. To further ensure data quality, participants were reminded during this section, as well as throughout the CMHE survey, that their responses were confidential and anonymous; furthermore, nearly all survey questions were entirely optional and visibly so. Only the survey responses that contained answers to at least half of the questions and had an attempted demographics section were carried forward into data analysis because only these participants provided enough information to analyze productively. By the end of data collection, 145 responses had been recorded, out of which 119 met the requirements for data analysis.

2.4 Methods of Analysis

Quantitative data were analyzed through creating histograms, plotting distributions, and calculating means and proportions. Qualitative data from open-ended questions, however, underwent thorough manual content analysis by two individuals to identify common themes, patterns, and

narratives related to the research questions. To prevent bias, all qualitative data was read and studied by the investigators separately, with findings compared and combined to ensure a comprehensive and rigorous analysis of the reported information.

3. Results

The CMHE survey was divided into four sections: demographic questionnaire, stress level identification, anecdote collection, and vaccine experience questionnaire. Each section addressed a different major research question and therefore all data from separate survey sections required unique, deliberate approaches to analysis.

3.1 Participant Overview

The participants of the CMHE survey self-identified similarly especially in terms of gender identity, ableness, ethnicity, and marital status. Overall, the population of participants is more homogenous with the majority identifying themselves as female, not differently abled, white, and married. Over half of the participants also reported being employed for wages and having a household income

Table 1. Numbers of Survey Participants Who Self-Classified For Each Demographic Category

Demographic Categories	Number of Participants (n = 119)
Gender Identity	
• Female	115
• Nonbinary	1
• No response	3
Differently Abled?	
• No	102
• Yes	10
• Prefer not to say	5
• No response	2
Marital Status	
• Single, never married	12
• Married or domestic partnership	103
• Divorced	2
• No response	2
Ethnicity	
• White	103
• Hispanic or Latino	5
• Black or African American	7
• Asian/Pacific Islander	2
• Multiracial	1
• Prefer not to say	3
• No response	2

(*Continued*)

Demographic Categories	Number of Participants (n = 119)
Highest Level of Education	
• High school diploma or equivalent	6
• Vocational or trade school	1
• Some college	17
• Associate or 2-year degree	9
• Bachelor's or 4-year degree	20
• Some graduate or professional school	8
• Graduate or professional degree	56
• No response	2
Employment	
• Employed for wages	80
• Self-employed	6
• Out of work and looking for work	5
• Out of work but not looking for work	6
• Homemaker	38
• Student	8
• Unable to work	5
• No response	2
Household Income	
• $1-$9,999	4
• $10,000-$24,999	1
• $25,000-$49,999	10
• $50,000-$74,999	17
• $75,000-$99,999	19
• $100,000-$149,999	39
• $150,000 and greater	20
• Prefer not to say	7
• No response	2
Household Size	
• 2	10
• 3	47
• 4	38
• 5	11
• 6	8
• 7	1
• No response	3
Residence Location by Geographic Division	
• New England	1
Massachusetts	83
• Middle Atlantic	1
Pennsylvania	1
New York	1

(*Continued*)

Table 1. (Continued)

Demographic Categories	Number of Participants (n = 119)
• East North Central	2
Illinois	6
Indiana	1
Michigan	2
• West North Central	2
Minnesota	5
Iowa	3
• South Atlantic	3
West Virginia	4
Maryland	2
• West South Central	3
Oklahoma	
Texas	
• Mountain	
Colorado	
• Pacific	
California	
Hawaii	
• No response	

of at least $100,000 or greater. The majority of survey respondents were based in Pennsylvania, although there were also participants from 15 other states including California, Colorado, Hawaii, Illinois, Indiana, Iowa, Maryland, Massachusetts, Michigan, Minnesota, New York, Oklahoma, Texas, and West Virginia.

3.2 How did COVID-19 impact participants' stress levels?

The CMHE survey prompted participants to report their current perceived stress levels in relation to multiple topics. For each of the categories, a mean "stress rank" will be provided. This will be the average response to the respective scenario, with a minimum rank of one representing "low stress" and a maximum rank of five representing "high stress." Survey participants were given stress rank options of one, two, three, four, or five for each question.

Out of the specific scenarios provided to participants, certain categories elicited, on average, the most heightened levels of stress:

1. Health-Related Stress: A substantial proportion of participants reported fear surrounding their own health (mean stress rank = 4.08 out of 5) and the health of their loved ones (mean stress rank = 4.15 out of 5). As many survey participants had experienced pregnancy at some point following the outbreak of the pandemic, many of them also reported stress of contracting COVID-19 and, specifically, it ultimately affecting their pregnancy (mean stress rank = 4.18 out of 5).

Table 2. Mean Stress Rank Associated with Various Scenarios

Scenario Capable of Eliciting Stress Possibly Exacerbated by COVID-19	Mean Stress Rank (1 to 5)	Median	Mode
Self contracting COVID-19 (n= 120)	4.08	4 (30%)	5 (45%)
Self contracting COVID-19 and it affecting their pregnancy (n= 120)	4.18	5 (58%)	5 (58%)
Encountering negative work-related situations (e.g. working under dangerous conditions, potential of losing one's job, etc.) (n= 119)	3.39	4 (26%)	5 (28%)
Coping with financial difficulties (n= 119)	2.87	3 (19%)	1 (24%)
A loved one contracting COVID-19 (n= 121)	4.15	4 (29%)	5 (46%)
Receiving quality prenatal care (n= 118)	2.79	3 (29%)	3 (29%)
Having a positive birthing experience (n= 117)	3.54	4 (33%)	4 (33%)
Having adequate support for childcare (n= 121)	3.79	4 (19%)	5 (44%)

2. Concerns of Childcare: Participants commonly reported stress associated with balancing work responsibilities and childcare needs as schools and daycare centers across the country experienced sporadic closures. Therefore, the struggle to maintain a work-life balance under these conditions appeared to be a significant source of stress for many respondents (mean stress rank = 3.79 out of 5).

Certain other prompts given to participants generated results indicative of low to average stress regarding the respective topics. The scenarios which yielded reports of average to below average stress are as follows:

1. Stress Involving Work: This category asked participants to consider the stress they related to potential job loss and the possibility of working under dangerous conditions during COVID-19 (mean stress rank = 3.39 out of 5).
2. Stress Surrounding Financial Difficulties: Financial worries, such as job loss, reduced income, and economic uncertainty, similarly accounted for a minimal self-reported increase in stress levels for CMHE survey participants (mean stress rank = 2.87 out of 5).
3. Concerns of Receiving Proper Prenatal Care: This category included worries about the accessibility of healthcare services, potential disruptions in prenatal care, and the safety of healthcare environments, and did not result in above-average stress levels among our sample (mean stress rank = 2.79 out of 5).
4. Stress of Having a Positive Birthing Experience: Worries about labor and delivery procedures, access to support persons during childbirth, and the health and well-being of the newborn, among other pressing concerns, contributed mildly to the stress reported by many survey respondents (mean stress rank = 3.54 out of 5).

3.3 How did COVID-19 impact participants' maternal health experiences?

Overall, participants' responses to the open-ended question asking them to comment on their maternal health experiences during the COVID-19 pandemic reflected themes of worry, isolation, and disruption, which all seem to be inherently tied to stress, namely the heightened levels of stress experienced by participants. These responses were then further analyzed in the context of the three categories or "groups" each of the participants' answers were sorted into.

3.3.1 Worry

This study utilized the Oxford Languages Dictionary definition of worry as "a state of anxiety and uncertainty over actual or potential problems." Here we highlight the terms "anxiety" and "uncertainty" as key emotions centered around responses containing the theme of worry. A representative response mentioning worry contains the quote, "I live in constant fear of everything I have being taken away from me [. . .] I would call the fear 'crippling' at this point." In this response, we highlighted the mentions of "constant" and "crippling" fear as indicators of the anxiety and uncertainty this individual was experiencing due to the pandemic.

There were 28 mentions of worry throughout all of the responses received, 3 three of which were found in responses from mothers of young children (i.e. individuals who gave birth no more than three years prior to COVID-19), 17 in responses from mothers with pregnancy experiences both prior to and during COVID-19, and finally 18 in responses from pregnant individuals and/or first-time mothers during COVID-19 (i.e. individuals whose pregnancy experiences occurred solely during the pandemic). To better be able to find comparisons between these groups of people, we also looked at the percentage of responses containing worry for each group. We found that worry was mentioned in 3 three of the 7 seven responses from the first group, 17 of the 45 responses from the second group, and 8 eight of the 45 responses from the third group. We suspect that a potential reason for the proportion of responses containing themes of worry being lower for the third group than the second group might be due to the fact that the former group might not have known what a "non-COVID" pregnancy might feel like, while the latter group had personally experienced both.

Table 3. Number of Mentions of Themes of Worry, Isolation, and Disruption in Participants' Responses

	Number of Mentions of Each Theme		
	Worry	Isolation	Disruption
Group 1: Mothers of young children (gave birth before COVID-19) (n=7)	3 (43%)	2 (29%)	4 (57%)
Group 2: Mothers of young children and pregnant during COVID-19 (n=45)	17 (38%)	17 (38%)	31 (69%)
Group 3: Pregnant and/or first-time mother during COVID-19 (n=45)	8 (18%)	17 (38%)	28 (62%)

3.3.2 Isolation

The theme of isolation seemed essential to include while analyzing the participants' reactions and experiences to lockdown policies and the pandemic overall. Based on our own understanding of the term and its use in the survey responses, we defined isolation as either being physically separated or feeling emotionally separated from others in a way that ultimately caused sadness. An example of this theme can be found in the response of a mother reflecting her COVID-19 pregnancy to one occurring pre-pandemic, "Postnatal community (mental health) support was much reduced from my 2016 pregnancy to my pandemic pregnancy in 2020. As I suffer from postpartum and general depression, this caused me great harm." Here, we see that this individual felt alone and isolated due to the lack of mental health support. This response, in particular, is interesting as it directly compares the participant's experience during the pandemic to their experiences before the pandemic, suggesting further evidence that maternal health experiences were greatly affected, and potentially negatively affected, during COVID-19.

The responses seemed to be relatively consistent across the three groups with ~~2~~ two out of the ~~7~~ seven responses in group one and 17 out of the 45 responses in both groups two and three containing themes of isolation. The fact that both groups two and three had the same proportion of responses reflecting feelings of isolation is likely a coincidence but continues to demonstrate the adverse impact the pandemic has had on these participants' experiences.

3.3.3 Disruption

Based on the open-ended response data, disruption became our third and final theme largely reflected in nearly all the participants' stories. Utilizing the Cambridge English Dictionary's definition of disruption as "the action of preventing something, especially a system, process, or event, from continuing as usual or as expected" and often in a stress-inducing manner. One of the participants in the first group mentioned that they "have missed out on the relationships with extended family and postponed having another child; [their] kiddos have little to no experience with other children their age and haven't been to a grocery or other store since March [2020]." This response, in particular, powerfully highlights a number of the ways in which the pandemic has negatively affected the maternal health experiences expressed by the mothers and pregnant people who responded to the CMHE survey. We also found the mention of postponing another child to be particularly impactful as it emphasizes the need to even rethink family planning as a result of the pandemic.

This was largely the most mentioned theme with 4/7 (57%), 31/45 (69%), and 28/45 (62%) responses containing references to disruption in groups one, two, and three, respectively. We felt that this theme was best able to encompass a lot of the changes participants were experiencing due to the pandemic and relating specifically to maternal healthcare.

3.4 What were participants' experiences with the vaccine?

An inquiry into survey respondents' COVID-19 vaccination status revealed valuable insights into vaccination patterns among pregnant people and mothers of young children.

Participants who reported receiving a federally-approved COVID-19 vaccine (106 of 119) were asked to provide information about when they had first been administered their vaccination. The responses indicated that, on average, participants had been vaccinated at relatively standard times

Table 4. Vaccine Questionnaire Responses of Individuals Unvaccinated Against COVID-19

Would the participant be willing to receive a vaccine against COVID-19 if made easily accessible to them? (n = 13)			
Definitely Yes	**Probably Yes**	**Probably Not**	**Definitely Not**
0	1 (8%)	6 (46%)	6 (46%)

throughout early 2021. This suggests that there were no discernible patterns of vaccine precedence among the sample. This may be indicative of equitable vaccine distribution and accessibility within the communities in which participants were living at the time.

For participants who had not yet received a vaccine against COVID-19 (13 out of 119), the next survey question was related to their willingness to do so if it were made easily accessible. The responses were categorized into four options: "Definitely yes," "Probably yes," "Probably not," and "Definitely not."

Of the 13 respondents to this question, none expressed a strong willingness to get vaccinated, even in the case of accessibility being improved. One participant indicated a degree of openness to vaccination; this individual may benefit from information and support to address potential concerns and barriers. Six participants expressed hesitancy by selecting "Probably Not." Five out of six of these participants were white, and one selected their ethnicity to be Hispanic or Latino. When given the opportunity to provide elaboration, one individual reported that they "still feel like [the vaccine] is a little experimental," without specific reference to potential side effects related to pregnancy. The final six respondents to this question firmly indicated that they would "Definitely Not" consider getting vaccinated even with improved accessibility. Of these six individuals, five were white, and one indicated that they were Black. One respondent in particular shared that their reasoning for remaining unvaccinated was a product of their belief that "[the COVID-19 vaccine] doesn't work." These findings were very much in line with views shared by many people within the United States; ultimately, it is crucial to respect individual choices and simultaneously work to ensure that accurate information about vaccines is readily available for those who may reconsider their stance.

4. Discussion

Although the CMHE survey aimed to reach a diverse group of mothers residing in the United States, the demographic composition of participants revealed a certain degree of homogeneity that prevented analysis of potential racial disparities. Specifically, our sample was overwhelmingly female (115 out of 119), not differently abled (102 out of 119), married (103 out of 119), white (103 out of 119), having received a bachelor's degree or higher (84 out of 119), belonging approximately to the upper-middle to upper class based on household income (78 out of 119), and residing to Pennsylvania (83 out of 119). This homogeneity in participant demographics may be attributed to the limitations of our recruitment methods and the challenges associated with achieving a truly representative sample of the United States (or even of a city as diverse as Pittsburgh, Pennsylvania).

Limitations that may have influenced participant demographics were numerous. Notably, the CMHE survey was released while the COVID-19 pandemic caused capacity to be limited in certain public spaces, and many people (especially pregnant people) avoided these spaces to reduce

their risk of contracting the disease; therefore, in-person flyering was difficult and perhaps somewhat ineffective at recruiting participants. Advertising of the CMHE survey was resultingly mainly online and, in conjunction with a survey that itself was online, limited the population to being people with access to a device with internet accessibility. As previously mentioned, the CMHE survey was originally intended to be restricted to only participants residing in Pittsburgh, Pennsylvania; however, with minimal resources to help boost recruitment efforts, we quickly realized that would yield a low number of participants and therefore decided to expand our scope to the entire United States. Furthermore, we expect that even potential participants who came into contact with flyers and/or online advertisements may have decided against completing the survey due to lack of trust in the research community, especially considering the personal nature of many of the CMHE survey questions. Future research efforts should consider more targeted recruitment strategies and greater outreach to ensure a more diverse participant pool.

Lack of diversity in participants was immediately evident in responses to the portion of the CMHE survey which asked participants to report their stress levels in relation to a list of topics. Again, certain topics seemed to evoke, on average, more heightened levels of stress from nearly all participants regardless of personal demographic information, such as the likelihood of contracting COVID-19. Concerns of childcare were also universally quite high, as the widespread closure of schools and daycare centers combined with returning to the office after many months of remote work were expected to introduce a complex new set of challenges for parents of various socioeconomic backgrounds.

Interestingly, certain prompts given to participants yielded results indicative of low to average stress. Comparing these results to the average demographic information of survey respondents further raised our suspicion of the potential influence of homogeneity among the sample, particularly homogeneity that on average was very white and likely would fall within the category of upper-middle to upper class according to the Social Security Administration's 2022 wage data (*National Average Wage Index*, 2022). For example, average reported stress levels related to risk of job loss and the possibility of working under dangerous conditions were, on average, not significantly high for the CMHE survey participants. It is possible that the economic stability and job security typically associated with our sample demographics may have contributed to the relatively modest stress rank for this category. Similarly, financial worries, such as job loss, reduced income, and economic uncertainty, were expected to contribute to the overall self-reported increase in stress levels; however, the economic stress experienced by our participants, while notably present, did not reportedly exceed their pre-pandemic financial concerns to a significant degree. It is essential to consider that our sample, which primarily comprises upper-middle to upper-class mothers, may have had more financial stability and resources to cope with the economic impact of the pandemic, which could account for the relatively modest heightening of financial stress levels.

While concerns about receiving proper prenatal care during the pandemic were evident in our sample, including worries about the accessibility of healthcare services, potential disruptions in prenatal care, and the safety of healthcare environments, these concerns did not result in above-average stress levels for a few potential reasons. It is possible that the relatively high socioeconomic status of our sample allowed respondents to navigate these concerns with a greater degree of resilience and confidence. We also predict that, as many survey participants had reported already having experience with pregnancy and/or maternal healthcare from prior to the onset of the pandemic, those whom were the mother of multiple children had been able to mitigate the overall impact of COVID-19 on their level of stress simply by being familiar with the birthing process

and potentially by having connections to a trusted birth team. The final category of note was related to stress surrounding having a positive birthing experience; although this category showed responses most similar to that of the aforementioned "high stress" categories, again, it is possible that the financial and healthcare resources available to our sample provided a level of comfort and security that contributed to an overall modest level of stress related to birthing experiences in the midst of the pandemic. Regardless, worries about labor and delivery procedures, access to support persons during childbirth, and the health and well-being of the newborn, among other universal yet naturally urgent concerns, potentially contributed greatly to the stress reported by many survey respondents.

While our data and sample made it impossible for us to definitively answer the initial research question, new questions and observations emerged during data collection and analysis. By enabling the sharing of personal anecdotes, the CMHE survey offered an opportunity for survey participants to express themselves. Because of its anonymity, many participants felt comfortable with describing their frustrations, fears, disappointments, and more in regards to the COVID-19 pandemic and their maternal health experiences. Therefore, despite our inability to make direct comparisons and draw conclusions regarding the pandemic's impact on maternal health (due to low survey participation and undiverse sample demographics), we uncovered a rich tapestry of maternal experiences, shedding light on the challenges and concerns faced by mothers during this extraordinary period.

The original hypothesis that the COVID-19 pandemic may exacerbate the racial divide seen in maternal care in Pittsburgh remains a critical question. Although we could not provide a conclusive answer in this study, our findings indicate the importance of continuing this exploration. The narratives shared by our participants underscore the complex interplay of systemic inequities and personal experiences, highlighting the need for a more in-depth investigation into the intersection of race, maternal health, and the pandemic. Future research efforts should delve deeper into this critical issue, employing a larger and more diverse sample to capture the nuanced differences in experiences among mothers of color and white mothers.

One notable aspect of our research approach was the inclusion of open-ended questions that encouraged participants to share their personal anecdotes in an intentionally unfiltered manner. Personal anecdotes, in many cases, transcended quantitative data in capturing the true essence of the maternal experience in this unprecedented time. This approach should be further implemented in future research as a means to capture the multifaceted nature of maternal health and its intersection with social and healthcare systems.

5. Conclusion

While our study faced some limitations, such as a homogenous participant demographic and questions left unanswered, it nonetheless offered invaluable insights into the experiences of mothers during the COVID-19 pandemic. Our study underscores the need for continued research on the racial disparities in maternal care and the potential exacerbating impact of the pandemic. Furthermore, the qualitative narratives shared by our participants reveal the power of personal anecdotes in gaining a deeper understanding of the complexities of maternal health during times of crisis. These findings lay the foundation for future research in the realm of maternal health and healthcare equity.

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References

Erickson, L. (2020, April 30). The disproportionate impact of COVID-19 on women of color. *Society for Women's Health Research*. https://swhr.org/the-disproportionate-impact-of-covid-19-on-women-of-color/

Gur, R. E, et al. (2020). The disproportionate burden of the COVID-19 pandemic among pregnant black women. *Psychiatry Research*. 293, 113475. https://doi.org/10.1016/j.psychres.2020.113475

Howell, J., Goodkind, S., Jacobs, L. A., Branson, D., & Miller, L. (2019). *Pittsburgh's Inequality across Gender and Race* (p. 14–21). Retrieved from https://www.socialwork.pitt.edu/sites/default/files/pittsburghs_inequality_across_gender_and_race_07_19_20_compressed.pdf

Kamal, R., Hudman, J., & McDermott, D. (2019, October 18). *What do we know about infant mortality in the U.S. and comparable countries?* Peterson-KFF Health System Tracker. https://www.healthsystemtracker.org/chart-collection/infant-mortality-u-s-compare-countries/#item-start

Minkoff, H. (2020). You don't have to be infected to suffer: COVID-19 and racial disparities in severe maternal morbidity and mortality. *Am J Perinatol,* 37(10), 1052–1054). https://doi.org/10.1055/s-0040-1713852

National Average Wage Index. (2022). Social Security Administration. https://www.ssa.gov/oact/cola/AWI.html#:~:text=The%20national%20average%20wage%20index,than%20the%20index%20for%202021.&text=When%20we%20compute%20a%20person's,to%20index%20that%20person's%20earnings.

Taylor, J., Novoa, C., Hamm, K., Phadke, S. (2019, May 2). *Eliminating Racial Disparities in Maternal and Infant Mortality*. Center for American Progress. https://www.americanprogress.org/issues/women/reports/2019/05/02/469186/eliminating-racial-disparities-maternal-infant-mortality/