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Understanding Perinatal Anxiety and Depression during the COVID-19 Pandemic and

Associations with Stress and Coping: A Scoping Review

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Associations with Stress and Coping: A Scoping Review

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Understanding Perinatal Anxiety and Depression during the COVID-19 Pandemic and Associations with Stress and Coping: A Scoping Review

Abstract

Objective: The objective of this scoping review is to summarize existing literature pertaining to pregnant US individuals' psychological experiences with stress and coping during the COVID-19 pandemic.

Introduction: Emerging evidence demonstrates that the COVID-19 pandemic had a particular impact on the mental health of vulnerable populations such as pregnant people. Increases in the prevalence of mental distress are of particular concern for pregnant women as pregnancy and the postpartum period are vulnerable periods that have been associated with increased risk for depression, anxiety, and trauma-related symptoms and can lead to serious outcomes that impact mother and child. This review explores the impact of COVID-19 on the experiences of pregnant and postpartum women during the COVID-19 pandemic and its impact on their mental health and wellbeing with specific attention to what stressors were experienced and coping strategies were utilized.

Methods: This scoping review considered articles dealing with anxiety and depression amongst perinatal women during the COVID-19 pandemic and how their experiences with stress and coping. Studies presenting prevalence of depressive and anxiety symptoms amongst perinatal women during COVID and instances of stress, coping strategies, and resilience strategies were also included. The review considered peer reviewed qualitative or mixed methods studies published in English between January 2020 through January 2022. The search was conducted using 13 electronic databases. Data extraction was performed by two independent reviewers using COVIDENCE.

Results: The review identified 5 eligible studies for inclusion. Two studies on perinatal women with a history of clinically elevated depression levels or of psychiatric disorders during the pandemic. One study on the psychological experience of obstetric patients after the introduction of SARS-CoV-2 universal testing. Another study on the mental health and wellbeing of perinatal women and their sources of resilience and one study on the psychological stress and coping during pregnancy in relation to the COVID-19 pandemic. Anxiety and depression were commonly related to exposure risk, lacking support networks, mitigation restrictions, and changes in financial situations but were able to utilize numerous resilience. and Major themes around coping were grounded in engagement with nature, prioritization of downtime, tempering access to media, and connecting with community. None of the studies explicitly consider the nuanced impact of systematic factors on minority and marginalized groups.

Conclusions: This scoping review highlights that perinatal women experienced elevated anxiety and depression during their COVID-19 experiences. Understanding how perinatal women are impacted during the pandemic, such as stressors and coping strategies, is crucial for providers and health officials to consider when providing care, recommending resource avenues, and developing support interventions for perinatal women. Continued research is necessary to understand the long-term impact of the pandemic on this vulnerable population through continued exploration.

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Table of Contents

Definition of Terms

Term	Definition
COVID-19 Pandemic	The pandemic that was caused by the SARS-CoV-2 virus (WHO, 2020).
Perinatal Period	The perinatal period refers to the time before and after childbirth (NIMH, 2022).
Perinatal Mental/Psychological Health	Refers to a women's mental health during pregnancy and the postpartum period (MHTF, 2017).
Perinatal Mood and Anxiety Disorders, Perinatal Depression, Perinatal Anxiety,	Perinatal Mood Disorders are related to mood and anxiety symptoms that occur during pregnancy or up to one year postpartum. For the purpose of this paper, perinatal depression and perinatal anxiety collectively refer to mood disorders that can affect women during pregnancy and after childbirth (NIHM, 2022)
Stress	Stress is the physical or mental response to an external cause (NIMH, 2021).
Coping	Defined as the thoughts and behaviors mobilized to manage internal and external stressful situations (Algorani and Gupta, 2022).
Resilience	Resilience is the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands (APA, 2022).

Introduction

The World Health Organization officially declared SARS- CoV-2 or COVID-19 a global pandemic on March 11, 2020 (Cucinotta and Vanelli, 2020). There have been nearly 139 million confirmed cases and 3 million deaths worldwide (WHO, 2021). As of December 2020, the United States is ranked first in the world for pandemic deaths and has the 12th worst COVID-19 cumulative mortality rate globally at 19% (Koh et al., 2020).

The pandemic continues to be a major public health challenge that has overwhelmed and changed the landscape of healthcare delivery systems worldwide (Bruneir and Harris, 2020). Since the emergence of SARS-CoV-2 in 2019, many countries have employed mitigation strategies to slow community spread and minimize the risk of infection, subsequent illness, and death (WHO, 2020) These strategies included face masking, physical distancing, lockdowns, quarantine, isolation policies, and rationing of health care services (Onyeaka et al., 2021). As the pandemic has unfolded the impact of social isolation and loneliness coupled with fears about the risks of infection and the pandemic's economic repercussions have been associated with increased mental health issues such as depression, anxiety, and insomnia (Torales et al., 2020). Emerging data suggest that during the pandemic there has been a marked increase in depression and anxiety within the general population as well as increases in conversations around collective mental health struggles (Czeisler et al., 2020).

Pregnant women and new mothers present a unique population with specific mental and physical health needs in relation to the COVID-19 pandemic. There are still many unknowns for pregnant women during COVID-19 given the complex physiological changes that occur during pregnancy (Wastnedge et al.,2021). Physiological changes during pregnancy impact a woman's immune system, respiratory system, cardiovascular performance, and coagulation (Wastnedge et

al.,2021). Studies of pregnant women with SARS-CoV-2 infection have shown associations with increased inflammatory states and increased susceptibility (Lui et al., 2020). While the impact of the virus SARS-CoV-2 on perinatal women and the fetus is variable, a plethora of direct and indirect outcomes have presented further challenges (Wastnedge et al.,2021). For example, the distinction between asymptomatic and symptomatic present direct challenges for healthcare provision, prevention, and management (Wastnedge et al.,2021). Aside from direct infection, the COVID-19 pandemic and mitigation policies have indirectly impacted maternal health through additional social stresses such as loss of employment or financial hardships, increased care obligations, and reduced social interaction (Lucas and Bamber, 2021).

Increases in the prevalence of psychological distress are of particular concern for pregnant individuals as pregnancy and the postpartum period have been associated with increased risk for depression, anxiety, and trauma-related symptoms especially in the presence of stressful situations (George et al., 2013). Depression and anxiety in pregnancy are associated with serious adverse outcomes that impact the individual and baby such as premature birth, miscarriage, low birth weight, lower Apgar scores, and higher postnatal depression (Grigoriadis et al., 2018). With reference to the pandemic, contributing factors can include concerns about one's own health, the health of their child, fears related to pregnancy and childbirth, as well as feelings of uncertainty on characteristics of the pandemic (Ahmad and Vismara, 2021). These represent a few of the stressors that can be emerge during the pandemic.

Perinatal mental health refers to the mental wellbeing of the birthing individual throughout the pregnancy and postpartum period (O'Hara and Wisner, 2014). Mental health conditions are the sixth leading cause of pregnancy-related deaths and depression has a 20% prevalence rate during pregnancy and the first three months postpartum (Ko and Haight, 2020;

O'Hara and Wisner, 2014). Perinatal mental health wellbeing is crucial for ensuring the wellbeing and health of both the infant and the birthing individual. The perinatal period is considered a vulnerable period because of the implied psychosocial, physiological, and social changes that can place pregnant individuals at higher risk for depression and anxiety symptoms (Iyengar et al., 2021). Given the added effects of the pandemic, it can be argued that individuals who went into the pandemic pregnant or became pregnant throughout the pandemic have been adversely impacted and are at particular risk of mental health effects.

Therefore, there is a need to explore the psychological impact of the COVID-19 pandemic on the wellbeing and mental health of individuals within this vulnerable group as well as investigate how these individuals employed successful coping strategies to inform public health strategy and practice. Emerging studies investigating COVID-19's impact on the physical, mental, emotional, and social health of pregnant individuals suggest that as the world hastens to combat COVID-19 more information will be needed to understand the full extent of the influence of COVID-19 on pregnant individuals mental health (Hessami et al., 2020). However, much can be learned by looking at emerging literature published throughout the timeline of the pandemic. This scoping review will highlight available research from the United States pertaining to pregnant individuals' experiences with psychological stress and coping as a result of COVID-19 pandemic. Literature on perinatal mental health during the COVID-19 pandemic is ever emerging and has been since the declare d onset of the pandemic in March 2020, however this scoping review will provide an updated overview of findings that have emerged up to now. To understand how pregnant individuals dealt with psychological stress and coped with their mental health during the COVID-19 pandemic, we reviewed and synthesized the literature on

perinatal depression and anxiety, coping, psychological stress, and resilience for common themes and experiences. This review focused on two research questions:

1. How has the COVID-19 pandemic impacted the prevalence of perinatal depression and anxiety in mothers within the US?

2. How are perinatal depression and anxiety associated with stress, coping, and prevalence for perinatal women?

For the purpose of this review, pregnant individuals will refer to women unless clarified. Referring only to women does not encompass the many individuals who give birth and fall within the population impacted by COVID-19 such as individuals who identify as LGBTQIA+, however this review will focus on the experiences of adult women. Adult women are the population of interest for this review given increases in the average age of mothers over the past two decades from 25-27 in 1990 to 30-34 in 2019 (Morse, 2022). Pregnancy is a pivotal, sacred and crucial psychosocial transition time for birthing parents, and it is important to understand how events such as the pandemic impact a key population to better improve quality and response for this population. Additionally, the COVID-19 pandemic is continually evolving with new data constantly emerging, thus there is a need for an updated understanding of how COVID-19 has impacted pregnant individuals' mental wellbeing to best provide care for these individuals.

Methods

Scoping reviews are useful in public health research for synthesizing research evidence by mapping the body of literature on a topic area (Pham et al., 2014). This scoping review was conducted according to Joanna Briggs Institute (JBI) methodology recommended in the JBI Reviewers Manual to summaries peer-reviewed articles (Peters et al., 2020). This review follows an unregistered protocol (Appendix I) developed in accordance with a checklist provided by JBI, the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (Tricco et al., 2018). The checklist, developed by an expert panel following guidance from the EQUATOR (Enhancing the Quality and Transparency of Health Research) Network, acts as a guidance document that details 20 reporting items (Tricco et al., 2018). A detailed checklist can be found in Appendix II.

Inclusion Criteria

The following inclusion criteria was considered:

Population

The population of interest for this review are women of reproductive age (aged 15-49) within the US who received any form of perinatal care, care received throughout pregnancy to the first-year afterbirth, during the COVID-19 pandemic and the association with stress and coping amongst these women (Garcia and Yim, 2017).

Concept

The concepts examined in this review are the types of stressors and challenges that arose during the COVID-19 pandemic for perinatal women, the ways in which the pandemic has

5

impacted the psychological health of perinatal women (association with anxiety and depression), and coping strategies that were employed to combat stressors exacerbated by the pandemic. This review considered publications detailing women's psychological experiences throughout the pandemic, coping strategies women used to address concerns during the pandemic, recommendations on perinatal psychological care, as well as accounts of perinatal women with pre-existing psychiatric disorders. Because of the variation in available data, it was decided to look broadly at perinatal care and perinatal health to capture the pandemics impact in this scoping review.

Context

The review considered United States based peer-reviewed articles addressing the psychological wellbeing of women during the perinatal period and coping strategies during the COVID-19 pandemic published in English between January 2020 through January 2022.

Types of Sources

Sources considered in this review were mixed method or qualitative research studies on the impact of COVID- 19 on the perinatal women's mental health, how they accessed care, stressors and challenges that arose during the pandemic, as well as strategies and resources used by these women to combat stress. Studies outside of the US, risk factor assessments, non-empirical works, studies not published in English, as well as studies dealing with birth satisfaction, and perspectives of health workers were not considered for inclusion in the scoping review. Additionally, quantitative studies, experimental and epidemiological study designs such as randomized controlled trials, non-randomized controlled trials, quasi-experimental, before and

after studies, retrospective cohort studies, case-control studies and analytical cross-sectional studies were not considered.

Search Strategy

A comprehensive search strategy was conducted to identify published peer-reviewed articles. The following databases available through Emory's Woodruff Health Sciences library were used for literature searches: BioMed Central (BMC), EBSCOhost, Embase, Gale Contemporary Women's Issues, Scopus, ProQuest Research Library, PubMed, Science Direct, Web of Science, and Wiley Online Library. Additional databases available outside of Emory including BMJ Journals, PLOS One, and SAGE Journals were also used during the literature search. A research librarian assisted in the development and refinement of the search strategy for electronic database use. A two-step search strategy was used to identify relevant literature. The first step involved a preliminary search in PubMed to identify keywords including *perinatal, COVID-19, COVID, pandemic, pregnant women, mental health, mental wellbeing, stress and coping.* For the second step, an extensive search using the identified keywords was conducted across the 13 selected databases to identify a compilation of relevant literature based on the predefined selection criterion. Peer-reviewed articles written in English between January 2020 through January 2022 based in the United States were considered for inclusion. A detailed breakdown of the search strategy can be found in Appendix III.

Study Selection

All relevant citations were first uploaded into citation manager EndNote X9 and then uploaded into the web-based software platform COVIDENCE for duplication removal and

further review. All reviews were conducted by two reviewers independently, first by the author JCH and then followed by second reviewer SN using defined inclusion and exclusion criteria. The two reviewers independently reviewed all titles and abstracts for inclusion and exclusion. The full text was then assessed in detail against the inclusion criteria by the review author with any points of concern deferred to the second reviewer for consideration. Full text studies that did not adhere to inclusion criteria were excluded and reasons for exclusion are reported in Appendix IV. Any disagreements that arose at each stage of the review process were addressed through discussion between the two reviewers.

Data Extraction

Data extraction was performed by two independent reviewers and undertaken using COVIDENCE to streamline the review process. Data were extracted from included studies by the author using the data extraction tool provided in Appendix V. The data extracted included specific details about the population, geographical context, situational context, and concepts of significance to the specific objective of the scoping review. Charting the results was an iterative process whereby the extraction form was updated when necessary. Any disagreements between the reviewers were resolved through discussion.

Data Analysis and Presentation

The extracted data is presented in diagrammatic or tabular form as recommended by JBI scoping review methodology. The diagrammatic and tabular presentations report on the studies by research methods and findings, country conducted in, aims, population, concept, and context. A narrative summary describing how the results relate to the review's objective and questions

accompany the tabulated results. The findings from this review further informs understanding on the extent of the impact of the pandemic and provides a concrete starting point to further understand the body of literature, identify gaps in existing information that can inform future investigations, and provide an up-to-date synthesis of current knowledge on the subject matter.

Results

Selection of Sources of Evidence

Thirteen electronic databases including MEDLINE, EMBASE, EBSCO Host, Gale, ProQuest Research Library, PUBMED, Science Direct, Scopus, Web of Science, Wiley Online Library, BMJ Journals, PLOS One, and Sage Journals were reviewed. The search yielded a total of 1020 records. After 678 duplicates were removed, a total of 342 articles were identified from electronic databases. Based on title and the abstract, 263 records were excluded with 79 articles retrieved and assessed for full text review. Of these, 44 were excluded for the following reasons: 16 studies did not focus on perinatal mental health within the US; 13 papers were studies on risk factors; 7 studies were reviews or protocols; 4 papers solely utilized quantitative methods and 2 papers were editorial and commentaries. Another study was excluded because it was unable to be accessed. The remaining 15 peer-reviewed papers were reviewed in full. Publication types were categorized according to the 2020 MeSH Pubtypes (NLM, 2020). Of the 15 studies included for full-text review, 10 were excluded because they used only quantitative data collection methods. A total of 5 studies were considered for final inclusion within the review. Two studies only used qualitative methods and the remaining three used both quantitative and qualitative research methods. A second full text review was performed by the author and one additional study was excluded because the study design only used quantitative data collection methods. The final 5

chosen articles were then abstracted into an abstraction table constructed using Excel. A summary of key characteristics and findings can be found in Appendix V.

Characteristics of Included Records

All selected studies were published between January 2020 and January 2022 with majority of articles published in 2020 (n=2), 2021 (n=2), and 2022 (n=1). To be included, the article must have looked at perinatal populations, that is women pregnant at the time of the study or 6 months postpartum. However, studies looking across the pregnancy spectrum (prenatal, perinatal, and post-natal) were also considered. One study focused on the psychological experience of obstetric patients and health care workers after the introduction of SARS-CoV-2 universal testing; only findings pertaining to obstetric patients were considered (Bender et al., 2020). Two studies reported on the experience of perinatal women with a history of clinically elevated depression levels or history of psychiatric disorders during the pandemic (Anderson et al., 2022 & Feeney et al., 2021). One study reported on stressors and coping strategies utilized by perinatal women in relation to the pandemic and another study looked at the mental health and wellbeing of perinatal women and their sources of resilience (Barbosa-Leiker et al., 2021 & Farewell et al., 2020). Articles conducted research at the national level (n=2), in Rhode Island and Southern Massachusetts (n=1), Philadelphia (n=1), and Colorado (n=1).

Descriptions of Individual Publications

All five of the eligible articles under review examined the experiences of perinatal women during the pandemic and its impact on their mental health and wellbeing.

Anderson et al. describes a mixed-methods study implemented to outline stressors, coping strategies, and silver linings for perinatal women during the COVID-19 pandemic in Rhode Island and Southeastern Massachusetts. This study aimed to understand the experiences of pregnant and postpartum women during the COVID-19 pandemic who had a history of elevated depression symptoms. Sixty participants were recruited from a prior non-pharmacologic wellness intervention for women with antenatal depression. Each participant completed surveys and open-ended questions on pandemic experiences and coping, as well as a survey on clinical history and symptoms between April 2020 and April 2021 with 88% of interviews happening earlier on in the pandemic between April 2020 and June 2020 (Anderson et al., 2022). The study found that women with elevated depression and anxiety experienced stress about disruption in employment and childcare causing increased responsibility, fear of exposure and infection that might impact infant care, and heightened fear of worsening pre-existing psychological symptoms (Anderson et al., 2022). Notably, a wide range of coping strategies were utilized including engagement with mental health treatment, self-care, partner emotional support, gratitude, and indulgence (Anderson et al., 2022). Two specific strategies were associated with depression levels: spending time in nature was associated with reduced odds of depressive symptoms and self-isolation was associated with higher odds of depressive symptoms (Anderson et al., 2022). The study suggest that changes in response to COVID-19 and fears of infection prompt concerns for mental health but also largely enables adaptive coping strategies such as maintaining social connections and spending time outdoors (Anderson et al., 2022). The study recommends that continued research is needed to understand the experiences of perinatal women long-term throughout the pandemic and whether coping behaviors are protective in the long term (Anderson et al., 2022).

Barbosa-Leiker et al. focused on stressors, coping behaviors, and resources needed for perinatal women during the COVID-19 pandemic in the United States. Through a mixed-method cluster sample, 162 pregnant or postpartum women completed stress and coping related online surveys as well as answered open-ended questions on stressors and resources needed for the pandemic (Barbosa-Leiker et al., 2021). Stressors listed by participants included inability to access healthy food due to financial hardship and shelter-in place restrictions, changes in employment and reduced income within the parental unit, difficulty arranging childcare, concern for one's household contracting COVID-19, isolation from one's child, support person's missing key obstetric appointments, and changes in types of appointments (Barbosa-Leiker et al., 2021). Coping strategies included taking breaks from news outlets, engagement in healthy behaviors, connecting with others, creating time to relax (Barbosa-Leiker et al., 2021). Participants primarily cited needing more resources on information regarding COVID-19 and increased access to healthcare (Barbosa-Leiker et al., 2021). Based on participants responses, the study highlights several key messages for provider's consideration to inform care interventions and mitigate stressors for perinatal women: patient education on coping strategies, assessment of support and resources at home as well as engagement in burdens and loss of resources, increased familiarization from providers on local community resources, telehealth accommodations for those lacking access and language barriers, and patient referral to support services as well as consistent depressive symptoms screenings (Barbosa-Leiker et al., 2021).

Bender et al. aimed to describe the impact of hospitalization on the psychological experience of early postpartum obstetric patients tested as part of the universal SARS-CoV2 testing program as well as the impact of the program on labor and delivery healthcare staff's workplace anxiety and job satisfaction. For this review, only findings for obstetric patients are

deemed relevant. Through a cohort study, 318 asymptomatic women were tested for COVID-19 during the first two weeks of universal testing at two hospitals in Philadelphia between April 13, 2020 and April 26, 2020 (Bender et al., 2020). Obstetric patients who tested positive were allowed one support person during labor but not during postpartum recovery compared to patients who tested negative and were allowed one support person for the entirety of their delivery and postpartum recovery (Bender et al., 2020). Data was collected using semi structured telephone interviews posthospital admission and varied based on women's parity and testing results (Bender et al., 2020). Investigators found that asymptomatic positive women felt isolation and neglect from hospital staff and support persons, and distress from institutional recommendations for neonatal separation, however only 25% reported fear or anxiety in postpartum and none had positive depression screenings (Bender et al., 2020). Asymptomatic negative women presented a mixture of appreciation for a negative test and anxiety about potential exposure during their hospital stay (Bender et al., 2020). The inability to have additional support persons contributed to some anxiety but very few women in the negative cluster screened positive for depressive symptoms in the postpartum period (Bender et al., 2020). The investigators recommend a shared decision-making approach incorporating patient desires and concerns be considered in conjunction with provider safety to recommendations to improve quality and equality of care (Bender et al., 2020).

  Farewell et al. describes the impact of COVID-19 on the mental health and wellbeing of perinatal women as well as sources of resilience. Using semi-structured phone interviews and a 70-item online mental health and wellbeing survey with a total sample of 31 pregnant and postpartum participants in Colorado (Farewell et al., 2020). Sixty percent of participants reported moderate to severe anxiety symptoms, 12% reported high depressive symptoms, 68% reported

experiencing moderate stress, and 40% reported being lonely (Farewell et al., 2020). Common coping strategies included engaging with friends and sleeping and partner support (Farewell et al., 2020). Four primary themes emerged from the data related to uncertainty surrounding care and risk exposure, lack of anticipated support networks and loneliness, factors that support positive coping, and positive impacts of the pandemic on mental health and well-being (Farewell et al., 2020). Lack of support networks led to feelings of isolation and loneliness leading to postpartum support concerns such as childcare and concerns for postpartum mental health (Farewell et al., 2020). Partner support was found to be a primary coping factor as well as emotional support from other moms, activities outside within nature, implementing structures and routines, managing expectations, and focusing on feelings of gratitude (Farewell et al., 2020). Positive outcomes related to the pandemic and mental wellbeing included prioritization of self-care due to the ability to work from home, increased bonding within the immediate family unit, partner support in childcare responsibilities, increased access to remote care, spending less money, and not missing out on social activities (Farewell et al., 2020). Quantitative and qualitative findings suggest that the pandemic resulted in higher rates of mood disorders as well as stressors and sources of resilience (Farewell et al., 2020). The study suggest that larger studies are needed to compare the unique experiences of perinatal women and increase generalizability and recommendations for perinatal care include providing recommendations for positive coping behaviors, addressing uncertainty surrounding COVID-19 and provide evidence-based information, and provide resources related to mental health supports (Farewell et al., 2020).

Feeney et al. sought to examine COVID-19's impact pregnancy, delivery, and postpartum experiences of pregnant women with histories of psychiatric disorders by assessing a prospective cohort of women from the National Pregnancy Registry for Psychiatric Medications at

Massachusetts General Hospital. The observational study aimed to explore the proportion of women who experienced perinatal care and delivery disruptions and issues that led to the most concerns (Feeney et al., 2021). A sample of 488 participants were interviewed via telephone at enrollment, seven months gestation, and 12 weeks post-delivery as well as participation in a questionnaire related to experiences of pregnancy during the pandemic (Feeney et al., 2021). Most participants reported disruptions (such as changes in prenatal care, delivery, and post-delivery support) and overall consequences as a result of the pandemic were viewed as negative (Feeney et al., 2021). Many participants felt uninformed about the risk of COVID-19 during their pregnancy and concerns were expressed about reduced postpartum support as well as the reduction of social interactions from family and friends (Feeney et al., 2021). This study suggest that the pandemic negatively impacted childcare and social support for pregnant women with pre-existing psychiatric disorders (Feeney et al., 2021). The study recommends that further research should be done to understand the unique experiences among different racial, socioeconomic, and diagnostic groups as well as how rates of relapse, mental health services, and help-seeking behaviors changed throughout the pandemic in the specific interest group (Feeney et al., 2021).

Synthesis of Results

Stressors

Most of the selected studies reported measures of stress as well as sources of stress among pregnant or postpartum women related to the COVID-19 pandemic. Stress measures varied but of the three publications that specifically categorized stress questionnaires, surveys, and open-ended questions to capture experiences with stress (Anderson et al, 2022, Barbosa-

Leiker et al., 2021 and Farewell et al., 2020). For example, in Anderson et al., participants were asked to identify what aspect of the pandemic was most stressful; gaining responses such as cabin fever, increased of difficulty of daily task, lack of support with newborn care as well as many others. Two studies indirectly reported on stress and factors contributing to stress by looking at concerns that participants had about the COVID-19 pandemic. Bender et al., the only study to specifically look the care setting, looked at common concerns that arose amongst asymptomatic positive and negative obstetric patients and commonly found concerns on neonatal separation, isolation or neglect, fear of infection, fear of infant infection, and difficulty with social isolation. Farewell et al., asked participants about their level of concern for future changes in care, distress levels, and reduced access to needs. Reported concerns on access to care for the baby and reduced access to social interactions (Farewell et al., 2020).

Across articles common stressors were related to exposure risk, lacking support networks, mitigation restrictions, and changes in financial situations. Some common stressors found in the literature included unknowns related to exposure risk in household, financial hardship or disruption in employment, increased responsibility, difficulty of arranging childcare, neonatal separation, heightened fear of worsening pre-existing psychological symptoms, and support person's missing key obstetric appointments. Across the literature, stress associated with the pandemic mainly stemmed from its disruptive nature that introduced more considerations when accessing care, social outlets, and continuing with one's day to day life.

Coping

A total of three studies engage with the concepts of coping (Anderson et al, 2022, Barbosa-Leiker et al., 2021 and Farewell et al., 2020). Data on coping was collected through the

open-ended questions that generally directly asked what strategies the used during the COVID-19 pandemic. Throughout the three articles, participants were also asked about ways they managed the changes that arose in association with the pandemic, common coping strategies and sources of resilience discussed in the literature included engagement with mental health treatment, taking breaks from news outlets, engagement in healthy behaviors, connecting with others, creating time to relax, spending time in nature, and practicing gratitude. For example, in Barbosa-Leiker et al., participants were provided a list of activities and asked if they partook in any to cope with issues related to the pandemic. The four top answers were taking breaks from media, engaging in healthy behavior, relaxing, and connecting with others (Barbosa-Leiker et al., 2021). Overall, coping strategies were grounded in engagement with nature, prioritization of down-time, tempering access to media, and connecting with community. The two remaining articles do not discuss coping strategies or instance where resilience was exhibited.

Mental Health and Wellbeing

All five of the included studies that presented data on factors that can impact the mental health and wellbeing of perinatal women as well as data that suggest the pandemics negative mental health impact on pregnant and postpartum women. Two studies specifically focused on the impact of the COVID-19 pandemic on perinatal women who had diagnoses of mood disorders. Both studies conclude that the pandemic had a negative impact on mental health and identified important factors such as changes in care and perceived social support that contributed to distress (Anderson et al., 2022 and Feeney et al., 2021). One study focused on the impact of the COVID-19 pandemic on the mental health of perinatal participants through the use of validated measures of mental health such as the Patient Health Questionnare-2 (PHQ-2), the

Generalized Anxiety Disorder-7 (GAD-7), and the Warwick- Edinburgh Wellbeing Scale

(WEMWBS) (Farewell et al., 2020). This study identified high rates of depression, anxiety, and

sadness and the need for increased support and coping intervention (Farewell et al., 2020). The

two remaining articles don't directly discuss the implications of COVID-19's impact on the

mental health of participants but both provide insight into specific contexts or factors to be

considered when discussing perinatal mental health. Bender et al., provides a specific look at

how hospital policies and procedures can impact the experiences of obstetric patients. It found

that testing results led to variable experiences for obstetric patients and patients who tested

positive for SARS-CoV-2 had negative experiences with lack of care and neonatal separation

that led to anxiety (Bender et al., 2020). It presents both sides of testing by also looking at the

experience of negative patients who also experienced variable anxiety around the outcome of test

results and exposure (Bender et al., 2020). The final article provides an understanding of the

stress factors that impact mental health for perinatal women as well as resources to combat

stressors. This article provides the most in-depth discussion of systematic issues such as food

scarcity, trouble obtaining childcare, and shelter-in place restrictions (Barbosa-Leiker et al.,

2021). In alignment with the other studies, it found that a myriad of stressors were associated

with signals of greater induced by the pandemic (Barbosa-Leiker et al., 2021).

 The studies provide an overview of the stressors, issues, and strategies that have come

about in the COVID-19 pandemic context. The studies all align on the types of concerns

pregnant and postpartum women are having during the pandemic by focusing on the different

facets of life. However, there is a lack of discussion on systems of inequality and how

intersectionality places a part in perinatal women's experiences. Only one study acknowledges

the variability of experiences by accounting for the experiences of minority women. In order to

understand the impact of COVID on perinatal women studies will need to also consider the many systems that help to define participant's lives.

Discussion

The aim of this review was to explore the psychological impact of COVID-19 on the mental health and wellbeing of pregnant and postpartum women as well as associations with stress and resilience. The findings of this review indicate that the COVID-19 pandemic had an impact on the mental health and wellbeing of pregnant mothers and increases in stress and anxiety were demonstrated. However, it also highlighted coping strategies pregnant and postpartum individuals used to manage their COVID-19 experiences. All five of the included studies examined the experiences of pregnant and postpartum women during the COVID-19 pandemic and its impact on their mental health and wellbeing with specific attention to what stressors were experienced, coping strategies were utilized, and how resilience manifested. Literature demonstrated that various stressors impacted the mental health and wellbeing being of pregnant and postpartum women leading to increased anxiety and depression symptoms.

The main variables of interest for this review were stress and coping in relation to mental health. Main stress variables for pregnant and postpartum mothers related to the disruption of COVID-19 can be characterized as related to unknowns on exposure and infection risk, changing home dynamics due to changes in employment, lacking support throughout the perinatal period when accessing care, considerations for fetal health and bonding, and degree of exposure to health information. Many of these considerations led to increased mental health strain across studies, specifically among women with pre-existing mental health conditions. However, the COVID-19 pandemic is not the first pandemic or disaster. Previous studies looking at perinatal

19

health during infectious disease outbreaks and disasters align with findings from this review. A 2006 article looking at the psychological responses of pregnant women during the 2003 SARS outbreak in Hong Kong found that behavioral strategies to mitigate infection led to increased anxiety about their own safety and family's safety (Dominic et al., 2006). Another review looking at the impact of disasters on perinatal health similarly found that after the Three Mile Island nuclear accident an increase in depression and anxiety levels (Houts et al., 1991). An additional study looking at the impact of Hurricane Katrina on the mental health of pregnant and postpartum women found an increased incidence of depressive symptoms and post-traumatic stress disorder (Tees et al., 2010). Although the context of the mentioned studies are more disaster based, they still highlight the negative impact of traumatic situations.

The findings underscore the importance of coping in the context of COVID-19 and further contribute to the growing body of recent research exploring how the COVID-19 pandemic affected the psychological experiences of pregnant and postpartum women. This review found that specific coping strategies were commonalities across the literature such as engagement with mental health treatment, taking breaks from news outlets, engagement in healthy behaviors, connecting with others, creating time to relax, spending time in nature, and practicing gratitude. In line with recent research, these coping strategies were found to be associated with improvements in mental health outcomes. Pre-COVID research on coping during pregnancy distinguished that coping is a dynamic process and changes to fit the situational and contextual demands (Hamilton and Lobel, 2008). A cross sectional study of Iranian women found that 40% of participants had depressive symptoms in relation to COVID and the majority of the women used avoidant coping strategies to combat stress (Firouzbakht et al., 2022). However, avoidance is not a successful long-term coping strategy and additional literature has

demonstrated that emotion based, and problem-based coping are linked to more favorable psychological wellbeing (Guardino and Dunkel, 2014). In this review, literature demonstrated that pregnant and postpartum women experienced stress and anxiety during the COVID-19 pandemic due to isolating conditions such as quarantine, unavailability or limited access to health systems, distance from community of support, and feelings of loneliness.

Limitations

The results of this review should be interpreted in light of a number of limitations. First, the specific population focused on in this review were perinatal women, however only one of the articles gave cursory attention to the subgroups that can be defined within the perinatal period. Only one article, Barbosa-Leiker et al., acknowledges the role of identity, intersectionality, and the variable impact that can be experienced. It is important to acknowledge the experiences of various maternal populations that experience systematic and socioeconomic disadvantages such as women of color, low-income women, women living with disabilities, incarcerated or institutionalized populations, LGBTQ+ individuals, women living in rural contexts, and women experiencing chronic illnesses. Considering that pregnant individuals have a myriad of experiences more research needs to be done on the pandemics impact on pregnant individuals at every level of society. Secondly, the review included only English language studies conducted in the US because of this there is no consideration for international studies and important literature pertaining to this review is missing that can be applied to a broader international context. Studies were only considered if they were published between January 2020 and January 2022 which might result in missing records that were published outside of this interval. Additionally, while the scoping review methodology allowed for rapid synthesis of literature it does not adhere to as

rigorous a process as systematic review or meta-analysis and due to the small sample of articles a larger scale review will be necessary to access generalizability.

Public Health Implications

Understanding how perinatal women are impacted during the pandemic, such as stressors and coping strategies, is crucial for providers and health officials to consider when providing care, recommending resource avenues and developing support interventions for perinatal women. Data collected in this review can be helpful to guide future intervention, resource sharing, or programs at all levels of support.

Potential strategies could include prioritization of promoting protective factors and positive coping strategies such as engaging in group pregnancy support programs via in person or online, creation of a self-care routine, practicing mindfulness, and incorporation of self-care strategies. Increased communication and reassurance about perinatal care, care expectations, and overall mental and physical condition may be a strategy to address concerns. Additionally, providing online and in-person physical and mental health resources at points of care is another strategy to further support perinatal women during COVID. Further avenues to promote social support, can include physicians focusing opportunities to reduce social support disruptions by incorporating and encouraging participation from one's partner, family, and friends. Specifically, involving one's partner or primary support persons during the perinatal period can largely help to address feelings of isolation.

It is especially important given the gendered nature of the COVID-19 pandemic. Recent research has shown that pandemic-related changes such as mitigation strategies to employment and family dynamics highlight many pre-existing gender inequalities at home and in the labor

22

market (Yavorsky et al., 2021). For example, losses in formal and informal childcare support as a result of school and daycare closures significantly impact parent's ability to work and manage care, particularly moms (Yavorsky et al., 2021). The data presented in this review could be helpful to guide future interventions or care adjustments such as providing resources on healthy behaviors during pregnancy and postpartum, and increased provision of health information.

Conclusion

In summary, the reviewed literature points to a need for more rigorous high-quality primary studies to understand the impact of the COVID-19 pandemic on the psychological experiences of pregnant and postpartum women. This scoping review highlights that perinatal woman experienced elevated anxiety and depression: commonly related to exposure risk, lacking support networks, mitigation restrictions, and changes in financial situations. But were able to utilize numerous resilience and coping strategies grounded in engagement with nature, prioritization of down-time, tempering access to media, and connecting with community. Understanding how the COVID-19 pandemic variably impacts women and specifically mothers and can help to understand how gender and parenthood unfold in the COVID-19 context. Continued research is necessary to compare and understand the long-term impact of the pandemic on this vulnerable population and additional sub-populations through continued exploration at different points of time throughout the pandemic.

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Appendices

Appendix I. *Review Protocol*

Title: Understanding Perinatal Anxiety and Depression during the COVID-19 Pandemic and Associations with Stress and Coping: A Scoping Review

Introduction

Emerging evidence demonstrates that the COVID-19 pandemic had a particular impact on the mental health of vulnerable populations such as pregnant people. Increases in the prevalence of mental distress are of particular concern for pregnant women as pregnancy and the postpartum period are vulnerable periods that have been associated with increased risk for depression, anxiety, and trauma-related symptoms and can lead to serious outcomes that impact mother and child. This review explores the impact of COVID-19 on the experiences of pregnant and postpartum women during the COVID-19 pandemic and its impact on their mental health and wellbeing with specific attention to what stressors were experienced and coping strategies were utilized. Scientific knowledge of the impact of the COVID-19 is ever evolving. The review will determine the scope of the body of literature, identify gaps in existing information that can inform future investigations, and provide an up-to-date synthesis of current knowledge in the subject matter.

Aims

1. Explore the current literature discussing the impact of COVID-19 on perinatal women's mental wellbeing.
2. Assess the impact of COVID-19 on perinatal women's mental health and wellbeing by looking at the prevalence of depressive or anxiety symptoms and disorders.
3. Explore the association between perinatal anxiety and depressive disorders/symptoms and coping, stress, and resilience.

Review Questions

1. How has the COVID-19 pandemic impacted the prevalence of perinatal depression and anxiety in mothers within the US?
2. How are perinatal depression and anxiety associated with stress, coping, and resilience for perinatal women?

Key Terms

- "Perinatal Health" OR "Maternal Health" OR "Pregnancy" OR "Postpartum Health" OR "Antenatal Health"

- "COVID" OR "COVID-19" OR "Coronavirus" OR "Corona virus" OR "SARS- CoV-2" OR "pandemic"

- "Mental Health" OR "Mental Wellbeing" OR "Emotional Health" OR "Emotional Wellbeing" OR "Depression" OR "Anxiety" OR "Stress"

Eligibility Criteria

Participants
The participants of interest for this review are women of reproductive age (aged 15-49) within the US who experienced maternal health care in the pregnancy or postpartum periods received during the COVID-19 pandemic.

Concept
The concepts to be examined in this review are the ways in which the COVID-19 pandemic has impacted the health and wellbeing of perinatal women such as the provision and access to care (such as changes in physical visits) and the impact of the pandemic on the mental wellbeing of mothers within the US. This review will consider records addressing accounts of women's experiences with accessing care during the COVID-19 pandemic.

Context
The review will consider US based peer-reviewed articles addressing the psychological wellbeing of women during the perinatal period and coping strategies during the COVID-19 pandemic published in English between January 2020 through January 2022.

Types of Sources
Sources to be considered in this review will be mixed method or qualitative research studies on the impact of COVID- 19 on the perinatal women's mental health, how they accessed care, stressors and challenges that arose during the pandemic, as well as strategies and resources used by these women to combat stress. Studies outside of the US, risk factor assessments, non-empirical works, studies not published in English, as well as studies dealing with birth satisfaction, and perspectives of health workers were not considered for inclusion in the scoping review. Additionally, quantitative studies, experimental and epidemiological study designs such as randomized controlled trials, non-randomized controlled trials, quasi-experimental, before and after studies, retrospective cohort studies, case-control studies and analytical cross-sectional studies were not considered.

Methodology
This scoping review will be conducted according to Joanna Briggs Institute (JBI) methodology recommended in the JBI Reviewers Manual (Peters et al., 2020).

Search Strategy
A comprehensive search strategy was conducted to identify published peer-reviewed articles. The following databases available through Emory's Woodruff Health Sciences library were used for literature searches: BioMed Central (BMC), EBSCOhost, Embase, Gale Contemporary

Women's Issues, Scopus, ProQuest Research Library, PubMed, Science Direct, Web of Science, and Wiley Online Library. Additional databases available outside of Emory including BMJ Journals, PLOS One, and SAGE Journals were also used during the literature search. A research librarian assisted in the development and refinement of the search strategy for electronic database use. A three-step search strategy was used to identify relevant literature. The first step involved a preliminary search in PubMed to identify keywords including perinatal, COVID-19, pandemic, obstetric care, and pregnancy. For the second step, an extensive search using the identified keywords was conducted across the selected databases identify a compilation of relevant literature based on a predefined selection criterion. In the third step, the reference lists of all included literature were reviewed to identify additional relevant articles. Peer-reviewed articles written in English between January 2020 through January 2022 were considered for inclusion.

Study Selection
All relevant citations will first be uploaded into citation manager EndNote X9 and then uploaded into the web-based software platform COVIDENCE for duplication removal and further review. All reviews are conducted by two reviewers independently, first by the author JCH and then followed by second reviewer SN using defined inclusion and exclusion criteria. The two reviewers independently reviewed all titles and abstracts for inclusion and exclusion. The full text was then assessed in detail against the inclusion criteria by the author with any points of concern deferred to the second reviewer for consideration. Full text studies that did not adhere to inclusion criteria were excluded and reasons for exclusion will be recorded and reported in the scoping review. Any disagreements that arose at each stage of the review process were addressed through discussion between the two reviewers. Search results and the review process will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) flow diagram.

Data Extraction
Data extraction will be performed by two independent reviewers and undertaken using COVIDENCE to streamline the review process. The data extracted included specific details about the population, context, country of origin, and concepts of significance to the specific objective of the scoping review. Any disagreements between the reviewers were resolved through discussion.

Data Analysis and Presentation
The extracted data will be presented in diagrammatic or tabular form as recommended by JBI scoping review methodology. Included articles will be charted in Excel to organize findings. A narrative summary describing how the results relate to the review's objective and questions will accompany the tabulated results.

Funding

Conflicts of Interest

The authors report no conflict of interest.

Appendix II. *PRISMA-ScR Checklist*

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	ii
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	iv
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	2
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	2
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	6
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	6
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	7
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	8
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	8-9
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	9
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	6-10

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	N/A
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	10
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	10
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	11
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	11-16
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	16-19
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	20-21
Limitations	20	Discuss the limitations of the scoping review process.	20-21
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	21-22
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	N/A

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).
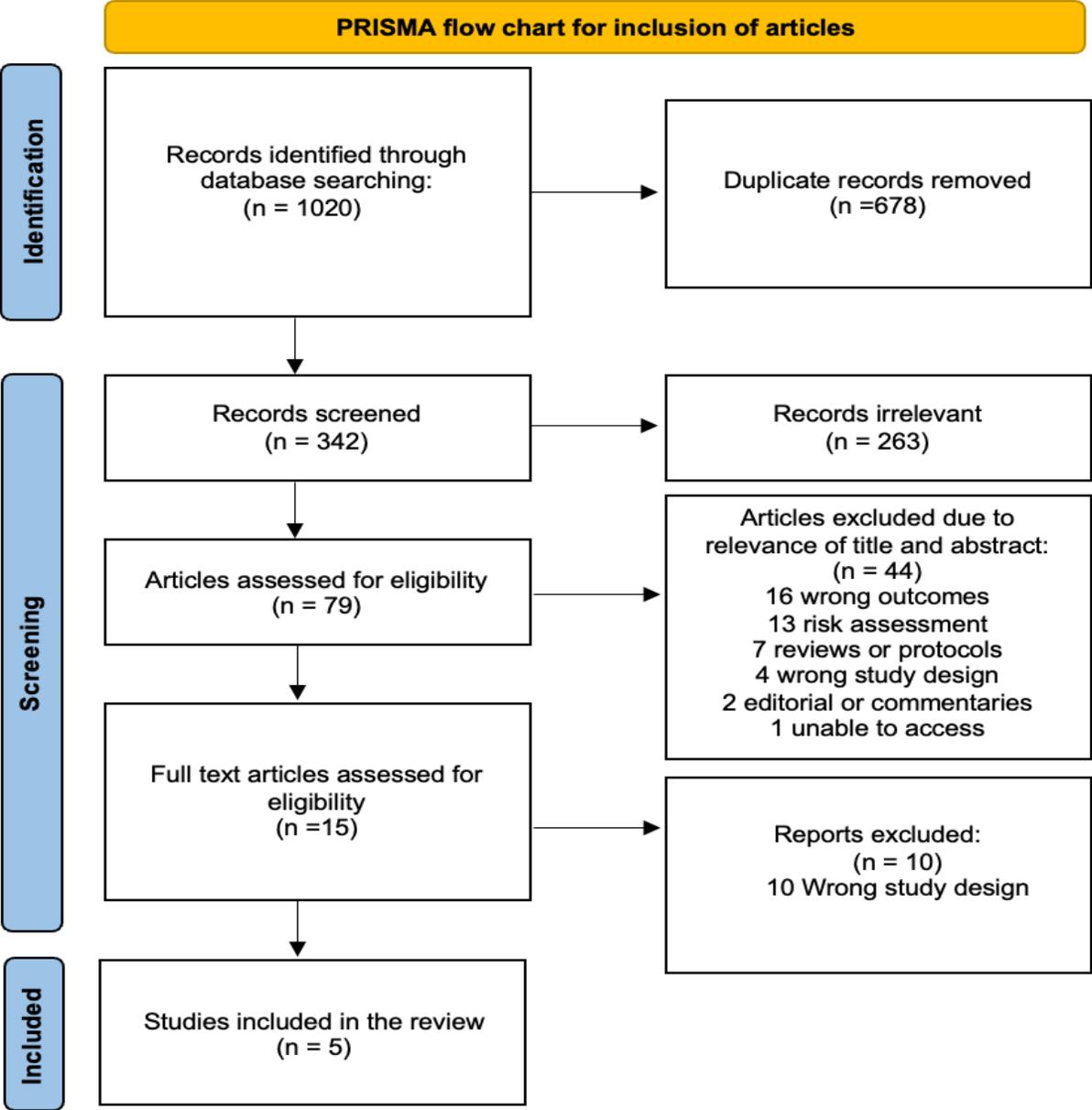
‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

Appendix III. *Search Strategy*

Source	Query	Records retrieved
EBSCOhost	[AB perinatal] AND [AB Covid-19]	141
Embase	[ab, ti perinatal] AND [ab, ti covid-19]	267
Gale – Contemporary Women's Issues	[perinatal] AND [covid-19]	7
ProQuest Research Library	[AB perinatal] AND [AB covid-19]	84
PubMed	[AB perinatal] AND [AB covid-19]	109
Science Direct	[AB perinatal] AND [AB covid-19]	110
Scopus (Elsevier)	[AB perinatal] AND [AB covid-19]	153
Web of Science	[AB perinatal] AND [AB covid-19]	119
Wiley Online Library	[AB perinatal] AND [AB covid-19]	7
BMJ Journals	[Title-AB perinatal AND [Title- AB covid-19]	12
PLOS One	[AB perinatal] AND [AB covid-19]	6
Sage Journals	[AB perinatal] AND [AB covid-19]	5

Appendix IV. *PRISMA Flow Chart of Inclusion*

PRISMA flow chart for inclusion of articles

Identification

Records identified through database searching:
(n = 1020)

Duplicate records removed
(n =678)

Screening

Records screened
(n = 342)

Records irrelevant
(n = 263)

Articles assessed for eligibility
(n = 79)

Articles excluded due to relevance of title and abstract:
(n = 44)
16 wrong outcomes
13 risk assessment
7 reviews or protocols
4 wrong study design
2 editorial or commentaries
1 unable to access

Full text articles assessed for eligibility
(n =15)

Reports excluded:
(n = 10)
10 Wrong study design

Included

Studies included in the review
(n = 5)

Appendix V. *Data Extraction and Characteristics of Included Studies*

Authors and Publication Date	Location	Focus	Methodology	Key Findings
Anderson et al., 2022	Rhode Island & Southern Massachusetts	Experiences of pregnant and postpartum women during the COVID-19 pandemic who had a history of elevated depression symptoms	Mixed-Methods: 60 perinatal women	• Stressors: Disruption in employment and childcare causing increased responsibility, fear of exposure and infection that might impact infant care, and heightened fear of worsening pre-existing psychological symptoms • Coping: a wide range of coping strategies were utilized including engagement with mental health treatment, self-care, partner emotional support, gratitude, and indulgence • Two specific strategies were associated with depression levels: spending time in nature was associated with reduced odds of depressive symptoms and self-isolation was associated with higher odds of depressive symptoms • Recommends that continued research is needed to understand the experiences of perinatal women long-term throughout the pandemic and whether coping behaviors are protective in the long term
Barbosa-Leiker et al., 2021	US - Nationwide	Stressors, coping behaviors, and resources needed for perinatal women during the COVID-19 pandemic in the United States	Mixed-Method cluster sample: 162 pregnant or postpartum women	• Stressors: inability to access healthy food due to financial hardship and shelter-in place restrictions, changes in employment and reduced income within the parental unit, difficulty arranging childcare, concern for one's household contracting COVID-19, isolation from one's child, support person's missing key obstetric appointments, and changes in types of appointments • Coping: taking breaks from news outlets, engagement in healthy behaviors, connecting with others, creating time to relax

				• Highlights several key messages for provider's consideration to inform care interventions and mitigate stressors for perinatal women: patient education on coping strategies, assessment of support and resources at home as well as engagement in burdens and loss of resources, increased familiarization from providers on local community resources, telehealth accommodations for those lacking access and language barriers, and patient referral to support services as well as consistent depressive symptoms screenings
Bender et al., 2020	Philadelphia	Impact of hospitalization on the psychological experience of early postpartum obstetric patients tested as part of the universal SARS-CoV2 testing program	Cohort Study: 318 asymptomatic obstetric patients	• Investigators found that asymptomatic positive women felt isolation and neglect from hospital staff and support persons, and distress from institutional recommendations for neonatal separation compared to asymptomatic negative women who presented a mixture of appreciation for a negative test and anxiety about potential exposure during their hospital stay • The inability to have additional support persons contributed to some anxiety but very few women in the negative cluster screened positive for depressive symptoms in the postpartum period • Recommends a shared decision-making approach incorporating patient desires and concerns be considered in conjunction with provider safety to recommendations to improve quality and equality of care
Farewell et al., 2020	Colorado	Impact of COVID-19 on the mental health and wellbeing of perinatal women as well as sources of resilience	Mixed Methods Pilot Study: 31 pregnant and postpartum women	• Lack of support networks led to feelings of isolation and loneliness leading to postpartum support concerns such as childcare and concerns for postpartum mental health • Partner support was found to be a primary coping factor as well as emotional support from other moms,

				activities outside within nature, implementing structures and routines, managing expectations, and focusing on feelings of gratitude • Positive outcomes related to the pandemic and mental wellbeing included prioritization of self-care due to the ability to work from home, increased bonding within the immediate family unit, partner support in childcare responsibilities, increased access to remote care, spending less money, and not missing out on social activities • Suggest that larger studies are needed to compare the unique experiences of perinatal women and increase generalizability and recommendations for perinatal care include providing recommendations for positive coping behaviors, addressing uncertainty surrounding COVID-19 and provide evidence-based information, and provide resources related to mental health supports
Feeney et al., 2021	US - Nationwide	COVID-19's impact pregnancy, delivery, and postpartum experiences of pregnant women with histories of psychiatric disorders	Observational Study: 488 pregnant women	• Participants reported disruption and overall consequences as a result of the pandemic were viewed as negative, feeling uninformed about the risk of COVID-19 during their pregnancy and concerns about reduced postpartum support as well as the reduction of social interactions from family and friends • Suggests that the pandemic negatively impacted childcare and social support for pregnant women with pre-existing psychiatric disorders • Recommendations include further research should be done to understand the unique experiences among different racial, socioeconomic, and diagnostic groups as well as how rates of relapse, mental health services, and help-seeking behaviors changed throughout

				the pandemic in the specific interest group