BLACK WOMEN’S EXPERIENCES OF PREGNANCY AND BIRTH

by

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A thesis submitted to the University of Birmingham for the degree of DOCTOR OF CLINICAL PSYCHOLOGY

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May 2022

Thesis overview

This thesis was completed as part of the Clinical Psychology Doctorate programme and includes three chapters. Chapter one is a meta-analysis examining the current literature on the prevalence rates for perinatal post-traumatic stress disorder following childbirth. Chapter two is an empirical paper exploring Black women's experiences of pregnancy and birth from a qualitative stance. Chapter three comprises of a press release for both papers, conveying findings in an accessible manner.

Acknowledgements

I would like to say thank you to my research supervisor, Dr Biza Stenfert Kroese for supporting me throughout this research journey. Her patience, advocacy, and guidance resonated heavily with me and I am most appreciative of the unconditional support she offered. I have learnt so much from our time together, personally and professionally. Lastly, she was always there to remind me that light was at the end of the tunnel, even in the cloudiest of days. Thank you.

I would also like to thank Dr Chris Jones for his support with my meta-analysis. You consistently provided a regular space to help, support and develop our understanding of how to conduct meta-analyses. I really valued the sessions we had and all the unconditional support he offered to help with my research. Thank you.

To all of my amazing participants, to which I owe so much to. Thank you for allowing me to hear your experiences and for being part of this journey with me.

Finally, I would also like to thank my family, friends and all of the 2019 DClinPsych cohort for their continued love and support over the last 3 years. I couldn’t have done this without them. It takes a village to raise a psychologist after all!

Thank you all.

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CHAPTER 1:

PREVALENCE OF PERINATAL POST-TRAUMATIC STRESS DISORDER FOLLOWING BIRTH

Word count: 6061

Abstract

Background: The prevalence of perinatal post-traumatic stress disorder (PPTSD) following birth has been highlighted by previous reviews. This study aimed to provide an up to date review of research regarding current prevalence rates of PPTSD following birth.

Methods: PsychINFO, Web of Science and Medline databases were searched for studies reporting on quantitative estimates of prevalence rates for PPTSD between January 2015 to June 2021. PTSD terms were crossed with perinatal-related and trauma-related terms to identify appropriate papers. Studies were selected according to a set of exclusion and inclusion criteria. They then were assessed for risk of bias.

Analysis and Findings: Sixteen studies, resulting in 22 event rate scores were included in this meta-analysis (N = 14,054). Most studies recruited participants from the general population. The meta-analysis revealed a prevalence of PPTSD following birth of 16.48%. High heterogeneity was recorded suggesting high variance across the included studies and subsequent prevalence rates. Further analyses were conducted to explore this in more detail.

Discussion: Across the various sources of bias and variations within this meta-analysis, there was a consistent pattern of higher quality study designs reporting lower prevalence rates. However, these were still markedly higher than the 12-month prevalence rate reported for women in the general population, who develop PTSD. Thus, even if poorer quality studies are inflating the overall estimate of the prevalence of PPTSD, this current study suggests that the prevalence of PPTSD remains higher for women following childbirth than 12-month PTSD prevalence rates observed in the general female population.

Introduction

Background

For many women, birth may be described as a "moment of triumph, satisfaction and reward" (Nelson, 2003). However, clinicians and researchers have begun to recognise that the experience of pregnancy and childbirth can elicit psychological trauma and damage for some women (Larkin et al., 2009; Simkin, 1996). Historically, research focused on the physical wellbeing of mother and infant and how to optimise survival of both. However, more recently, the World Health Organisation (Organization, 2019; Rahman et al., 2013) has recognised the importance of maternal mental wellbeing, placing this as a global health priority.

Up to 30% of women describe birth as traumatic (Schobinger et al., 2020) and consequently, researchers have been prompted to investigate how birth experiences impact on maternal psychological wellbeing. Psychological problems associated with childbirth include anxiety, depression, post-traumatic stress disorder (PTSD) (Ayers, 2014; Olde et al., 2006; Slade, 2006), disrupted mother-infant bonding (Cook et al., 2018), marital problems (Ayers et al., 2006; Delicate et al., 2018), and delays in infant emotion regulation and development (Enlow et al., 2011; Parfitt et al., 2014). Models of causality between birth trauma and PTSD have been investigated (e.g. Ayers, 2007) and presence of pre-existing psychiatric disorders, history of trauma (Garthus-Niegel et al., 2013; Lev-Wiesel et al., 2009), and emergency procedures used (Polachek et al., 2012) have been identified as moderating factors.

The latest Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) for PTSD state that PTSD occurs following exposure to actual or threatened death, severe injury, or sexual violence. Birth trauma meets the criteria for PTSD, termed perinatal PTSD (PPTSD), as women may experience the threat of death or injury during birth (Ayers, 2014). As of yet, the PPTSD literature suggests no systematic way to assess birth trauma, with no consistent definition. The term perinatal covers pregnancy, birth, and 12-months postpartum, with PPTSD applicable across this spectrum. For example, pregnant women may report interpersonal violence (Mahenge et al., 2013)or pregnancy complications such as foetal anomaly (Horsch et al., 2013). Following birth, new mothers may observe their infant deteriorating in relation to chronic, life-threatening illnesses (observed threat of life/participation in painful procedures).

PPTSD may result from complicated or traumatic birth experiences (Dahlen et al., 2010; Waldenström et al., 2004). Grekin & O'Hara (2014) demonstrate the importance of the mother's perceptions of birth and how her subjective experience defines the experience as traumatic (e.g. feeling powerless and/or threatened). Many researchers (Allen, 1998; Beck, 2009; Olde et al., 2006; Thomson & Downe, 2009; Verreault et al., 2012) concur that the experience of birth as traumatic is subjective. As there is no widely agreed definition for PPTSD, for the purpose of this meta-analysis, the term PPTSD is used in relation to birth trauma, focusing on the impact traumatic birth has on maternal wellbeing. It excludes trauma experienced during other perinatal periods. This concurs with the definition of PPTSD as has been defined as "a complex concept which is used to describe a series of related experiences of, and negative psychological responses to, childbirth." (Greenfield et al., 2016). Physical trauma is not a prerequisite for birth experiences to be categorised as traumatic

Growing evidence of birth trauma has prompted researchers to identify resulting prevalence rates of PPTSD symptoms. As for PTSD, estimates of prevalence rates for PPTSD vary due to differing epidemiology of mental disorders, study designs and cultural contexts (Pringsheim et al., 2014). For example, differences in measurement (diagnostic or caseness) may alter PPTSD prevalence rates (Ayers et al., 2015) as well as using high risk samples. However, capturing accurate PPTSD prevalence rates is important, clinically, academically and economically.

Previous reviews

To achieve this, a series of reviews were conducted to assess PPTSD prevalence rates. First, Olde et al. (2006) reviewed all data from 1977-2003 to assess prevalence and identify factors which significantly increased risk of PPTSD. This review reported on 31 papers consisting of case studies and quantitative studies describing PPTSD prevalence rates. At approximately 6 weeks postpartum, prevalence of PPTSD was assessed as 2.8-5.6%, declining to 1.5% at 6 months. The authors stress the importance of understanding how traumatic reactions to childbirth impact maternal health and presented primary and secondary prevention strategies to minimise PPTSD experiences. These focused on education for both mother (e.g. incidence of obstetric interventions, associated risks and benefits) and health professionals (e.g. health screens for known vulnerable factors) on symptomatology and awareness that PPTSD can occur.

Andersen et al. (2012) conducted a systematic review which identified 31 relevant studies from November 2003 to October 2010. The focus was on understanding risk factors associated with PPTSD to be able to identify women at risk earlier. The authors also reported on prevalence rates, including studies that assessed prevalence at different time points. They found that the three largest and highest quality-rated studies (Alcorn et al., 2010; Söderquist et al., 2009; Söderquist et al., 2006) reported prevalence rates of PPTSD of 1.3%-2.4% at 1-2 months postpartum and 0.9-4.6% at 3-12 months postpartum. Exploring PTSD over time allowed these reviewers to consider the progression of PTSD over the first postnatal year. The duration of symptoms over time illustrated the severity of the problem and its long-term detrimental impact on women’s well-being. The authors concluded that subjective distress during labour and obstetrical emergencies were the strongest associated factors for PPTSD.

These two previous systematic reviews (Andersen et al., 2012; Olde et al., 2006) did not provide a single estimate of PPTSD prevalence rates, with confidence intervals. Grekin and O’Hara (2014) conducted the first meta-analysis to identify these statistics, alongside risk factors for PPTSD. Additionally, they investigated the strength of risk factors of PPTSD by distinguishing between sample types (i.e. ‘at-risk’ vs community samples) and the different origins of trauma experienced in the post-natal period. Seventy-eight studies were included in the analysis. Prevalence of PPTSD was calculated as 3.1% in community samples and 15.7% in at-risk samples, confirming that PPTSD rates were higher in ‘at-risk’ samples. Specific risk factors found to influence risk of PPTSD development included psychiatric history, postpartum depression, and pregnancy and labour complications. The authors concluded that the reported prevalence rates demonstrated the severity of the problem and considered that further research into this area was warranted.

Understanding what influences the development of PPTSD has grown considerably since the first review by Olde et al. (2006), with risk factors and the development of PPTSD over time coming into focus. Yildiz, Ayers and Phillips (2017) expanded on this body of research by incorporating prenatal PTSD as a factor. They felt this provided a better understanding of the development and/or causes of PPTSD by exploring the course of PPTSD longitudinally, from pregnancy to postpartum. In order to assess this, the authors conducted a systematic review and meta-analysis of papers up to December 2015. Fifty-nine relevant studies spanning the perinatal period were identified in total. They found that prenatal PTSD was reported by a significant number of pregnant women (prevalence rate: 4-6%) and the authors concluded therefore, that identifying and treating prenatal PTSD is warranted by means of routine screening during pregnancy. PPTSD prevalence rates were found to be 4.0% (95% CI: 2.77-5.71) in community samples and 18.5% (95% CI: 10.6-30.38) in high-risk groups. Furthermore, prevalence of PPTSD increased during the first six months postpartum. Consequently, support in the postnatal period is needed to detect and support new mothers.

The Current Study

The present meta-analysis aims to provide quantitative estimates of prevalence rates for PPTSD reported by studies published from January 2015 to June 2021 to update findings of previous reviews. In addition, in order to gain a deeper understanding of the development of PPTSD, the data were analysed to establish whether the prevalence of PPTSD changes over time in the postnatal period.

Methods

Identifying Studies

Search of Electronic Databases

A systematic search of the quantitative research literature published from January 2015 onwards was carried out on 28th June 2021 using PsychINFO, Medline and Web of Science. The aim of the search was to obtain a comprehensive overview of empirical research on prevalence of PPTSD following birth. The search terms that were used to identify these studies are outlined in Table 1 below.

Table 1

Search criteria used for the systematic search. Terms originated from previously published reviews, adapted for the purpose of this study.

Construct	Free Text Search Terms	Method of Search	Limits
Posttraumatic stress	‘Trauma’ ‘Posttraumatic stress’ ‘Emotional trauma’ ‘Stress reactions’ ‘Distress’	Free search terms Search terms in each construct were combined with *OR.* Free search terms across constructs were combined with *AND.*	Peer reviewed articles - January 2015 to current date (June 2021).
Birth	‘Birth injuries’ ‘Birth’ ‘Birth trauma’		
Postpartum period	‘Postpartum’ ‘Postpartum depression’		
Prevalence	’Prevalen*’		

Inclusion and Exclusion Criteria

Full inclusion/exclusion criteria are described in Table 2. In line with the aims of this review, study inclusion focused on whether the researchers assessed prevalence as a primary aim or as a by-product of their research aims. Studies were not limited to first-time mothers or mode of birth delivery (e.g. vaginal, or assisted delivery). As this was an update following the last meta-analysis, studies prior to 2015 were excluded.

Table 2:

Inclusion and exclusion criteria.

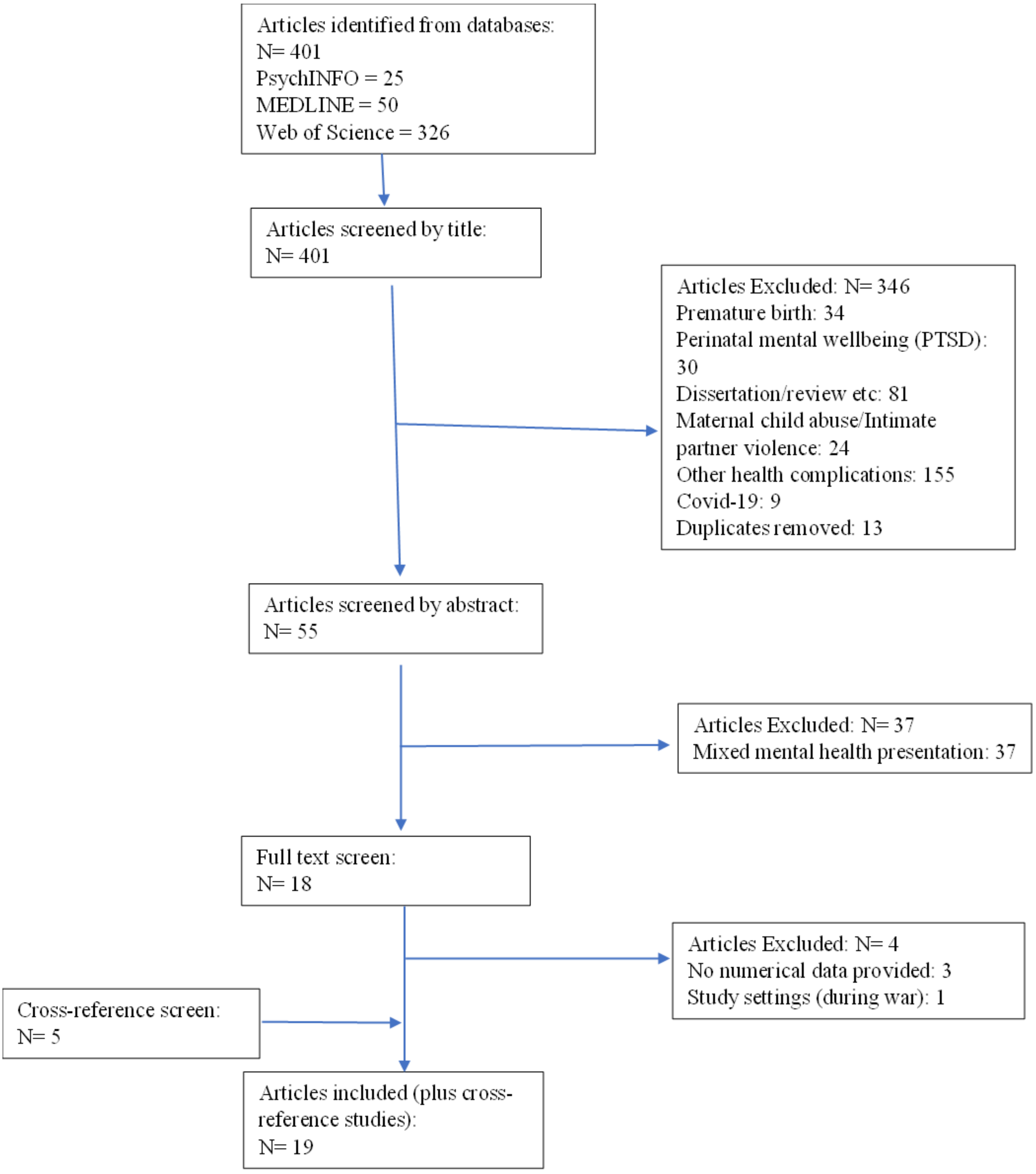
Inclusion criteria	**Justification**
Nature of intervention:	
Prevalence rates of PPTSD post-birth recorded. - Prevalence rates not derived by mediation analysis.	This was to ensure that the studies selected were measuring the intended symptomatology (PTSD) in its simplest form. Papers to report the prevalence rate without attempt at manipulating this in anyway.
Studies specifically citing and examining PPTSD as opposed to other postnatal symptomatology or psychological distress.	This would ensure the same construct was being measured across the studies included, and control for some variation in the types of postnatal experiences women report. Studies which did not specifically use this term were excluded (e.g. post-natal depression, post-natal anxiety).
Studies exploring post-birth experiences as opposed to perinatal.	Time period for exploration was fixed to the post-natal period, not to the pregnancy period. Other variables may be at play in the different maternal time periods.
Studies could assess the prevalence of PPTSD through face-to-face sessions, telephone or online questionnaires.	Restrictions on how the information was gathered from participants was not implemented as an inclusion/exclusion criterion. Awareness that the participants were new mothers in the adjustment phase and therefore, researchers may have used a variety of different mediums to assess prevalence of PPTSD for ease of recruitment. Selection and performance biases were taken into account when completing 'risk of bias' assessment.
Participant characteristics	
Women, not limited to first-time mothers or singular births.	Women, at any birth, can experience postnatal symptomatology including PPTSD. Therefore, limiting to first-time mothers was not felt necessarily. Likewise, studies which included multiple births in addition to singular births were included. However, papers which exclusively explored the prevalence rates of PPTSD in multiple births were excluded.
Mothers who experienced stillbirths, or baby loss shortly after delivery were excluded. Mothers who gave birth prematurely were also excluded.	Studies exploring the prevalence of PPTSD following a baby loss may be measuring something different (e.g. bereavement, loss). Therefore, this may potentially bias the sample and add uncontrolled variance into the data. Equally, studies exploring the effects of premature birth on the mother also may be measuring something different, due to the uncertainty and health complications potentially related to premature births.
Types of birth delivery methods (e.g. vaginal, caesarean) were not controlled in this review.	Birth delivery was often not controlled in the papers identified. Although the type of birth deliveries may have some mediating impact on the overall birthing experience, it was not felt essential to control for in this instance.
Birth occurred outside of the global pandemic and consequent restrictions related to 'Covid-19'.	A pandemic was declared on 11th March 2020 by the World Health Organisation (WHO, March 2016). Studies conducted during these times may be influenced by the consequences of the pandemic, impacted the validity of the overall study. The pandemic may have indeed acted as a traumatic experience, applying additional stressors to new mothers. Therefore, studies completed within this time were excluded.
Outcome data	
The studies were required to report the prevalence for PPTSD after birth in numerical value. Percentage scores were accepted if they reported the general sample size to allow for working out. If studies did not present prevalence rate before analysing the data, they were excluded.	To ensure that outcomes can be calculated into an effect size and increases methodological rigour of studies included.
Type of article	
The following article types were excluded: meta-analysis/theoretical papers/reviews/commentaries/ postgraduate research papers (e.g. doctoral thesis)	These articles do not provide the outcome data needed for this meta-analysis.

Inclusion criteria	**Justification**
/clinical guidance/non-outcome focused studies i.e. longitudinal/association studies/case studies/validation of psychometric scales/qualitative papers.	

The results of the systematic search are presented in Figure 1. The search yielded a total of 401 articles across the three databases. Articles were then screened using the in/exclusion criteria by study titles and/or abstracts, and duplicates removed. The three most common reasons for exclusion were: studies related to health complications (n=155), systematic reviews or dissertations (n=81), and exploring mixed mental health presentations (n=49). The full texts of the remaining 24 articles were then reviewed in detail against the in/exclusion criteria. Fourteen articles met the full inclusion/exclusion criteria. Five additional articles were identified from the references of the included studies. Thus, 19 studies satisfied the criteria for inclusion within this meta-analysis.

Figure 1:

Results of the systematic search and the application of the inclusion and exclusion criteria



Event rates were reported as the ratio of participants with PPTSD post-birth divided by the total number of persons examined.

Some included studies report the same outcome measures more than once (i.e. at different time points). Where possible, multiple data points were combined into a single quantitative outcome using the procedures described by Borenstein et al. (2009). Where this was not possible, the multiple effects (i.e. time points) were included as separate effects within the meta-analysis. The inclusion of multiple reporting of outcomes from the same primary study may result in a slight reduction in confidence intervals for the random effects model, as the sample size of that included study is included twice or more.

Defining Problematic Variance

A study level effect is considered heterogeneous if it presents with variation from the meta-analysis synthesis that cannot be attributed to true variation in the distribution of PPTSD following birth. Heterogeneity can result from methodological variation in the studies, measurement error or uncontrolled individual difference factors within the body of literature. Higgins I^2 is a commonly used measure of heterogeneity, with greater values of I^2 indicating variation that cannot be attributed to true variation in the distribution of effect in the population. As there is considerable variation in methodologies of the included studies that were used to calculate the meta-analytic synthesis, problematic heterogeneity was defined as a Higgins I^2 value greater than 75%. Where unacceptable or problematic heterogeneity is observed, then the focus of the subsequent analyses will be upon the identification of the sources of heterogeneity between the estimates of PPTSD in the included studies.

Risk of Bias Assessment

Risk of bias within the literature was assessed by adapting existing risk of bias frameworks, including The Cochrane Collaboration Risk of Bias Tool (Higgins et al., 2011) and the Risk of Bias Assessment Tool for Nonrandomised Studies (Kim et al., 2013). The current framework assesses risk of bias in seven domains: selection bias, performance bias, detection bias, statistical bias, reporting bias and generalisation. The current meta-analysis calculated prevalence rates of PPTSD and therefore, treatment fidelity was excluded due to its non-applicability (i.e. treatment was not assessed). Table 3 describes how each of the risk domains is defined alongside the criteria for 'Low', 'Unclear' or 'High' risk.

Table 3:

Domains of risk of bias and the criteria for ratings of low, unclear or high risk

Domain	Details	Risk of Bias
Selection Bias	Were efforts made to minimise selection bias in the prevalence studies such as recruitment from low-risk groups? Was convenience sampling used? If so studies should potentially be penalised.	High Risk-Population was from ultra-high risk groups, vulnerable groups (e.g. history of mental ill-health, prior birth trauma). Unclear Risk-Convenience sampling without additional bias. Population recruited at-risk groups but took preventative measures such as screening population for trauma. Low Risk-The study participants were recruited from the general population, consisting of women without history of mental illness. Participants represent the characteristics of the women living in that area (e.g. socioeconomic factors).
Performance Bias	Under what circumstances were the participants asked to complete the study? Were there any incentives? When were they asked to complete the study in relation to giving childbirth (e.g. still in hospital when approached?) Have they considered and accounted for social desirability which is potentially high within this population?	High Risk- Self-report methods used without consideration for social desirability impact on results (e.g. fear of child removal?). Time of when mothers approached to take part in the study. The likelihood of recall bias is high, impacting on validity of findings. High incentives provided to participants. Unclear Risk- It is unclear if social desirability was considered. Incentives provided to complete study; however, these were low monetary value or new mother related gifts. Low Risk- Data obtained through self-report measures but social desirability considered. Triangulation of data was used. Motivations to complete study were not motivated by better medical healthcare for participants or their new baby.
Detection Bias	Are the outcome measures used valid and reliable in measuring PTSD?	High Risk – Psychometrics used are non-standardised and/or do not report psychometric properties. Global self-evaluation used instead of validated measure (e.g. yes/no questions). Unclear Risk- Assessment measure not widely recognised or peer reviewed. Measure not specifically developed to assess PTSD but has good reliability and validity in detecting this, Low Risk- Standardised measures with good psychometric properties used to assess symptoms of PTSD. Use of clinical interviews in addition to psychometrics; psychometric derived from diagnostic criterion for PTSD (DSM-IV, DSM-V or ICD-10).
Statistical Bias	Have appropriate statistical methods been used? Has the data been reported raw/appropriately or has the researchers manipulated or transformed it in anyway?	High Risk- Event rate is unclear, inadequately reported, not provided or calculated based on additional statistical analyses (e.g. logistic regression). Researchers have manipulated or transformed the data; therefore, data reported is corrected, not raw. Unclear Risk – Raw event rate is provided although descriptive statistics are not clearly shown. Only percentage rates displayed and therefore, researcher required to work out the raw score based on % and total participants. Full descriptive statistics to allow for this provided. Low Risk – Appropriate statistical methods used. Adequate descriptive statistics are provided including raw event rate (prevalence rate clearly displayed).

Reporting Bias	Is there evidence of selective outcome reporting? i.e. only significant results reported. Are there measures that have not been reported in the results that have been mentioned in the method section?	High Risk – Not reported full outcome measures that are stated in the method section/reported only a subsample of results/only significant results. Data not accurately reported. Unclear Risk – Not all descriptive and/or summary statistics are presented. Low Risk – Reported all results of the measures used as outlined in the method.
Generalisation	Are the results generalisable outside of the study? Is the sample size representative of the participants its catering for?	High Risk- Small sample with or without idiosyncratic features (<40 participants). Unclear Risk- Sufficient sample for generalisation but with some idiosyncratic features (40 to 100 sample size). Low Risk- Sufficient sample for generalisation and representative of target population (>100 participants).

All studies were rated as low, unclear, or high risk for each of the areas of risk of bias above. A low risk of bias was awarded two points, an unclear risk of bias one point and a high risk of bias was given zero points. The total quality index is calculated as the sum of each of the six areas of risk of bias and therefore the maximum score a paper could achieve is 12 points. In addition to this, a number was added to the risk of bias score to reflect the study's position within the study design hierarchy (see Table 4). Prospective case cohort studies were rated the highest and therefore, rewarded with the maximum score (35). In contrast, cross-sectional studies were seen as the poorest study design (max score: 10), capturing a single time point.

The sum of total risk of bias score and the study design score were then divided by the maximum possible score and expressed as a percentage to obtain the total quality index.

Table 4:

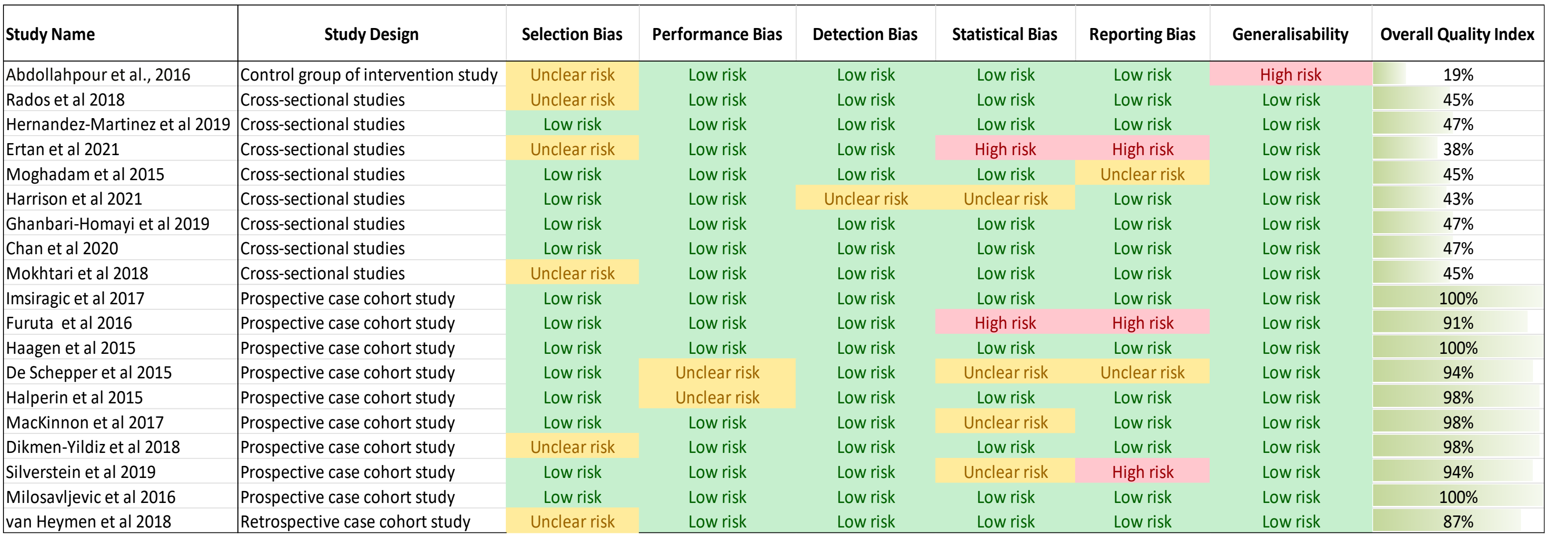
Study design hierarchy.

Study Design	Design Score	Description
Prospective case cohort study	35	Cohort Study (prospective) is a study of a group of individuals, some of whom are exposed to a variable of interest (e.g. drug or environmental exposure), in which participants are followed up over time to determine who develops the outcome of interest and whether the outcome is associated with the exposure.
Retrospective case cohort study	30	Cohort Study (retrospective) is when data is gathered for a cohort that was formed sometime in the past. Exposures and outcomes have already occurred at the start of the study. You are studying the risk factor and see if you can associate a disease to it. Individuals split by exposure.
Case control study	20	Case Control Study is a study in which patients who already have a specific condition or outcome are compared with people who do not. Researchers look back in time (retrospective) to identify possible exposures. They often rely on medical records and patient recall for data collection.
Cross-sectional studies	10	Cross-Sectional Study is the observation of a defined population at a single point in time or during a specific time interval to examine associations between the outcomes and exposure to interventions. Exposure and outcome are determined simultaneously. Often rely on data originally collected for other purposes.

The risk of bias scores, study design and total quality index are presented in Table 5. Studies are displayed in order of study design. Overall, the quality of the studies is good, with ten of the nineteen studies scoring above 87%. Nine papers adopted a prospective case design and eight used cross-sectional designs.

Table 5

Ratings of risk of bias, study design and total quality index



Study Name	Study Design	Selection Bias	Performance Bias	Detection Bias	Statistical Bias	Reporting Bias	Generalisability	Overall Quality Index
Abdollahpour et al., 2016	Control group of intervention study	Unclear risk	Low risk	Low risk	Low risk	Low risk	High risk	19%
Rados et al 2018	Cross-sectional studies	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	45%
Hernandez-Martinez et al 2019	Cross-sectional studies	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	47%
Ertan et al 2021	Cross-sectional studies	Unclear risk	Low risk	Low risk	High risk	High risk	Low risk	38%
Moghadam et al 2015	Cross-sectional studies	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	45%
Harrison et al 2021	Cross-sectional studies	Low risk	Low risk	Unclear risk	Unclear risk	Low risk	Low risk	43%
Ghanbari-Homayi et al 2019	Cross-sectional studies	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	47%
Chan et al 2020	Cross-sectional studies	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	47%
Mokhtari et al 2018	Cross-sectional studies	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	45%
Imsiragic et al 2017	Prospective case cohort study	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	100%
Furuta et al 2016	Prospective case cohort study	Low risk	Low risk	Low risk	High risk	High risk	Low risk	91%
Haagen et al 2015	Prospective case cohort study	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	100%
De Schepper et al 2015	Prospective case cohort study	Low risk	Unclear risk	Low risk	Unclear risk	Unclear risk	Low risk	94%
Halperin et al 2015	Prospective case cohort study	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	98%
MacKinnon et al 2017	Prospective case cohort study	Low risk	Low risk	Low risk	Unclear risk	Low risk	Low risk	98%
Dikmen-Yildiz et al 2018	Prospective case cohort study	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	98%
Silverstein et al 2019	Prospective case cohort study	Low risk	Low risk	Low risk	Unclear risk	High risk	Low risk	94%
Milosavljevic et al 2016	Prospective case cohort study	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	100%
van Heymen et al 2018	Retrospective case cohort study	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk	87%

Selection Bias

Overall, thirteen studies were rated as low risk, with the remaining six as unclear risk. Most studies recruited participants from community samples, representative of the geographical area (e.g. recruited from hospital or midwifery centre). Additionally, some studies randomly selected participants who had received care in a given timeframe. Of the six unclear risk studies, three recruited participants who self-disclosed as having a traumatic birth. Consequently, their samples assessed ‘at-risk’ groups that may have been more likely to have developed PPTSD due to their self-reported traumatic birth experiences. The remaining used convenience sampling such as online recruitment and snowballing methods, which may have targeted specific groups.

Performance Bias

Performance bias was relatively low risk across all studies. Most studies provided participants with study forms (paper and online questionnaires) to complete in their own time, followed by reminders. Two studies were rated as unclear risk; De Schepper (2015) offered baby products to participants to increase recruitment. Therefore, participants may have felt motivated to participate to receive baby essentials. Equally, this may have increased diversity in the population recruited (participants from across socioeconomic backgrounds). Therefore, it was classified as unclear risk in recognition of the unknown impact on recruitment. Halperin's (2015) study may have been influenced by the specific ethno-cultural factors in Israel. It sought to recruit and compare the experiences of Israeli Arab women and Israeli Jewish women. The study recognised the indistinct segregation that exists amongst the two ethnic cultures and therefore, it was unclear whether any cultural biases played a part in participants' motivation to participate or in their responses. Consequently, it was rated as unclear risk due to the uncertainty regarding the impact of race and/or culture.

Detection Bias

All studies used clinically appropriate measures to assess for PPTSD and described the clinical instruments and procedures of administering them. Studies reported outcome measures based on diagnostic criteria for PTSD. Most studies used either an outcome measure derived from the DSM-IV or DSM-V criteria (N=10) or the Impact of Events Scale (N=5) (Weiss, 2007). One study was rated as unclear risk (Harrison et al., 2021) and this was due to the authors splitting their measure (DSM-IV PC-PTSD) into two (PTS-Childbirth and PTS-Other). This division was based on one question asking participants whether they felt their experiences were related to labour and/or childbirth. This was considered a simplistic approach to quantifying

PPTSD and was therefore rated as unclear risk. The researchers provided both scores of the PC-PTSD; therefore, scores were combined for the purpose of this meta-analysis (PTS-Childbirth + PTS-Other).

Statistical Bias

Included studies showed a mixed presentation when considering statistical bias. Although thirteen studies showed low risk, four papers fell within the unclear risk category and two in the high-risk group. Reasons for rating studies as unclear risk were providing percentages only (e.g. De Schepper et al., 2015; Moghadam et al., 2015) or adjusted data (Harrison, 2021). The latter study applied survey weights to reduce effects of non-response bias. Therefore, a degree of data manipulation had taken place. Both studies that were rated as high risk did not report appropriate event rate scores for prevalence of PPTSD (Ertan et al., 2021; Furuta et al., 2016) and therefore no numerical score was provided to indicate how many participants met the criteria for PPTSD.

Reporting Bias

Reporting bias varied across studies, although the majority were rated as low risk (N=14). Two papers were rated as unclear risk (De Schepper et al., 2016; Moghadam et al., 2015) as event rates were obtained manually from the percentage rates provided for the purpose of this meta-analysis. Additionally, Moghadam et al. did not provide clarity on the severity rates, nor clinical cut-off rates, for clinically significant PPTSD. Three studies were rated as high risk (Ertan et al., 2021; Furuta et al., 2016; Silverstein et al., 2019). Reasons for this were significant data manipulation, altering psychometrics used (Furuta et al., 2016) and unclear statistical reporting (Ertan et al., 2021; Silverstein et al., 2019).

Generalisability

Sample sizes across eighteen of the included studies fell within the low-risk category, as they included data on more than 100 participants. Abdollahpour (2016), however, reported on a small sample size of 39. Therefore, conclusions from this study may not be representative of the larger population and should be interpreted with caution.

Summary

Overall, there was a varied level of bias across the studies included in the meta-analysis. Six studies scored low risk across the risk of biases quality criteria, with a further seven studies reporting unclear risk in just one domain. Areas where risk of bias was highest were the statistical and reporting domains. Main weaknesses here were how prevalence rates and other data were reported and whether data sets had been manipulated. Three studies (Ertan et al., 2021; Furuta et al., 2016; Silverstein et al., 2019) did not provide a prevalence rate of PPTSD following birth and therefore, no event rate could be calculated. Thus, these studies were unable to contribute to identifying the overall prevalence rate of PPTSD across the studies within this meta-analysis.

As mentioned above, three papers did not report appropriate event rates (Ertan et al., 2021; Furuta et al., 2016; Silverstein et al., 2019). After extensive consideration, qualitative information from these studies were nevertheless reported in the current review as it provided useful and relevant data (e.g. study design, PPTSD measurement, days between birth and assessment). As research in this field is limited, it was felt it could offer an insight into how the concept of PPTSD can be measured. These studies were not included within the overall analysis and therefore, have no bearing on the overall prevalence rate identified.

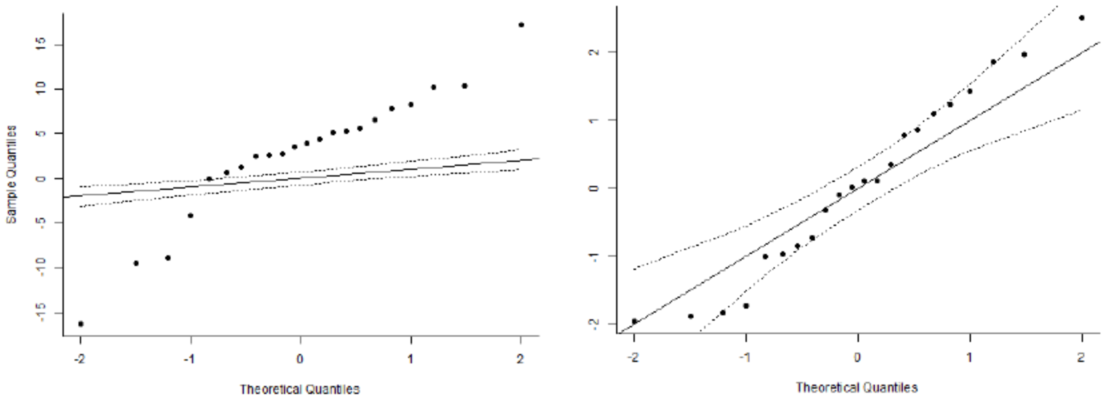
Analysis

Selection of the Meta-analytic Model

Figure 2 shows the distribution of the primary study effects. The between-studies variance (tau^2) random effects model was calculated using the DerSimonian and Laird estimator.

Figure 2

QQ plot of the distribution of the prevalence of PTSD described in the primary studies.



A: Fixed effects model B: Random effects model

Figure 2A highlights clear evidence of non-normality in the distribution of the prevalence of PPTSD in the fixed effects model. In contrast, the random effects model (see Figure 2B) showed a good fit, indicating that this model, calculating between-study variance by means of the DerSimonian and Laird estimator, is the most suitable method for this meta-analysis.

The Omnibus Test

The prevalence rates of PPTSD reported in the included studies are presented in Table 6. The studies reported 22 prevalence rates from a sample total of 14,054 women following childbirth. Five studies included prevalence rates for second and third timepoints. Most studies recruited participants from the general population, with five studies reporting prevalence rates from women who had experienced a traumatic birth. Four types of study designs were used (see Table 6 below).

The studies assessed for PPTSD at different time points following birth. Some studies had a large window of time from birth to assessment specified as part of their inclusion criteria (e.g. 1-4 months) and for these, the average was calculated. Across all studies, the average time between birth and first assessment was 3 months 3 days. All studies identified the presence of PPTSD using ‘caseness’. This involved psychometric values which adhered to the criteria outlined in the DSM-IV or DSM-V for PTSD. Six studies used the variations of the ‘Impact of Events’ scale (Weiss, 2007). The remaining studies employed a variety of other psychometric measures for PTSD.

Table 6 includes details of the reported event rate, the study design and the overall quality index. In addition, the average number of days between birth and PPTSD assessment and the measure by which PPTSD was diagnosed is also reported. Three studies did not report an event rate (Ertan et al., 2021; Furuta et al., 2016; Silverstein et al., 2019), however a quality index score was still recorded.

Table 6

Characteristics of included studies

Study name	Year	Event Rate	Standard error	Study Design	Overall Quality Index	Average days between birth and assessment	PTSD measure used
Imsiragic et al[a]	2017	0.26	0.02	Prospective case cohort study	1	5	IES-R
Imsiragic et al[b]	2017	0.14	0.02	Prospective case cohort study	1	56	
Furuta et al	2016	----	----	Prospective case cohort study	0.91	56	IES
Haagen et al[a]	2015	0.02	0.01	Prospective case cohort study	1	90	PSS-SR
Haagen et al[b]	2015	0.01	0	Prospective case cohort study	1	300	
De Schepper et al[a]	2015	0.23	0.02	Prospective case cohort study	0.94	7	IES-R
De Schepper et al[b]	2015	0.17	0.02	Prospective case cohort study	0.94	42	
Halperin, Sarid & Cwikel	2015	0.09	0.02	Prospective case cohort study	0.98	49	PSS-SR; TEQ
MacKinnon et al	2017	0.01	0.01	Prospective case cohort study	0.98	56	PPQ
Dikmen-Yildiz, Ayers & Phillips	2018	0.19	0.03	Prospective case cohort study	0.98	180	PDS
Silverstein et al	2019	----	----	Prospective case cohort study	0.94	---	IES
Milosavljevic et al	2016	0.02	0.01	Prospective case cohort study	1	30	CAPS
van Heumen et al	2018	0.17	0.01	Retrospective case cohort study	0.87	---	PCL-5
Rados et al	2018	0.16	0.03	Cross-sectional studies	0.45	330	IES
Hernandez-Martinez et al	2019	0.11	0.01	Cross-sectional studies	0.47	42	PPQ
Ertan et al	2021	----	----	Cross-sectional studies	0.38	180	PCL-5
Moghadam, Shamsi & Moro	2015	0.32	0.02	Cross-sectional studies	0.45	84	PSS-I
Harrison et al	2021	0.08	0	Cross-sectional studies	0.43	180	PC-PTSD-IV
Ghanbari-Homayi et al	2019	0.37	0.02	Cross-sectional studies	0.47	60	CEQ
Chan et al[a]	2020	0.17	0.02	Cross-sectional studies	0.47	90	PCL-5
Chan et al[b]	2020	0.29	0.04	Cross-sectional studies	0.47	90	
Mokhtari et al	2018	0.27	0.02	Cross-sectional studies	0.45	51	PSS-I
Abdollahpour, Khosravi & Bolbolhaghighi[a]	2016	0.38	0.08	Control group of intervention study	0.19	14	DSM-V checklist and IES-R
Abdollahpour, Khosravi & Bolbolhaghighi[b]	2016	0.26	0.07	Control group of intervention study	0.19	35	
Abdollahpour, Khosravi & Bolbolhaghighi[c]	2016	0.08	0.04	Control group of intervention study	0.19	90	

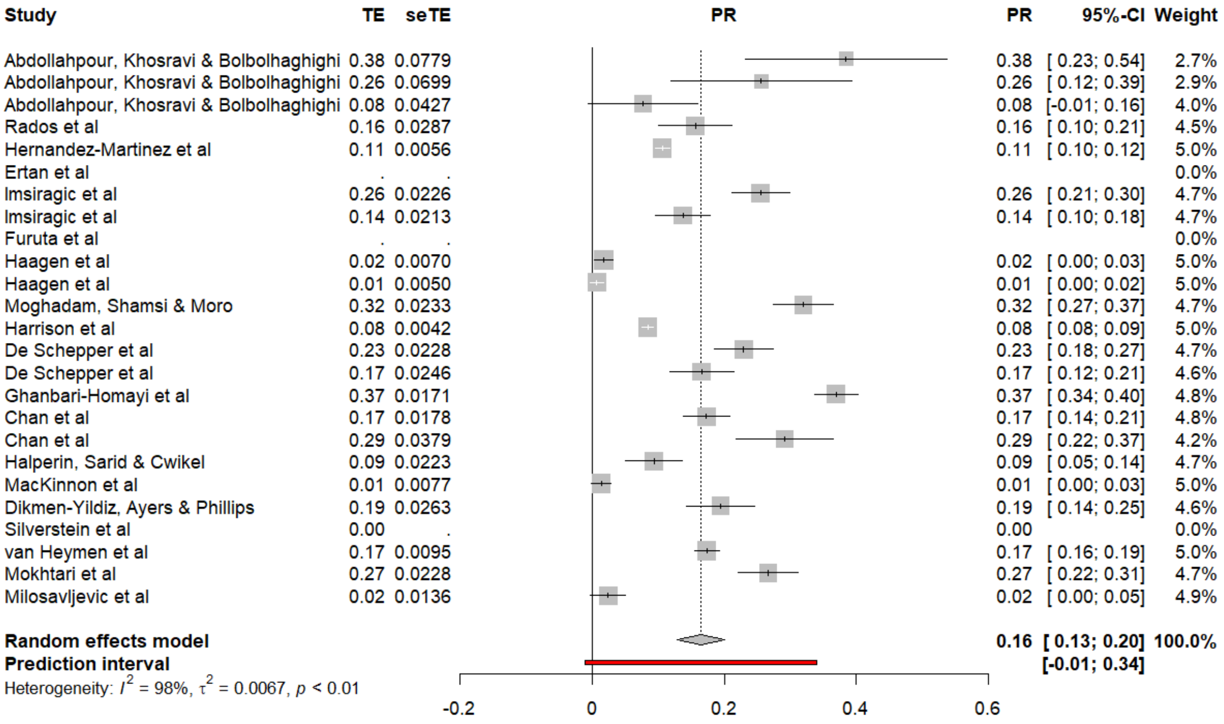
IES = Impacts of Events Scale (Horowitz et al., 1979); IES-R = Impact of Events Scale-Revised (Weiss, 2007); PSS-SR/I = PTSD Symptom Scale self-report/interview (Foa et al., 1993); TEQ = Traumatic Events Questionnaire (Vrana & Lauterbach, 1994); PPQ= Perinatal PTSD questionnaire (Callahan et al., 2006); PDS = Post-traumatic Diagnostic Scale (Foa et al., 1997); CAPS = Clinician-Administered PTSD Scale (Blake et al., 1995); PCL-5 = PTSD checklist for DSM-V (Weathers et al., 2013); PC-PTSD-IV= Primary Care PTSD screen for DSM-IV (Prins et al., 2004); CEQ = Childbirth Experience Questionnaire v.2.0 [Persian version] (Dencker et al., 2020)

A random effects model was calculated using the generic inverse variance method. This suggests a weighted average prevalence for PPTSD of 0.1648 (z = 8.94, $p < 0.001$) and a 95% confidence interval of between 0.1286 to 0.2009.

Figure 3 illustrates the prevalence of PPTSD through use of a forest plot. A high level of heterogeneity between the included studies was observed (tau^2 = 0.0067, Higgin's I^2 = 98%; Q = 1199.23, $p < 0.001$), suggesting that the estimates of PPTSD prevalence in the studies may be biased (e.g. by presence of uncontrolled or confounding factors). Therefore, the focus of the subsequent analyses was to identify possible sources of heterogeneity between the estimates of prevalence in the studies.

Figure 3:

Forest plot of the prevalence of PTSD



Study	TE	seTE	PR	95%-CI	Weight
Abdollahpour, Khosravi & Bolbolhaghighi	0.38	0.0779	0.38	[0.23; 0.54]	2.7%
Abdollahpour, Khosravi & Bolbolhaghighi	0.26	0.0699	0.26	[0.12; 0.39]	2.9%
Abdollahpour, Khosravi & Bolbolhaghighi	0.08	0.0427	0.08	[-0.01; 0.16]	4.0%
Rados et al	0.16	0.0287	0.16	[0.10; 0.21]	4.5%
Hernandez-Martinez et al	0.11	0.0056	0.11	[0.10; 0.12]	5.0%
Ertan et al	.	.			0.0%
Imsiragic et al	0.26	0.0226	0.26	[0.21; 0.30]	4.7%
Imsiragic et al	0.14	0.0213	0.14	[0.10; 0.18]	4.7%
Furuta et al	.	.			0.0%
Haagen et al	0.02	0.0070	0.02	[0.00; 0.03]	5.0%
Haagen et al	0.01	0.0050	0.01	[0.00; 0.02]	5.0%
Moghadam, Shamsi & Moro	0.32	0.0233	0.32	[0.27; 0.37]	4.7%
Harrison et al	0.08	0.0042	0.08	[0.08; 0.09]	5.0%
De Schepper et al	0.23	0.0228	0.23	[0.18; 0.27]	4.7%
De Schepper et al	0.17	0.0246	0.17	[0.12; 0.21]	4.6%
Ghanbari-Homayi et al	0.37	0.0171	0.37	[0.34; 0.40]	4.8%
Chan et al	0.17	0.0178	0.17	[0.14; 0.21]	4.8%
Chan et al	0.29	0.0379	0.29	[0.22; 0.37]	4.2%
Halperin, Sarid & Cwikel	0.09	0.0223	0.09	[0.05; 0.14]	4.7%
MacKinnon et al	0.01	0.0077	0.01	[0.00; 0.03]	5.0%
Dikmen-Yildiz, Ayers & Phillips	0.19	0.0263	0.19	[0.14; 0.25]	4.6%
Silverstein et al	0.00	.	0.00		0.0%
van Heymen et al	0.17	0.0095	0.17	[0.16; 0.19]	5.0%
Mokhtari et al	0.27	0.0228	0.27	[0.22; 0.31]	4.7%
Milosavljevic et al	0.02	0.0136	0.02	[0.00; 0.05]	4.9%
Random effects model			**0.16**	**[0.13; 0.20]**	**100.0%**
Prediction interval				**[-0.01; 0.34]**	

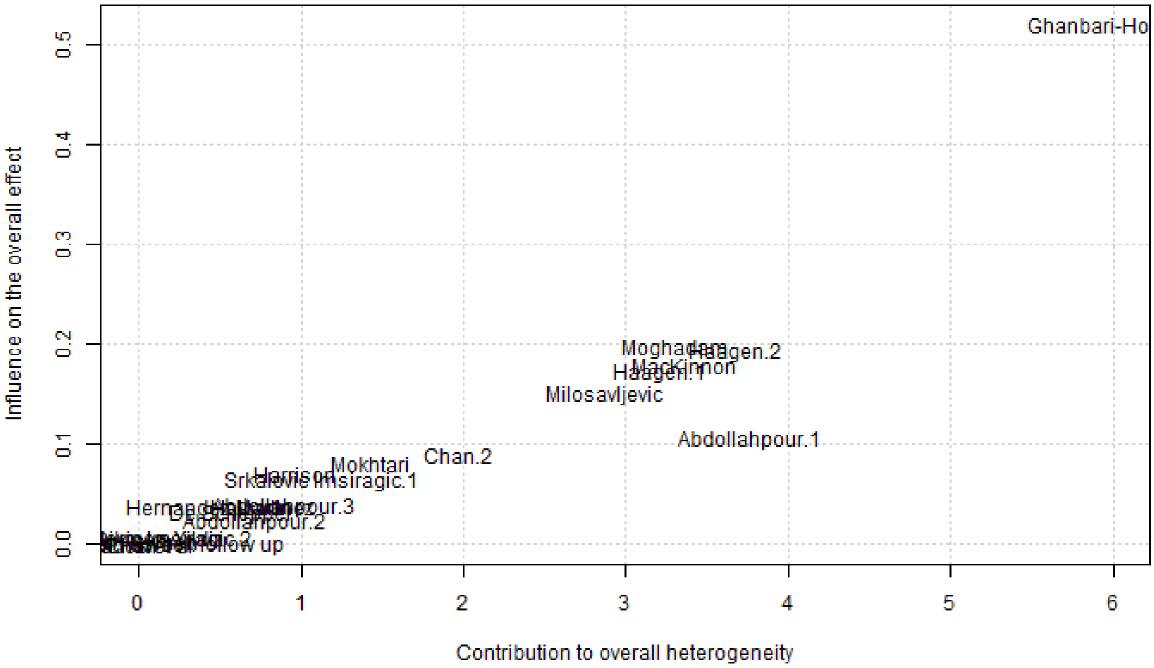
Heterogeneity: $I^2 = 98\%$, $\tau^2 = 0.0067$, $p < 0.01$

The Impact of Influential Studies

To assess how influential each study was, the 'leave-one-out' analysis was conducted. This involved calculating the random effects model with each of the included studies removed in turn to see if there was any change in the weighted average effect size. Subsequent change in heterogeneity (i.e. discrepancy) was recorded. The result of this ‘leave-one-out’ analysis is presented on the Baujat plot (Baujat et al., 2002) in Figure 4.

Figure 4:

Baujat diagnostic plot of sources of heterogeneity. The vertical axis reports the influence of the study on the overall effect and the horizontal axis reports the discrepancy of the study with the rest of the literature.



The Baujat plot suggests the Ghanbari-Homayi et al. (2019) study was both influential on the meta-analytic synthesis and discrepant from the other studies. Therefore, the random effects model was recalculated without Ghanbari-Homayi et al. (2019). The corrected random effects model reported a synthesis of 0.1527 (95% CI 0.1198 to 0.1855). The corrected random effects model evidences an approximate decrease of 7.3% relative to the uncorrected estimate of 0.1648 and does not change any of the substantive conclusions of this meta-analysis.

The study by Ghanbari-Homayi et al. (2019) was critically reviewed with a view to removing it from the analysis if significant concerns or sources of bias were identified. No such concerns were identified; therefore, this study was retained in subsequent analyses.

The Effect of Risk of Bias in the Studies

To assess the impact of risk of bias amongst the included studies, a series of subgroup analyses were conducted. Risk of bias ratings for each of the six types of methodological biases were grouped into 'low risk' and 'any risk', with the latter referring to unclear risk or high risk. These are shown in Table 7:

Table 7:

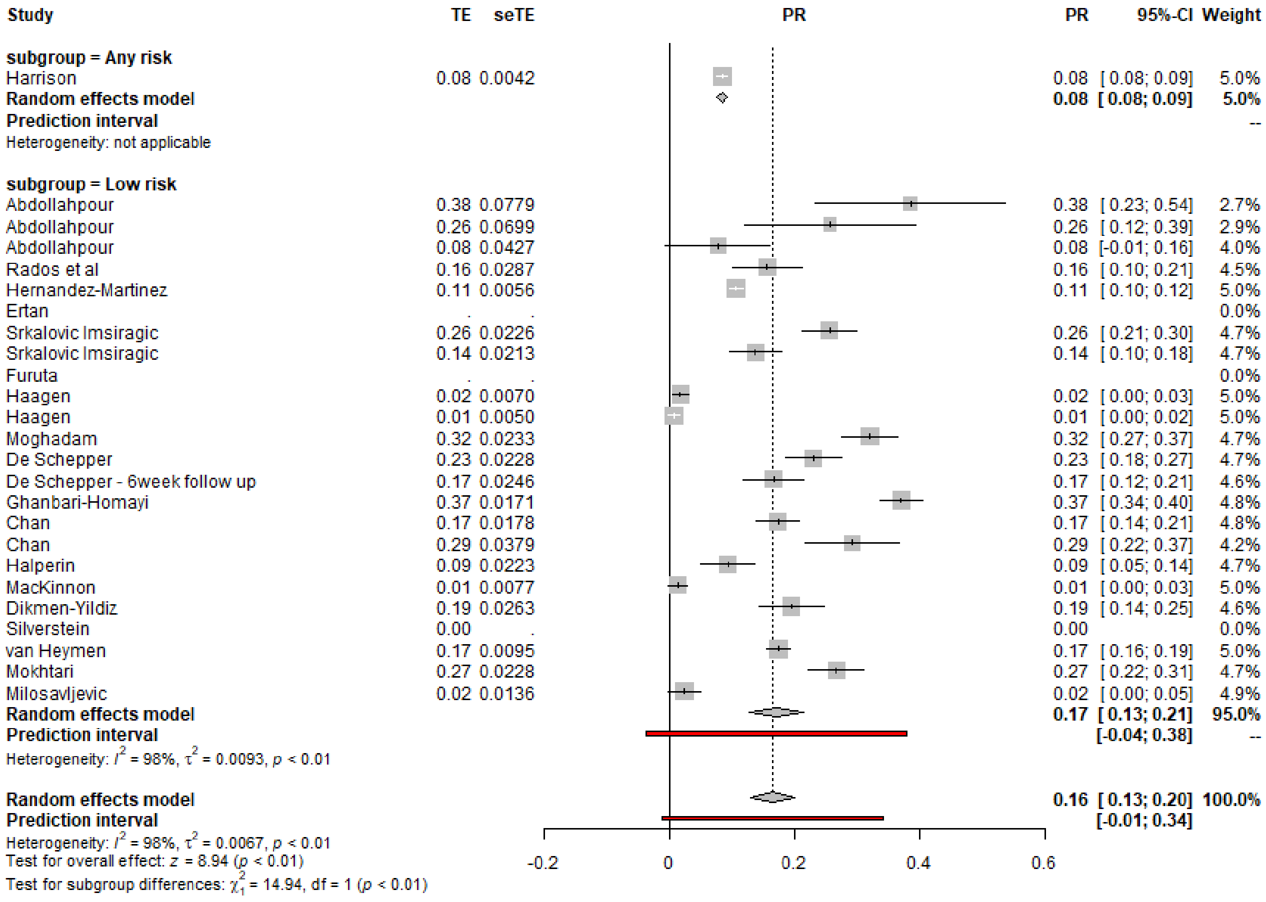
The effect of risk of bias in the primary studies

	Low Risk			**Any Risk**				
	EFFECT	**95% CI**	**k**	**EFFECT**	**95% CI**	**k**	**X^2**	**P**
Selection bias	0.1488	0.1081; 0.1896	15	0.1991	0.1519; 0.2463	7	2.5	0.11
Performance bias	0.1650	0.1262; 0.2038	19	0.1628	0.0836; 0.2421	3	0.0	0.96
Detection bias	0.1706	0.1276; 0.2136	21	0.084	0.0761; 0.0924	1	14.94	0.00
Statistical bias	0.1773	0.1290; 0.2255	18	0.1189	0.0552; 0.1827	4	2.05	0.15
Reporting bias	0.1521	0.1151; 0.1891	19	0.2387	0.1522; 0.3252	3	3.26	0.07
Generalisability bias	0.1592	0.1214; 0.1970	19	0.2309	0.0443; 0.4175	3	0.55	0.46

Detection bias evidenced a statistically significant difference in estimates of prevalence. Studies reporting low risks of detection bias were associated with higher estimates of PPTSD prevalence (see Figure 5). However, it should be noted that the estimate of ‘any risk’ was calculated based on a single study (Harrison et al., 2021). Therefore, this difference may be the result of other study level differences as opposed to detection bias (i.e. an effect averaged across multiple studies or showing detection bias but averaging out other study level differences). No other area of risk of bias evidenced statistically significant differences between the ‘low risk’ and the ‘any risk’ studies.

Figure 5:

Subgroup plot of risk due to detection bias

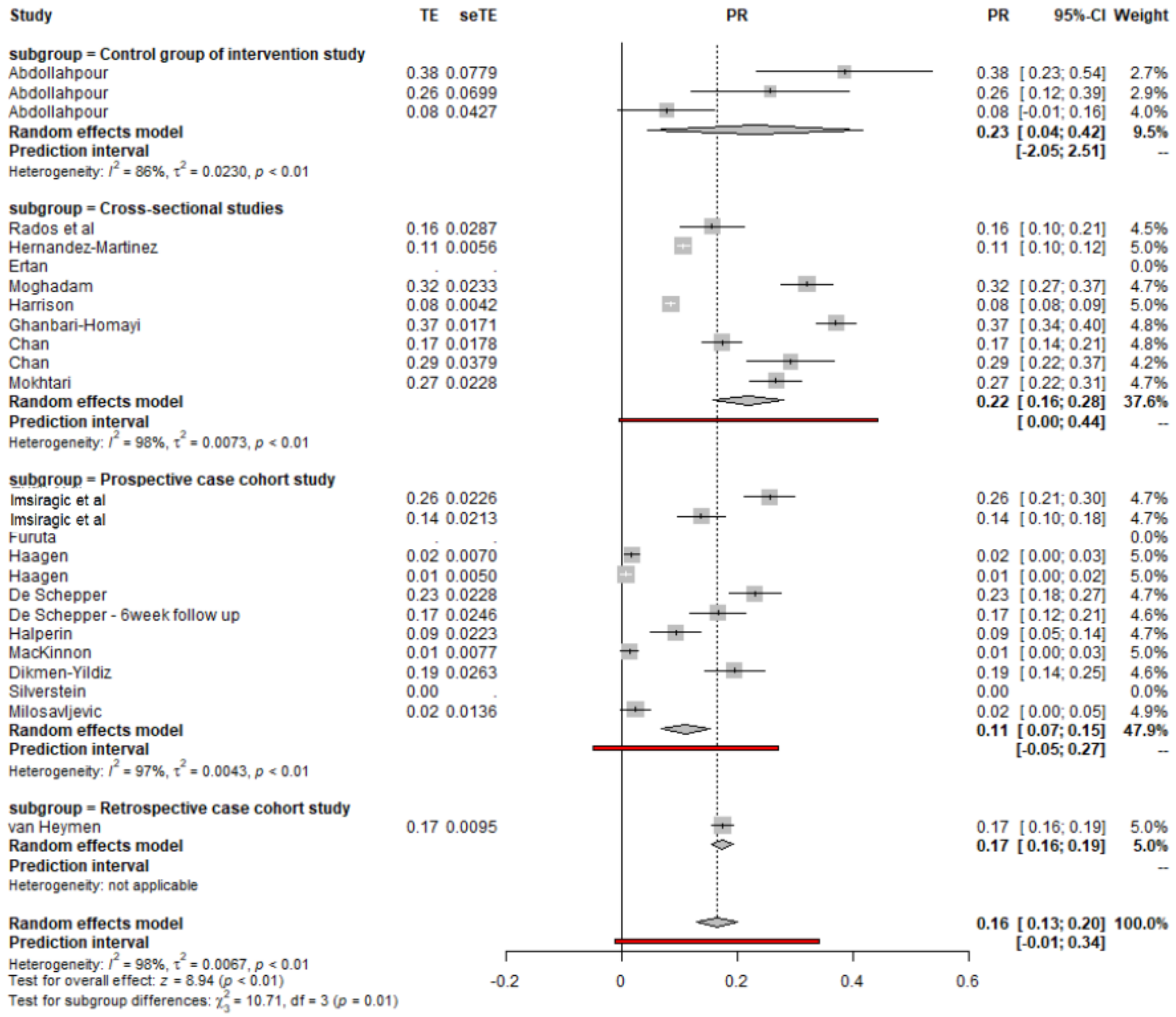


The Effect of Study Design on the Studies

A subgroup analysis was completed to assess the impact of study design upon the meta-analytic synthesis (see Figure 6). A statistically significant difference was observed between the different types of study design (X^2 = 10.71, p=0.013), with prospective case cohort studies reporting reduced prevalence rates compared to other study designs.

Figure 6:

Subgroup analysis of the impact of study design on reported prevalence of PPTSD



The Impact of Publication and Small Study Biases

Publication bias is caused by the tendency for statistically significant results to be published and the reticence of editors and reviewers to publish papers with non-significant results. Small study bias is the tendency for studies with smaller sample sizes to show greater variability in their measurement of prevalence. These biases can be identified in a funnel plot, which plots the magnitude of the study's prevalence rate (i.e. the importance of the study in the synthesis) against the estimate of the studies deviation from the meta-analytic average (i.e. the discrepancy of the study within the literature). If there is an absence of publication bias, the effects from the small sample-sized studies (showing greater variability) will scatter more widely at the bottom of the plot compared to studies with larger samples at the top. The latter will lie closer to the overall meta-analytic effect, creating a symmetrical funnel shape. If there is an absence of studies in the plot associated with small sample sizes and non-significant results, then it is likely there is some publication bias leading to an overestimation of the true effect. The funnel plot of prevalence rates is presented in Figure 7.

Figure 7:

Funnel plot of the distribution of prevalence estimates. The 95% confidence interval of the expected distribution of EFFECT is shown as an inverted 'funnel'. Studies depicted by a white point have been interpolated using the trim and fill procedure described by Duval & Tweedle (2000). The area of the funnel plot depicted in blue is that associated with publication bias.

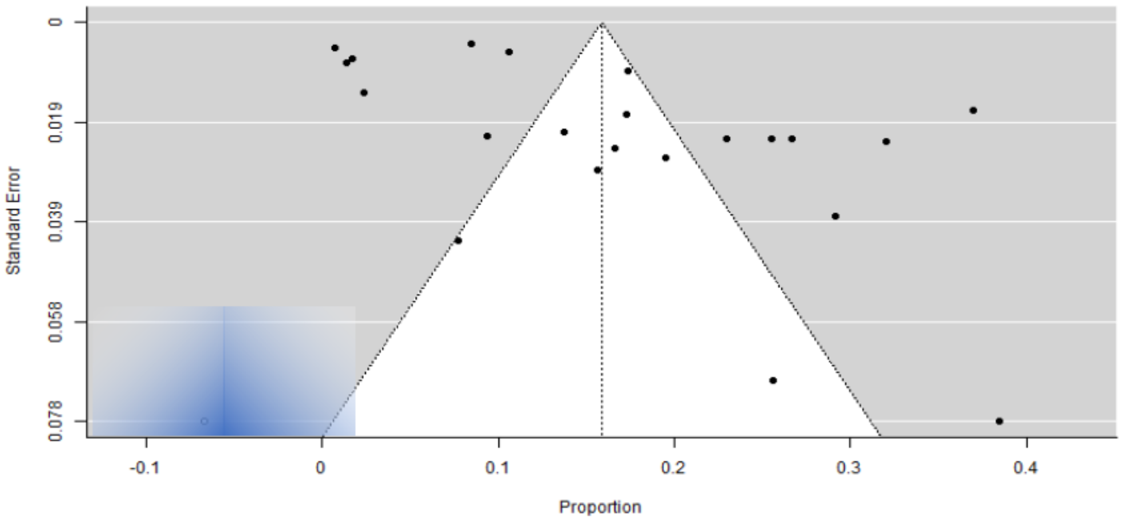


Figure 7 reveals some evidence of publication bias in the distribution of the prevalence estimates. As depicted, published studies prevalence rates from small sample size studies exceeded the meta-analytic average. However, there were no studies that were lower than the meta-analytic average.

The effect of publication bias was simulated using a Trim and Fill procedure described by Duval & Tweedle (2000). The trim and fill procedure builds on the assumption that publication bias will lead to an asymmetrical funnel plot. Trim and fill procedure iteratively removes the most extreme small studies from the side of the funnel plot associated with positive effects, re-computing the effect size at each iteration until the funnel plot is symmetric with the (corrected) effect size. While this trimming yields the adjusted effect size, it also reduces the variance of the effects, resulting in biased and narrow confidence intervals. Therefore, the original studies are returned into the analysis, and the procedure assigns a mirror image for each, on the side of the funnel plot associated with negative effects.

The trim and fill procedure yielded a corrected random effects model of 0.1588 (95% CI 0.1231-0.1944). The adjusted point estimate represents a 3.63% decrease relative to the original omnibus analysis and would not change any of the substantive conclusions of this meta-analysis.

The ‘failsafe number’ was described by Rosenthal (1979) and provides an estimate of how many non-significant results would need to be included in the meta-analysis for the overall effect to be non-significant (p > .05). This procedure suggests that 13,505 studies would be required to reduce the observed prevalence of 0.1648 to non-significant, suggesting that the observed effect is robust to studies missing due to publication bias.

The Effect of Interval Between Childbirth and Assessment

A meta-regression to assess whether PPTSD rates changed over time was conducted. Included studies conducted PPTSD screening at different timepoints from birth of the child to study assessment. These were recorded in days. The length of time from the birth of the child to assessment of PPTSD symptoms was regressed to prevalence of PPTSD symptoms using the random effects model (see Table 8).

Table 8:

Meta-regression of the length of time from birth of child to the assessment of PTSD symptoms (in days)

	Coefficient	SE	Z	p
Length of time in days from birth of child to assessment of PTSD symptoms	-0.0004	-0.0002	1.6151	0.1063

The association between length of time in days from birth of child to assessment of PPTSD symptoms and the prevalence of PPTSD did not show a statistically significant effect (see Table 8). There was a decrease in PPTSD prevalence of 0.0004 for each additional day following the birth of the child.

Discussion

Findings

This meta-analysis sought to determine the prevalence of PPTSD following birth. The numerical synthesis of sixteen studies reported 22 prevalence rates for a sample of 14,054 women following childbirth. Studies were identified between January 2015 to June 2021.

In the general population, the lifetime prevalence of PTSD is approximately 10–12% in women (Olff et al., 2007), and the 12-month prevalence rate is 5.2% among women (*National Comorbidity Survey, 2005)*. Within this review, prevalence rates for PPTSD were assessed at 0.1648, indicating that 16.48% of new mothers may experience symptoms of PTSD following birth.

Thus, the estimate of prevalence for PPTSD is greater than both the estimated lifetime prevalence rate and the 12-month prevalence rate for women. However, there was marked variability in the reporting of this estimate across the studies, with prevalence rates ranging from 1% (Haagen et al., 2015) to 38% (Abdollahpour et al., 2016), and 98% of the observed variation not attributable to differences in sample size. Therefore, the estimates of PPTSD prevalence in the primary studies may be biased by presence of uncontrolled or confounding methodological or individual difference factors. Consequently, the focus of the analysis was largely upon the identification of the factors that may lead to variation in the observed prevalence rate.

When assessing risk of bias across the individual studies, significant differences in the prevalence rates were found for detection bias only. Studies that reported low detection biases had higher prevalence rates of PPTSD, compared to Harrison et al. (2021) who was categorised as any risk (low risk: 17%; any risk: 8%; $p<0.01$). However, as only one study scored as any risk, other study-level differences could account for the variation.

Four study designs were reported in this analysis. Results showed that the design of the study also appeared to affect the reported prevalence rates, with lower quality study designs (e.g. cross-sectional studies) tending to report higher prevalence rates. Prospective case studies are regarded as higher quality study designs. Of the nine prospective case studies, a prevalence rate of 11% was identified compared to 22% found in cross-sectional designs. Thus, the average prevalence rates found in prospective case study designs was significantly lower than those found in cross-sectional.

Publication bias was noted. However, when simulated and controlled for, the estimate of overall prevalence showed a marginal reduction. When the length of time from birth of child to the assessment of PPTSD symptoms was considered, a nonsignificant negative regression coefficient was observed.

The various sources of bias and variations within this meta-analysis showed their respective influences on the reported prevalence rate for PPTSD. For example, higher quality study designs showed lower prevalence rates. However, when controlling for these variations, prevalence rates were still markedly higher than the 12-month prevalence rate reported for women in the general population (5.2%). Therefore, even if poorer quality studies are inflating the overall estimate of the prevalence of PPTSD, this current study suggests that the prevalence of PPTSD remains higher than general 12-month prevalence rates for women.

Comparison with Other Meta-analyses

Table 9 displays prevalence rates across all previous reviews to date. As shown, prevalence rates reported in previous meta-analyses were significantly lower than those recorded here:

Table 9:

Comparison of prevalence rates across reviews

Review	Prevalence rates	Sample	Duration from birth
Olde et al (2006) Review	2.8-5.6% 1.5%	Mixed sample: community and high risk	6 weeks postpartum 6 months postpartum
Andersen et al (2012) Systematic review	1.3-2.4% 0.9-4.6%	Mixed: community and high risk	1-2 months postpartum 3-12 months postpartum
Grekin & O’Hara (2014) Meta-analysis	3.1% 15.7%	Community High risk	4 weeks – 18 months postpartum across both samples
Yildiz et al (2017) Meta-analysis	4% 18.5%	Community High risk	Pregnancy – 14 months postpartum across both samples
Current review Meta-analysis	16.48%	Mixed: community and high risk	5 days – 11 months

This meta-analysis found that lower prevalence rates of PPTSD were reported by higher quality studies. This aligned with Yildiz et al. (2017) and their findings, suggesting the importance of using high quality study designs when investigating PPTSD prevalence rates.

No significant correlation was identified between the post-natal time period that PPTSD was assessed in the sample and reported prevalence rates. This is in line with Yildiz et al. (2017) who found no evidence for significant differences in prevalence rates across the postpartum period. Although non-significant, their findings did reveal a trend for reported PPTSD rates to be higher immediately after birth. This may have been related to the number of studies they recorded in each timeframe, with fifteen studies at 4-6 weeks postpartum and five studies at 6 months postpartum. In comparison, for the studies included in the current review, 12 event rates were reported within 1-3 months postpartum, with an overall mean of 3 months, 3 days. Thus, the timing of assessment of PPTSD in the studies included in the Yildiz et al. (2017) review and the current review differed.

The Grekin & O'Hara (2014) review did not report differences in prevalence rates between studies that used self-report measures compared to clinical assessment measures. Studies included in the current meta-analysis largely used self-report measures, except for three PTSD clinical interviews. However, event rates did not differ significantly for the latter studies compared to those reporting on self-report measures, supporting Grekin & O'Hara's (2014) observations. Yildiz et al. (2017) proposed that their focus on diagnostic criteria may have underestimated the actual prevalence of PPTSD and its impact on the health system. This was supported by Ayers & Ford (2014) who reported that many women in their sample who did not fulfil the diagnostic criteria for PTSD, nevertheless suffered significant psychological symptoms and required treatment postpartum. Therefore, the predominant focus on self-report measures within this current review may have captured the most realistic prevalence rates for PPTSD.

Strengths and Weaknesses of the Current Review

Strengths of this review include reviewing and assessing risk of bias within the literature. An adapted version was used guided by the Cochrane Collaboration Risk of Bias Tool (Higgins et al., 2011) and Risk of Bias Assessment Tool for Nonrandomised Studies (Kim et al., 2013). This ensured studies included were critically reviewed and identified risk of bias was identified and accounted for when conducting the analysis and interpreting the statistical findings.

However, it is important to acknowledge methodological limitations. Data extraction and study quality ratings were conducted by a single author. It is therefore possible that author bias may have influenced the ratings. While it would have been preferable to conduct an inter-rater reliability exercise to minimise the chance of bias, the review was conducted as part of a doctoral thesis and resources were therefore limited.

The inclusion of studies which assessed PPTSD by self-report measures as well as those using clinical interviews allowed for a less restrictive pool of studies. Including studies which reported on samples of women who met ‘caseness’ in addition to those with a confirmed diagnosis allowed for broader analysis of PPTSD prevalence rates.

The current review did not distinguish between different sample types (e.g. community versus high-risk), as studies using high risk sample groups were low in number (N=5). Nevertheless, this may have had a confounding effect on the overall prevalence rate. Future research may wish to focus predominantly on differences between sample types, to develop valid and clinically relevant risk assessments for the respective sample groups.

This meta-analysis yielded high heterogeneity, indicating wide variations across prevalence rates in the included studies. Therefore, reported prevalence rates should be interpreted with caution, as confounding variables are likely to have influenced the prevalence rates reported.

Clinical Implications

This systematic review of the most recent literature identified prevalence of 16.48% for PPTSD; that is, one in six women who are treated by health professionals during the perinatal period. Research has shown that maternal trauma, including suicide is one of the leading causes of maternal mortality (Romero & Pearlman, 2012). Therefore, this study suggests PPTSD screening could be beneficial. Psychological assessment of pregnant and postpartum women for PPTSD may help identify symptoms earlier, allowing for better detection and provision of treatment (Yildiz et al., 2017). Additionally, routine screening for high-risk groups is recommended to reduce the risk of maternal suicide resulting from postpartum mental disorders (Chesney et al., 2014). Follow-up appointments for mothers who have experienced a traumatic birth may also provide opportunities for debriefs, signposting to appropriate healthcare services, and thus improved maternal wellbeing.

Recommendations for researchers

Although clinical interviews are recognised as the gold standard when assessing PTSD, including self-report measures may allow for better detection of PPTSD symptomatology. Future research should consider this as an additional option when assessing women during the perinatal phase. Additionally, researchers should consider when to assess for PPTSD, allowing for a distinction between transitory responses to childbirth and the more long-term symptoms of PPTSD. Further research on appropriate timeframes for this type of assessment may inform maternal/clinical services.

Data extraction and assessment of the quality of studies was conducted by a single rater. To improve inter-rater reliability, future research may benefit from having an additional rater to minimise chance of bias. Additionally, future researchers may wish to assess prevalence rates of PPTSD in specific sample groups, for example prevalence within community samples only or variation of prevalence rates according to ethnicity. This may add additional understanding of support which needs to be offered post-birth to different homogeneous groups.

Conclusions

This review sought to update existing findings regarding prevalence rates for PPTSD post-birth. Analysis of 16 studies from January 2015-June 2021 showed prevalence rates to be 16.48%, an increase from the previous meta-analysis by Yildiz et al. (2017). Results illustrate the importance of understanding PPTSD, including detection, treatment and training/awareness, to lessen maternal mental health difficulties.

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CHAPTER 2:

BLACK WOMEN’S EXPERIENCES OF PREGNANCY AND BIRTH

Word count: 8832

Black Women’s Experiences of Pregnancy and Birth

Abstract

Background: Black women are currently four times more likely to die during or shortly after childbirth in the United Kingdom (UK). Understanding Black women’s experiences of pregnancy, birth and maternity service delivery is essential to help address existing health inequalities within the UK. This area is understudied and therefore, the current research sought to gather Black women’s lived experiences to aid understanding of their transition into motherhood.

Method: Semi-structured interviews were conducted to collect qualitative data on Black women’s experiences of pregnancy and birth. Questions focused on experiences of pregnancy, birth and post-birth. Six participants completed the study either remotely (n=4) or in person (n=2).

Analysis and Findings: Interpretative Phenomenology Analysis (IPA) was used to analyse the data. The sample of Black mothers was considered homogenous; mean age was 30 years (range 28-34), all participants were married and held university levels of education. Four superordinate themes were identified. These focused on societal and cultural narratives about Black women, personal views on what motherhood means, support offered and received, and their experiences of maternity services.

Discussion and Clinical Implications: Findings highlight the ethnic inequalities Black women face throughout pregnancy and birth. Self-preservation and beliefs about strength were common themes discussed throughout. This influenced their experiences of maternity services, feeling powerless and vulnerable. Support and training for healthcare professionals may be beneficial to help improve care experiences for Black women.

Introduction

Within the United Kingdom (UK), Black, Asian, and Minority Ethnic groups (BAME) disproportionately experience mental ill-health (Anderson et al., 2017; Onozawa et al., 2003; Prady et al., 2016; Watson et al., 2019). Symptoms are less likely to be detected or treated (Cooper et al., 2010; Prady et al., 2016), with reasons for this still unclear (Watson et al., 2019).

More specifically, prevalence of mental health disorders in women from BAME groups are high during the perinatal period [1](Megnin-Viggars et al., 2015; Prady et al., 2016) and constitutes a significant risk factor for maternal mortality (Knight et al., 2016), suicide (Chesney et al., 2014) and poorer outcomes for the infant (Stein et al., 2014). Significant ethnic inequalities within maternity services have been observed. The MBRRACE-UK 'Saving Lives, Improving Mothers' Care' (Knight et al., 2019) found that in the period 2015-2017, Black women[2] living in the UK were five times more likely to die during childbirth or in the following weeks when compared to white women. Although statistics collected during 2017-2019 indicated some improvement, Black women were still four times more likely to die (Knight et al., 2021). Limited research has sought to understand ethnic minorities' experiences of the transition to motherhood, with even fewer studies relevant to black Afro-Caribbean women. Research therefore needs to identify the barriers that exist for Black women in the UK to support safe and positive birth experiences.

Watson et al. (2019) conducted a systematic review of qualitative research on BAME women's experiences of perinatal mental health in Europe. Factors which led to inadequate perinatal mental health support included lack of awareness about mental health, cultural expectations,

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[1] Perinatal period: covers the duration of pregnancy and 12-months following birth

[2] Black women: Black African and/or Black Caribbean

ongoing stigma, culturally insensitive and fragmented health services, and interactions with culturally incompetent and dismissive professionals. Compared with white women, BAME women were more worried about pain and discomfort, uncertainties surrounding labour and embarrassment in relation to care during childbirth (Redshaw & Heikkilä, 2011).

There has been a tendency to group all BAME women's experiences together and to draw inferences across widely varying cultures (Watson et al., 2019). Although similar experiences and barriers may be faced, it is important to recognise that minority groups vary. Edge (2011) explored Black Caribbean women's perceptions of perinatal mental health services. Participants reported poor physical care and felt a lack of compassion from professionals. This led to feelings of disappointment and mistrust and consequently, participants expressed difficulty engaging with both physical and mental health services. Having positive, trusting relationships with practitioners was essential for Black women when considering disclosure of psychological problems. A more recent study highlighted how Black women experience racialised pregnancy stigma, that is, negative assumptions that they were single, from poorer backgrounds and low household income, and had multiple children (Mehra et al., 2020).

Furthermore, the limited research conducted on Black women tends to focus on their experiences of postnatal depression and engagement with perinatal mental health services. More insight is needed to explore Black women' experiences of seeking/accessing support. Systemic theory provides this, drawing attention to the differing layers at play when trying to understand thought and behaviour. For Black women, there are both societal (resident country) and cultural (home country) narratives present, shaping the way mental health is viewed (Pearce, 2005). This in turn feeds into their own family and personal scripts, which could be in contradiction to one another. Therefore, the cultural discourses of mental health and the subsequent cultural expectations placed on women may play heavily on a Black mother's decision to access services (Watson et al., 2019). Thus, cultural customs which discourage discussion of problems and emotions may act as a barrier to seeking support. Fear of judgment of their ability to parent also leads Black mothers to refrain from accessing support (Templeton et al., 2003). Consequently, fear of stigma and beliefs about help-seeking behaviours are central barriers for Black women, who hold a strong internal locus of control and tendency for self-reliance (Edge, 2008). The need to normalise distress fits with maintaining the self-concept of being "Strong-Black-Women" (Edge & Rogers, 2005). The Black woman's identity reinforces resilience, empowerment, and ability to cope but may inadvertently harm psychological well-being.

Social psychology offers a helpful perspective on how Black women may experience pregnancy and birth, by understanding the influence of others and the internalised social norms that they may be subjected to. The "Strong-Black-Woman" identity is an example of this (Edge & Rogers, 2005). Social identity theory (Tajfel et al., 1979) describes the importance of belonging to groups of similarities, to foster group identity, protection and a shared understanding of thoughts and behaviours. Research (e.g. Davis, 2019; Edge, 2011) highlights how Black women feel 'othered', treated differently to other ethnicities, demonstrating the consequences of social categorisation ('us' versus 'them'). Such categorisation can lead to racism, where difference is magnified, and negative stereotypes formed to enhance the in-group's ('us') superior image (McLeod, 2008). This model may provide some insight into experiences of racism reported in Black literature. Additionally, this theoretical model may explain the powerful impact of identifying as a Black woman, and the importance of wanting to belong, and hold onto, this group identity. Another factor requiring further exploration is systemic racism and the stereotyping of Black women. Negative experiences of services by

BAME communities often result in fear and mistrust (Edge, 2011), and a reluctance to engage with services (Edge & Rogers, 2005; Fernando & Keating, 2008). Black women perceive healthcare providers as too busy and disinterested in their problems, which is further strengthened by the latter's failure to recognise, or be dismissive of their symptoms (Watson et al., 2019). Hidden biases which exist within healthcare services perpetuates health inequalities regarding treatment options (Davis, 2019; Morris & Schulman, 2014) and pain management (Meghani et al., 2012). In addition, language barriers may mean women lack the vocabulary to describe their symptoms. Subsequently, Black women may seek alternative explanations to understand their symptoms, for example poor sleep, isolation, temporary upset, and influence of evil spirits (Watson et al., 2019). This 'common-sensical' overtone to explain away symptoms is often found amongst Black women (Edge, 2013), reducing help-seeking behaviour.

Finally, a significant issue relevant to how Black mothers experience the perinatal period is their pain management during labour. Stereotypical beliefs that Black women experience less labour pain have been documented (Mathur et al., 2020; Raleigh et al., 2010) and have perpetuated false narratives about Black women and their ability to tolerate pain. Hoffman et al. (2016) found 50% of white medical trainees from the US held beliefs that Black people had thicker skin or had less sensitive nerve endings than white people. These biases influence treatment options, leading to disparities amongst ethnicities (Davis, 2019; Morris & Schulman, 2014). A meta-analysis exploring pain management in the US, found that Black/African American patients are 22% less likely to receive pain medication compared to white patients (Meghani et al., 2012). In addition, BAME women are frequently excluded during the decision-making process during labour or regarded as "uncooperative" if they speak up (Altman et al., 2019; Davis, 2019). Limited research into understanding why ethnic differences exist in the

UK for maternal mortality are available (Joint Committee on Human Rights, 2020), despite significant differences being recorded since at least 2013 (Knight et al., 2014). Causes including socio-economic and physiological factors have been referenced, alongside institutional racism and biased assumptions (Anekwe, 2020). Little interest in this area means Black women's experiences go unheard, and changes to policies and procedures, static (Anekwe, 2020). These initial findings strongly suggest that Black women experience discrimination based on ethnicity (Watson et al., 2019).

As the perinatal experiences of Black women in the UK remain relatively under-researched, an exploratory qualitative approach was considered most appropriate. This allows Black women to share their story and may contribute to the review and update of current procedures and the development of clinical guidance for professionals. The aim of the current study is therefore to gain an understanding of how Black women perceive maternal healthcare services and their transition into motherhood.

Throughout this study, societal and cultural narratives are referred to. In this paper, societal narratives relate to a shared set of standards of acceptable behaviour, which govern the social rules in the UK. In contrast, cultural narratives relate specifically to Black culture, and how these influences and informs traditions, cultural customs, rules and accepted behaviours.

Method

Design

Semi-structured interviews were used to collect qualitative data on Black women's experiences of pregnancy and birth. The semi-structured interview schedule consisted of four sections, with prompts as and when appropriate (Appendix 1). The first section explored general themes, including how participants' cultural and family values/traditions influenced their view of pregnancy and motherhood. The second section focused on the mother's experiences during pregnancy. This was followed by questions exploring the birthing experience and the post-natal period. A final question was asked about participants' overall experience of pregnancy, birth and the postnatal period. At the end of the interview, participants were given the opportunity to add anything that they felt was relevant or important that had not been covered during the interview.

Ethics

The study received ethical approval from the University of Birmingham Research Governance and Ethics Team (Appendix 2).

Women from marginalised groups are reported to have higher levels of mistrust of professionals and report a sense of being ignored and unappreciated (Halbert et al., 2006). Therefore, the researchers felt it appropriate to gift participants a £10 'Love to Shop' voucher sent alongside an executive summary of research findings at the end of the study. A copy of the executive summary can be seen in Appendix 3. To avoid recruitment bias, participants were not aware that they would receive a gift voucher.

Participants

The study was advertised through online platforms and word of mouth. Ten women initially expressed interest in completing the study and were sent relevant information regarding participation. Four women did not respond to follow-up enquiries. However, six women who met the inclusion criteria, consented to partake in the research. Inclusion and exclusion criteria are displayed in Table 1.

Table 1

Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
Identify as a Black female	No serious recent health complications for mother or baby.
Aged between 18-45 years old	
Reside in the United Kingdom at time of study	
English speaking	
Age of infant between 2 months and 24 months at time of interview.	

Demographics of the six participants are displayed in Table 2. Mean age of participants was 30 years (range 28-34 years), and of their infants, 16 months (range 7-24 months). All women were educated to university-level and for four mothers, it had been their first birthing experience. All participants were married to their baby's biological father. Two of the six mothers were still on maternity leave at the time of the interview. Four participants lived-in inner-city areas and two in smaller towns. Geography may have implications for health inequality in terms of access to maternity services and staff shortages. The sample was considered largely homogenous in this respect.

No long-term physical health complications were reported for either mother or baby. However, one participant accessed psychological therapy as a direct result of their birthing experience. Five women self-reported a traumatic birthing experience.

Table 2

Demographics of participants[3]

Demographic characteristic	Study participants
Age of participants	Mean age: 30 years (range 28-34 years)
Age of child at time of interview	Mean age: 16 months (range 7-24 months)
Marital status	Married: N=6
Education level	University-level education: N=6
First birthing experience	First birthing experience: N=4 Second birthing experience: N=2
Ethnic heritage	Black African: N=3 Black Caribbean: N=3
Geographical region	Inner city: N=4 Smaller town: N=2

Four women took part in the interview using the on-line video platform ‘Zoom’. Two women completed the interview in person in their own home. Compliance with the Covid-19 safety regulations was adhered to throughout the interview (e.g. masks worn, appropriate ventilation). The researcher completed a rapid lateral flow test before entering the participant’s home. A wellbeing phone call was also made on the day of the interview to ensure participants displayed no symptoms. Two meters distance was kept between the researcher and participant, in a ventilated space.

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[3] Recruitment and data collection occurred during the Covid-19 pandemic and the Black Lives Matter movement, both of which will have potentially influenced participation and the topics raised by them during interview.

Materials

To recruit participants, a poster and participant information sheet (PIS) were circulated using online platforms and word of mouth (see Appendix 4). Online platforms were used including Facebook and Black research fora, as well as through a local Doula service. All the materials were made in partnership with an independent Black Doula, who offers services to expectant mothers. She ensured the wording of the interview schedule was appropriate, and topics sensitive and aligned for the intended audience. Additionally, she reviewed the posters and PIS and made recommendations for the writing style and format.

Procedure

The PIS was sent electronically to potential participants before their interview slot was booked to ensure they understood the purpose and method of the research. The process of the research was explained on the day of the interview. This included: consent, confidentiality, audio recording and use of their data, and withdrawing from the study. Additionally, information on what happened to the recording of the interview was shared (i.e. anonymising and transcribing). Participants were given an opportunity to ask any questions before completing the consent form (electronically if interviewed on Zoom; see Appendix 5). Following the interview, participants were contacted and asked if they would like to review their transcript. They were given a 2-week transcript review period, and a further week to opt-out of the study (3-weeks from receipt of email). Three participants requested their copy and transcripts were securely emailed to them to review and confirm its content. They were given two weeks to examine their transcripts, ensuring they felt it was an accurate representation of the interview. None of the participants wished to change their transcripts and all participants were happy for their material to remain unaltered. After this period, participants were not able to withdraw their transcript from the study.

The mean duration of the semi-structured interview was 1 hr, 12min (range 1hr,2min – 1hr,26min) and was recorded using an encrypted Dictaphone. Participants were offered a 30-minute reflecting space at the end of the interview to ensure their wellbeing. This was not compulsory, nor was it recorded. All participants chose to have the additional time of the full 30 minutes to reflect on their thoughts and feelings following the interview.

Analysis

Interpretative Phenomenology Analysis (IPA) was used to analyse the data. IPA allows exploration of people's personal accounts from a phenomenological epistemological perspective, where the individual's lived experience is the focus. It allows for experiential research into emotionally laden and complex topics.

IPA guidelines set out by Smith, Flowers and Larkin (2009) were followed throughout. This included transcribing audio recordings verbatim and the coding/analysis of each interview. To appreciate the content of each interview, recordings and re-reading of the material was done repeatedly, to allow for deeper immersion. Notes on initial thoughts and reflections were made throughout (see Appendix 6). Coding transcripts initially focused on making line-by-line annotations for descriptive, linguistic and experiential content (Appendix 6) before moving towards identifying emergent themes and clustering of themes. This was completed for each participant. Subsequently, themes across transcripts were linked by commonalities and clustered together to form superordinate themes (Appendix 7). Data consisted of rich text that described participants' experiences, attitudes and expectations of pregnancy and birth. These informed the development of emergent themes to capture their lived experiences.

Researcher reflexivity:

I identify as a Black woman; I am of mixed heritage, with my mother being Black African. I have not yet entered motherhood, and therefore personal experience of pregnancy and birth is limited to those related to me by my wider social network and media. Witnessing close friends and family members experience traumatic pregnancies and birth shone light to the health disparities that exist across races. Being a woman from a minority group, I have always known of the racial injustices that exist within Western society and the detrimental effect this has across health, social care, education and employment. Thus, learning of the recent statistics that Black women are more likely to die during or shortly after childbirth resonated with me, my family and my friends.

Throughout the interviews and the analysis, I was very aware of my beliefs and interpretations influencing data. IPA analysis refers to this as the 'double hermeneutic approach', the attempt of the researcher to make sense of the participants making sense of their world (Smith & Osborn, 2007). This iterative process moves between sense-making of the investigated lived experience on a smaller scale, as well as shifting to larger units of meaning. Thus, I was holding in mind the subparts and the overall sum of participants' experiences of pregnancy and birth (Smith et al., 2009). I considered and reflected on how my own experiences of being a minority woman may have interacted with participants' stories through recording my own diary entries post-interview (Smith et al., 2009). This allowed me to draw upon reflexivity, particularly intersubjective reflexivity to acknowledge my own beliefs, perceptions, and experiences throughout the research process (Goldstein, 2017; Smith et al., 2009). Furthermore, it allowed for transparency, which in turn helped enrich interpretation instead of viewing personal reflections as an obstacle.

This research was supervised by an academic tutor with experience of qualitative research, specifically IPA. Additionally, IPA workshops were attended to reflect on and receive feedback throughout the analysis stage. Inexperience with qualitative analyses heightened anxiety. However, supervision, in both forms, encouraged fluidity instead of rigid thinking styles, immersion and connection with participants' experiences and identifying meaning in the description of these experience.

Results

Four superordinate themes were identified from the transcript data. An overview of these themes and respective subthemes are displayed in Table 3 below. Further description follows, illustrated by relevant quotes. All identifiable information has been omitted, with all participants receiving pseudo names.

Table 3

Superordinate themes, sub themes and the participants contributing to each.

Superordinate theme	Theme	Angela P1	Joan P2	Janet P3	Charity P4	Cheryl P5	Tanisha P6
“Black women, we suffer”	Stereotypes in Western society	x	x	x	x	x	x
	Fears of having a Black boy			x		x	x
	Cultural assumptions about Black women	x	x		x	x	
“That’s motherhood”	Pretending that I’m alright	x	x	x	x		x
	Sacrifice	x	x	x	x	x	x
	Asking for help				x		
What makes ‘good' support?	Family support	x	x	x	x	x	x
	Support from others	x	x	x	x	x	x
	Religion		x		x		x
Black experience of maternity services	Good vs bad care	x	x	x	x	x	x
	A sense that I’m being treated differently	x	x	x	x	x	x
	The experience of trauma	x	x	x	x	x	x

Note: quotation marks indicate direct quotes from participants.

Theme 1: “Black women, we suffer”

This theme describes how Black women have received and taken onboard the message that they must be strong and hide any weaknesses. The association between strength and the Black woman appears established, with little room for women to escape its impact and resulting in internal suffering for them. This sets the scene for how Black women may feel when preparing and entering motherhood and the extra pressures put on them.

Stereotypes in Western Society

All participants touched upon the stereotypes that exist regarding Black women. There was consensus that Black women are seen as “strong and they can handle pain” (Joan, pg15) and that “black people don’t usually require pain relief because they believe that pain makes them stronger” (Janet, pg18). Joan spoke about the transgenerational trauma experienced within the Black community and how black ancestors “couldn’t show weakness, you had to be strong” (Joan, pg4) resulting in “no empathy for Black women in anything” (Joan, pg15) due to the “stereotype that is out there about Black women being strong” (Angela, pg17) and “never as emotional as the other races” (Joan, pg4). This suggests that Black women may hold their pain and distress internally, an adaptive strategy passed through generations. Some participants touched upon a shift within the Black community regarding these deeply ingrained stereotypes: “Yes, we carry it well, doesn’t mean its easy to carry it” (Joan, pg4) implying a need for change and acknowledgment from others.

Fears of Having a Black Boy

Three participants expressed concerns regarding having a son. Tanisha shared how “the idea of a boy is a little daunting” (pg11) and how “as a mother, like its different raising a son and worrying about that” (pg11). She follows this up by saying: “What kind of boy we’re gonna have, to kind of usher him in the direction of, or mould him into, because of the way society receives Black boys, Black men” (pg11). She refers to the pressure black mothers feel for their sons ‘fitting in’ to society in the context of the widely held negative stereotype of Black males and the fear that her son will be born into a system which is already against him. This fear was shared by Janet: “For him as a Black male… like what kind of experiences will he have?” (pg5) and how this ultimately increased her anxiety: “there’s just so many things I’m already worried about” (pg5). Similarly, Cheryl shared her need “to be extra careful” (pg5) to “give him the best chance so he gets to survive” (pg5). These extracts show a real sense of fear regarding the pressure of shielding Black boys from negative outcomes. Cheryl referenced the statistics for Black males in London: “Being a Black boy in London… you’re 24x more likely to… die by the knife” (pg12). She spoke about her denial following the gender identification scan:

> I was like 'no, I'm going to have a girl' you know because I was speaking to someone and thinking yeah maybe she got it wrong, like I'm going to have a girl and I'm not going to play with it any mind…I was like yeah, in denial (Cheryl: pg10).

It appears that this strategy offered Cheryl temporary relief from the worry of raising a black son. “I guess it just meant that I don’t have to worry about knife crime and all those things you know, if it’s a girl” (pg12). This anxiety seems to have a long-lasting effect during pregnancy and continuing into motherhood.

Cultural Assumptions about Black Women

The widely held stereotype of Black women as strong appears to prevail in most cultures. Western society views Black women as stronger and this narrative is equally maintained by most Black cultures. Thus, Black women are restrained by this double-edged sword. Joan described how her culture views Black women:

> It’s almost like a warrior wound, I think, especially within the Black community. Black women are always seen as you know, when they suffer … that's where their glory is. So, it's like, that's the same with motherhood, these 'Oh, when you suffer in motherhood', 'Oh you're the greatest mum, because you suffer for your kids'. It’s almost like suffering is a part of the narrative for Black women. I just think that's what they expect of us - that Black women, we suffer. And you know, we suffer so well. So, you know, it’s almost like we've got a superpower - Black women can handle pain more than the other women. Because that's almost how we're honoured, do you get what I mean? (Joan: Pg3).

Black female identity appears to be tied to the ability to handle pain: “Unless your arms falling off, we keep going” (Charity: pg8). This was supported by all the participants who described the importance of maintaining strength, e.g.:

> I've learned not to make a fuss… There's a sense of 'Firm it, get on with it'. Like this is nothing! If you're whining over this stitch feeling, what you gonna do when you are actually giving birth? So, all those stories that made me assume that you have to have a level of strength… Yeah, it just made me think 'Get on with it and don't make a fuss'. (Charity, pg9)

There was a real sense that this was an assumed identity that Black women were expected to live up to and maintain, reinforced by their culture. Cheryl shared how this belief was reinforced by her mother:

> She [Midwife] was really disrespectful and stuff. And my mom [laughs] was like, she's disrespectful, because I didn't comb my hair. [laughs] Sorry. She's like your appearance determines how somebody treats you… the way you keep yourself, the way you look, your appearance, determines how someone may treat you… And she's like, 'Yeah, you see, I told you to do your hair before you give birth'. [laughs] And the lady speaking to you like you're nothing, you're nobody... (Cheryl, pp18-19)

Many participants spoke of Black women denying their own needs, e.g.:

> I think inadvertently, what happens is that you end up denying your needs and thinking about just accepting what is and that it's easier to just accept what is then it is to fight and to battle for what might seem like so basic. (Charity, pg5)

This potentially influences how women feel about advocating for themselves, particularly if this makes them appear vulnerable.

Theme 2: "That's Motherhood"

The societal and cultural narratives described above influenced participants' perspectives of themselves as Black women which in turn influenced how they saw themselves as Black mothers. The next theme touches upon their experiences of motherhood, including self-preservation and personal sacrifice.

Pretending that I'm alright

Participants spoke about the need to "balance strength and vulnerability" (Charity, pg24) and to "maybe keep up an appearance or look like it's okay" (Angela, pg19) particularly with her husband, "trying to keep that 'everything's okay'" (pg8). Charity described how she did this with healthcare professionals, "played down through language, maybe because I didn't want to really appear so anxious or worried" (pg8).

Participants described the need to have sturdy defences to help maintain a sense of self-preservation. For example: "I tend to tolerate quite, quite a lot" (Janet, pg6) owing to "a tendency to adopt like a strong mindset of getting on with things by myself" (Janet, pg3). There was a sense that pregnancy was not an excuse to stop coping, e.g.: "being pregnant doesn't stop me from being able to do all the things that I wanted to do" (Janet, pg3). Similarly, Charity still wore her high heels throughout pregnancy with "people often commenting on how strong… I was" (pg8) for doing this. Peer acknowledgement here may have been interpreted as rewarding, validating Charity's ability to maintain strength.

In contrast, Joan spoke of the difficulties she faced maintaining a strong image: "It was hard that I didn't see my friends because I almost isolated myself. Because I didn't think I was going to be positive" (pg22). The need to appear outwardly fine was viewed as crucial; therefore, failure to achieve this reluctantly led to isolation. Emphasis is placed on "not really wanting to make a fuss" (Charity, pg2); the role that Black women have become accustomed to. Angela further recognised that she was entitled to feel and communicate pain but felt unable to. Her choice of words to describe this illustrates her difficulties in connecting pain or distress with her own identity: "You are entitled to be in that feeling in that moment, but I didn't think I did. I felt like I had to just… yeah" (Angela, pg17).

There was a fear that sharing concerns with professionals may appear weak: "Will people think that I don't know what I'm doing, that I'm incompetent?" (Charity, pg10). Appearing incompetent was viewed as a risk to the self-composed image of a Black woman. Here, we see Charity battle with trying to keep her anxiety hidden and how this leads to anger and upset:

> Am I being dramatic?... There was something about me playing down what I was going through. And it wasn't until the nurse was like, 'Well, how long have you been worried about it?' And giving language to an experience that I was, I guess, trying to just get on with. And it was actually really upsetting to, to name it, and to recognise how worried I was about it, rather than suppressing it. And I noticed myself even like, feeling quite frustrated with her for making me name it. Because there's something almost about when you say out loud, it makes it real. (Charity, pg9)

The battle between emotional suppression versus acknowledgement appears to be an ongoing struggle for Black women who have been taught to showcase composure and self-containment.

Sacrifice

Despite there being a sense that motherhood was the “greatest title you’ll ever wear as a woman” (Joan, pg2), all participants spoke about its sacrificing nature. Tanisha shared how “you do everything, you sacrifice everything for your kids” (pg3). This belief was largely observed from their own communities, which reinforced the idea that motherhood requires sacrifice. Charity stated:

> That's what I witnessed my mom doing. She didn't ask for help. She got on with it. So, it was almost an assumed role… So, there was a real sense that this is the responsibility that you just do. That, yeah, that sacrificing nature and sacrificing in a different way. (Charity, pg6)

She continues describing how sacrifices are felt on a physical and mental level:

> And in terms of what was modelled around me, there was it's always the mums that were kind of running around looking after. It was also the mums who were making the sacrifice, the career sacrifice, it was the mums making the - Yeah, they were the ones that was always looking raggedy, the moms, the guys would be all dressed up, etc and the moms would have been the one who'd either let themselves go a little bit… So, for me motherhood means sacrifice, on a physical level, what you do with your body, but also on a mental level in terms of what you prioritise… Like, if you even think about, like Maslow's hierarchy of needs, the child's whole hierarchy of needs come before your even first level of need and that sense of that 'where am I on this list? (Charity; pg5)

Emphasis is on how all-consuming the mother role can be. Motherhood "is hard work" (Janet, pg4) and due to its constant demands, the mother is lost within this. Cheryl agreed; "he has to come first, and everything is after" (pg2) and how "you definitely put the kid first and you make a lot of sacrifices for the kid" (pg4).

That's motherhood" (pg27) was a common phrase Joan was exposed to. Responses to complaints or difficulties were greeted by: "be quiet, don't want to hear it, like why are you complaining?" (Joan, pg27) and "that thing of 'I suffered, so you suffer'" (Joan, pg2). The normalising of pain perpetuates the narrative that "we [women] all suffer" (Joan: pg2), preventing mothers from feeling able to be vulnerable and share distress: "I didn't really complain but I was really, really struggling (Joan: pg2).

Tanisha spoke about her exhaustion post-birth and how energy-depleting this felt (pg17). Janet described how "I do feel like it was a lot of me" (pg22) and how isolating this felt: "I felt like I was in it by myself at that point, because it was just me awake all the time" (pg22), referencing night feeding. She touched upon the need for support but feeling unsure how to obtain this. This was a similar theme discussed by Joan:

> Motherhood, it's not about you anymore. No one cares, it's about your daughter… Yep, your child's just gonna put you through it and you just got to deal with it because that's what you do as a mother… So, it made me feel like I had to soldier on and if I didn't soldier on or I said I couldn't cope, then I'm not adhering to what I've been told that motherhood is… So, I was like, I know exactly how this happened. [Yeah] I paid a part in it. So, this is what it is. I can't complain. (Joan: pg26).

Here, Joan describes how sacrifice and pain are part of motherhood. Thus, talking about difficulties may be seen as weak, incompetent, and self-blaming. Consequently, psychoeducation on emotional well-being is largely ignored: “not too much emphasis on how you maintain your wellbeing” (Tanisha: pg3).

Asking for Help

Charity spoke at length about the constant dilemma faced when thinking about help. Although this was only reported by one participant, it felt important to include due to its links with the stereotypes and cultural assumptions placed on Black women’s ability to be vulnerable. Charity shared how asking for help was a “new experience” (pg4) and reflected on how “this should be easy, but it’s really hard” (pg6).

The focus for Charity was to maintain her identity and sense of independence. She referred to finding proactive ways to ask for help, including: “I’m doing it for the baby” (pg4) and “my midwife says…” (pg24). These provided ways to seek support without compromising her own strength: “It helped me graciously accept support and not feel like I was challenging too much my own identity… the values I hold and kind of being strong and being independent” (pg4).

Theme 3: What makes ‘good’ support?

The support mothers received throughout their pregnancy, birth and post-birth had a significant impact on their overall experiences of motherhood. The next theme touched upon the different layers of support available and how these contributed to their overall experience.

Family Support

All participants spoke about the level of support their families offered them throughout their pregnancy and birth. Support received exceeded that experienced outside of pregnancy: “probably most supportive-like experiences in my life” (Charity: pg12). Charity “noticed that people were a lot more caring… people were very protective” (pg3) and that “people going above and beyond which was really helpful” (Charity, 23). This increased support was received positively for Charity, particularly in the aftermath of labour: it “had helped me to feel seen, heard, help me to process some of what has gone on…” (pg23).

Practical support from family members was met with gratitude. For example: “I didn’t feel worried I don’t think because of my support network” (Janet, pg7). Support “took the burden off without me having to speak about it… reduced the mental load” (Charity: pg25). Angela felt the emotional support was needed but was lacking from her spouse: “the understanding to sit and hear me if I wanted to just vent on how I was feeling emotionally” was absent (pg7). Tanisha also had a desire for more emotional support from her husband to feel “more understood or even more validated by him" (pg9).

Cheryl, Janet, and Joan all spoke positively about their mothers being supportive and available to offer practical support: “my mum just came and saved the day” (Joan: pg8).

Family members were seen as important in advocating for participants’ needs. For Tanisha, she felt her spouse was “pretty capable of… advocating for my needs” (pg16), whereas Charity described feeling let down by her family during her traumatic birth:

> I feel like you really need advocates. So, I didn’t know why my family didn’t advocate… you’re here to advocate for me and you’re standing watching this happening to me… It felt like watching someone being tortured and just be like ‘I can’t do anything about that’. (Charity: pg15)

Cheryl shared her experience of being in a biracial marriage and the support she received from her extended white family. She was concerned that she may be perceived to use “the race card” (pg27) or her husband may see her as “a drama queen… really sensitive” (pg27). Therefore: “… it just makes me feel like my voice is not being heard… I’m voiceless” (pg27)

Support from Others

The perceived usefulness of interacting with other mothers appeared to depend on ethnicity and familiarity. If the women were friends, this was received positively. For example:

> One of my best friends, she gave me so much advice in terms of labour, because she had done it… And she gave me so many tips that when I was actually in labour, she was just in my head… So, I always say to her, you don't even realise how much you helped me. (Joan: pg8).

The feeling of connection was also important for participants outside of friendship groups, where they sought to find someone who resembled or understood their experiences. Support from Black women provided this, a sense of belonging: “I was part of that” (Angela: pg8) and for Angela, she felt “more empowered throughout my pregnancy” (pg8). Tanisha found comfort in knowing that other Black women were having traumatic experiences:

> It was a revelation… felt quite validated…That there are loads of other women that go through this. It's terrible that there were loads of other women that go through this. But it wasn't just me, I wasn't making this up... And it wasn't, it's not necessarily personal to me. (Tanisha, pg6)

For Tanisha, she felt comfort that her experience was a shared experience amongst her ethnicity, shifting her understanding of it from a personal matter to a shared one. Cultural identity was a powerful connecter providing safety and belonging: “its people that you know, are from my community and understand” (Janet: pg10). In contrast, being in white spaces made Janet feel uncomfortable:

> Being in white spaces can be really like unsettling. Feeling… like you don't belong or like, you're not worthy of a spot there, or you're not good enough. I think the theme runs across throughout… we don't always label it… but there's always going to be more of like discomfort when you thinking about it. (Janet, pg10)

Similarly, Angela stated that pregnancy, “it was a little bit… isolating” (pg3) when discussing her attendance at antenatal classes. She “always felt a little bit different and maybe inexperienced” (pg3) when compared to her white counterparts. She felt this may have arisen due to “being outnumbered” (pg4) and that “there wasn’t someone speaking whose voice resonated with me and my experience” (pg5). Overall, there was a general sense that participants felt more supported by people they could relate to, whether it be someone they know or through cultural identity.

Religion

Charity, Joan, and Tanisha described themselves as religious and identified this as an internal coping tool to manage anxieties. For example, Tanisha described a sense of containment and sharing responsibility to keep her safe onto God:

> "Even if the doctors don't know what's going on with my body, God's got me, God knows what's going on. And just believing that he'll get me through this, heal me or help me. So that was kind of containing" (Tanisha, pg10)

Charity found that "prayer was a way of buffering me against anxiety around the unknown… so prayer grounded me" (pg3). There was comfort in knowing that God was on her side: "I know God wants the best for me and… using that to help relieve some of the anxiety or the pressure of me feeling full responsibility" (pg3).

In times of distress, Joan turned to her faith for reassurance: "I genuinely believed that was a sign from God in that moment… I felt at peace, the fear, everything and that I was feeling for months had gone". The use of spiritual beliefs can therefore act as a shield from negative emotions and religion may provide an additional layer of support for Black religious women.

However, it’s important to consider how women may feel if trauma is experienced and support from God is questioned. Charity felt “extremely disappointed in God” (pg18), due to the belief that she “always felt like God was solid and then now all of a sudden, that’s being questioned?” (pg26). Charity placed God on a higher tier to herself and described how “God is a representation of like authority and in my family, authority is what you don’t challenge” (pg26). Consequently, “you can’t be angry” (pg26) with God, leading Charity to deny herself such emotions. She reflected on the internal battle she subsequently faced with God, seeking understanding to why he allowed her to experience trauma. Consequently, self-blame: “did I pray hard enough? Did I? Did God abandon me in that bit? Or did I do something?” (pg18) arose due to being denied the expression of anger. This resulted in a “real sense of feeling left alone and that meant left alone from God as well” (pg18).

Theme 4: The Black Experience of Maternity Services

Finally, participants’ experiences of services were discussed. Participants described aspects of care that were helpful as well as some of the flaws.

Good vs Bad care

Participants felt positive about their care when “staff were attentive… didn’t make assumptions, who didn’t assert their power” (Charity, pg22) and listened, “trying to cater to what I wanted” (Angela, pg9). When staff dealt proactively with health complaints, Joan felt happy that “they didn’t ignore it”, seeking clarity “to make sure [she] was okay” (pg17). This allowed her to feel cared for during a time she was “really, really struggling” with feeling “seen when I felt like no-one else did” (pg10).

Positive birthing experiences were shared when participants felt in control. Tanisha described how her birth plan was largely followed "so it felt like I was kind of in control of what I wanted" (pg9). Angela felt in control during her home birthing experience as midwives "had to ask everything so that put the onus back on myself or my family" (pg12). She described how she "felt straight away a major difference between the health professionals coming into your home as opposed to you going to their work environment." (pg11), as she felt "in control of it" (pg12). Angela stated: "key factors of my second birth, felt in control. Felt like I was birthing my baby, it wasn't happening to me" (pg12). Thus, empowering mothers to be active participants in their birthing experience appears to induce a sense of control.

The presence of Black healthcare staff had a significant impact on how comfortable participants felt within the larger health system. Tanisha described how statistics revealed that "having a black doctor or midwife in that team makes a difference to the mortality rates" (pg12). Tanisha recalled it "feeling like you have this kind of ally there" (Tanisha, pg12), echoed by Joan who shared how her Black midwife helped advocate for her: "you will not talk to my patient like that, you will greet them with respect" (pg16). In addition, Charity described how she felt "connected at a time where I guess it feels like you're physically vulnerable (pg11). Having a Black professional may allow participants to "articulate how much it [symptoms] impacted on my worry" (Charity, pg7) and "how to support me to get something from it" (Charity, pg7).

Black healthcare professionals were trusted, as Charity describes: "Absolutely, I was being seen… I don't have to fight for myself. Someone is curious" (pg20). Joan echoed these thoughts, stating that she: "naturally… felt more comfortable because she was a black midwife… I felt seen" (pg10). There was a sense that black staff "represented more than just a nurse" (Charity, pg7), "she could be my auntie" (Joan, pg16). Janet felt care should be "from someone that is from your community… someone that… understands your experiences" (pg8). This would allow clinicians to "hold in mind the traditions" (Charity, pg11) from ethnic minority groups.

Despite the many positives of receiving care from Black healthcare professionals, both Charity and Cheryl touched upon negative experiences. Charity felt more pressure to adhere to the narratives about Black women "being strong" (pg9) because she was with another Black woman: "it almost made me feel like I had to be strong and be like 'No, no, no, I'm fine'" (pg9). Cheryl experienced harsh treatment from a Black professional. Her interpretation of this was: "sometimes we do treat other people better than how we would treat ourselves… we have that perception that others are better than us so therefore, we'll treat each other like rubbish" (pg19). Both perspectives touched upon the cultural standards of how Black women should be, and the scrutiny received if you fall short of this.

Participants repeatedly felt neglected when interacting with healthcare services. "I felt at the time, I was neglected… neglect from the professionals and not knowing anything" (Janet, pg21). Tanisha described how her care was "really neglectful" which led to delayed treatment causing her to "feel even more kind of infuriated, ignored" (pg4). Janet described how the absence of an "allocated midwife was a big thing for me, because I just thought its meant to be a really special experience… I didn't feel special" (pg21). Consequently, Janet felt "like a spare part" (pg6) and felt like "no-one's really invested in my care" (pg6).

During labour, Janet felt abandoned: “I was just left there, like they just left me” (Janet, pg12) as “no-one checked” (pg15). Furthermore, pain management was not managed, which left her feeling like “they were trying to keep me from having pain relief” (pg11). This theme continued after birth where she described how professionals “left us [baby] like they just left me” (pg19).

Cheryl felt “the service was rubbish” (pg20) due to there being “no follow-up” (pg21) in the community. This was in line with Janet’s desire for “continuity of care… something that should be across the board” (pg8), instead of care being “more reactive” (Janet, pg9). Negative experiences of care made Janet feel “robbed of my experience” (pg21) as she “literally resigned to not having any professional support in the end” (pg26). Similarly, Cheryl wanted “more reassurance” (pg22) and feels that “if I did have those reassurances and stuff from the professionals maybe I wouldn’t have to go psychotherapy” (pg22).

Another area of difficulty for participants was the lack of education and information provided, to prepare them for motherhood. Participants who were first-time mothers expressed “being very, very like anxious” (Cheryl, pg21), requesting better resources to prepare for labour. Without this, participants felt like they had to “try and research it” themselves (Cheryl, pg21). Joan described how: “when your a first-time mum, you don’t know what you’re walking into” therefore, it’s “so much more scary because you ain’t got a clue.” (pg15). This feeling was echoed across all first-time mothers for example: “Oh, is this normal?” (Cheryl, pg21), “how much pain am I meant to be in?” (Janet, pg11).

Despite experiencing difficulties within the healthcare system, participants were not inclined to complain. Charity described how she viewed this “as a ‘Karen’ move”, referencing how this is what the typical white, upper-class woman might do. She appears to be distancing herself culturally from the white race, portraying herself as being more able to handle mistreatment. She had no faith in the system for change: “maybe this isn’t challenged because it’s standard” (pg18). Janet felt the absence of an apology for her mistreatment showed how the healthcare system viewed her experience: “I should have had some form of apology if they were bothered. But they weren’t” (pg31). Another reason for avoiding the complaints system was fear of not being believed:

> I didn't put in a complaint. I thought about it. And it's almost like, the more time I took from it, the more I felt like I'd be a nuisance for raising it. I felt like I had to, if I was to make a complaint, I'd have to prove what, how the extent and I'm like, a lot of the stories are very subjective. And will people take a subjective experience seriously. (Charity, pg18)

This was mirrored by Janet:

> If I’m honest, I couldn’t be bothered… I just wanted to get on with it… I don’t think it would have been taken seriously. I think I would have just felt like a nuisance… I think that is definitely something that comes from the colour of my skin, and you don't feel like you're entitled to speak up and say where things have gone wrong. (Janet, pg30)

A Sense That I am Being Treated Differently

“I think being a Black woman influenced the way they spoke to me” (Cheryl, pg17) was a common theme across all participants. The sense that if they were white, they “wouldn’t have been treated like [they were] a slab of meat" (Charity, pg22), which subsequently led to feeling like care received was unjust: "this is not the treatment I feel like I deserved" (Cheryl: pg20). Participants felt that racist behaviour was due to negative stereotypes regarding Black women's strength. For example, Charity received a "cold reception, kind of treat me like you're just kind of a piece of meat and get on with it" (pg15) and described a "real roughness" (pg15) with care received. Joan felt compassion was only shown "after I had been crying" (pg15). Janet was denied gas and air throughout her labour, with no alternative pain relief offered. She felt that her skin colour influenced this: "I do think that the pain relief situation was because of that, because I've never heard of someone being denied gas and air" (pg18). Charity felt professionals held "an assumption around my strength because I'm black" (pg21). Angela remembered subtle comments from paramedics "saying you don't look like you've just had a baby" (pg16) and the lack of support from them reminded her of how Black women are viewed: "not looking maybe like you are vulnerable or like you are in discomfort" (pg17). Charity described feeling powerless during her labour, with "people kind of standing around, just kind of watching. No-one's speaking out… everyone could see the pain, but everybody was just silent… no-one was challenging that" (pg15).

The above quotes depict the consequences of stereotypes on Black women and inadequate pain management during childbirth. In addition, Joan felt deceived:

> That's an experience of how women are five times more likely, because it's, you think that they're giving you the best care because that sounds supportive. But it's like you could give me something that could make this less painful. (Joan: pg15)

Doubts about the quality and responsiveness of the services led to anxiety: “I’m going to die on there because these lot aren’t going to take me seriously” (Joan: pg6). Tanisha, felt that “these people aren’t listening to me, they don’t know the full picture.” (pg7). Fear of not being heard significantly heightened participants’ concerns. Not being listened to created a “sense of vulnerability” (Tanisha, pg6), and helplessness during a distressing time:

> I was pushing my hardest, but she kept saying push harder, harder… I just felt like she was not listening… I am in so much pain. I am pushing, trust me I am pushing… if they listened at the time he turned… I could have avoided all that pain. (Cheryl: pg13)

Some participants described being “very, very passive… really defeated” (Joan, pg6), potentially leading to surrender. Cheryl described how she didn’t feel believed, which created an overwhelming sense of helplessness:

> The amount of pain I was in and the way they weren't believing me, I actually was ready to die. This is how I felt… I'm in so much pain. No-one is helping me. I didn't know what else to do… I literally thought I was dying. And I actually made a right to myself to be like, 'Okay, that's it'. I'm not going on, that's it… maybe I'll just bleed to death or something. That was just it, I, I accepted it, I would have died there. (Cheryl, pg16)

The overall sense was that participants felt ignored, which led to feeling powerless. Tanisha stated: “with the healthcare system, I feel like as a Black woman I was ignored” (pg3) and the ability to confide in healthcare professionals was compromised: “I wasn’t about to put myself in another situation where I’m saying something to these white women who seems very uninterested in what I’m saying, quite frankly” (Tanisha, pg21). Tanisha’s frustration is felt in this quote, signalling sheer exhaustion of trying to be heard. Moreover:

> I didn’t feel supported by her… The fact that I didn’t feel listened to by her or like she really cared about the state of my body just made me feel like you really don’t care about the state of my psyche either (Tanisha, pg9-10)

Trauma and Consequences

Participants all spoke about traumatic experiences and their resulting consequences. For example, the imminent fear of death: “I remember thinking I’m going to die, one of those statistics” (Tanisha: pg15) and the need to ensure that if their partner was faced with the ultimatum of whether either their wife or their child must live, they would choose their child: “if they have to pick somebody let it be our daughter” (Joan: pg10). There was a general sense that participants were accepting of death due to feeling helpless and depleted: For example: “I didn’t feel panicked” (Tanisha, pg15), “I didn’t feel scared” (Joan, pg10) and “I just felt delirious” (Janet, pg13).

Participants disclosed feeling traumatised by the birth, and shared feeling let down by healthcare professionals. Charity summed this up:

> When you assume that they [clinicians] hold the knowledge, that you assume that they're doing things from a 'no harm' stance, you assume that... Yeah, they're just, everything they would do would be right and ethical and considerate. But that's not what I was feeling in that moment. (Charity: pg16)

The need to adopt “survival mode” (Joan, pg17) was felt by participants. There was a sense that staff care was unpredictable and at times cold, making the birth experience more traumatic. Tanisha felt that some staff were “mission-focused… but those who were warm really made a difference” (pg15). Of the former, there was a sense that staff weren’t “warm or relational… very mechanical” (pg16), and that despite being in “so much pain… no-one was coming” (Janet: pg16). Charity discussed the psychological impact of this, particularly how she wished “that there had been more mindfulness around the psychological experience” (pg16). She described:

> I felt more exhausted because I felt like I constantly had to be on high alert. But what was really interesting is that they periodically would come and take my heart rate, my blood pressure, and my heart rate was always elevated every time they walked in, it elevated. And it was almost a sense of ‘I'm in fight or flight mode’… because there's a sense of, if I don't either speak up or get ready, I don't know what's going to happen. And I need to kind of be ready to advocate for myself or to challenge something or to get ready to defend a point (Charity: pg19-20).

Participants described the impact of birth on their postnatal well-being. Tanisha described how “no-one validated” (pg19) her experience, stating: “I think people around me definitely took that for granted in that it can even have an effect on me” (pg19). The stereotype of Black strong women re-emerges with the experience of birth trauma being ignored.

> I think it amplified that erm [pause] the baby blues type period. To the point where I was like, actually is this baby blues or is it more? So, I just noticed myself being reminded of those, Yeah, kind of re-experiencing that bit about the stitching… literally it was like helplessness. That's what I remember. And how that impacted on my sense of feeling able, ready as a parent. That sense of 'Am I helpless?' (Charity, pg17)

The lack of acknowledgement that she had experienced trauma made her question her ability to parent. Consequently, this forced Charity into the ‘superwoman’ mentality to ensure her daughter’s best interests:

> I also noticed that I ended up advocating even more for my daughter… I would be like, that's - what happened to me is not what's going to happen to her… And I just noticed myself kind of being influenced by that in an attempt to protect her from what I experienced, or just… the importance of speaking up. It did give me a sense of feeling very lonely… just in the sense of, if I don't do it, who's going to do it? So, it pulled me back into that Superwoman type mentality... So yeah, psychologically, it's kind of reinforced the need for me to be stronger, more assertive, to not depend on others, to be clearer. (Charity: pg17)

Tanisha described how undiagnosed post-natal depression “impacted the way I kind of bonded with baby… in hindsight, I think I had postnatal depression. It’s not something I would have said” (pg18) and instead, at the time, she rationalised her symptoms by stating: “of course I’m physically tired”, “no wonder I’m feeling a bit low, so obviously I’m feeling a bit crappy” (pg19). These statements arose when questioned by her husband; again, the need to protect her self-image of being a strong, Black woman was key.

Like Charity, traumatic birth experiences led Tanisha to be mistrusting of professionals and influenced how she felt about accessing healthcare support: “Even now when I go to the GP and I’m quite mistrusting… cause I’ve experienced it before where they didn’t listen and they messed up” (pg18). Furthermore, this created fear and anxiety regarding future pregnancies.

Joan kept returning to the statistics regarding Black women’s maternity outcomes and how this had a significant negative influence on her experience of pregnancy:

> I think I always go back to that, this statistic, that Black women are five times more likely to die in childbirth. Think about the anxiety that brings and even when I think about having my next child, I worry about that, because I'm like 'Oh, I might have made this time, [Yeah], but what about the next time? And I feel like there needs to be some sort of support to break that down… And you've already got the normal worries, like is your baby okay?... And then you add, because I'm black, I could die in childbirth. That's just like another, like, another layer. We need support around that. We need something to say why is that? How can we break that? (Joan, pg13).

Discussion

Limited research on Black women’s experiences of pregnancy and birth has been documented. This study aimed to contribute to the existing body of knowledge through qualitative data, providing rich descriptions on how societal and cultural narratives influence their lived experiences of pregnancy, birth, motherhood and maternity services. Four superordinate themes were identified.

Findings

Current findings illustrate how societal and cultural beliefs left Black women feeling trapped, consumed by the narrative that their identity is tied to strength. Participants touched upon cultural expectations requiring them to be strong, reinforcing the message that pain is their superpower. The importance to maintain strength was central and consequently, participants learnt to inhibit emotions and maintain a calm exterior. Therefore, acceptability to discuss difficulties presents as a challenge (Watson et al., 2019) due to the ongoing stigma attached to mental wellbeing within Black communities (Watson et al., 2019). Although the prevalence of perinatal mental health difficulties amongst Black mothers has been highlighted (Megnin-Viggars et al., 2015; Prady et al., 2016), the need to maintain strength and self-containment deters help-seeking behaviours. Furthermore, Black women may have limited resources to support their mental health as emotional self-care may not be viewed as important (Watson et al., 2019).

Black women's (and especially Black mothers') suffering may be met with little sympathy by Western society or their own culture. This appears to have a strong psychological impact, forcing Black women to adopt the "Strong-Black-Woman" mentality (Edge & Rogers, 2005) as an internal defence. An extended part of the Black mother's identity appears to demand that they sacrifice themselves, with the burden of care and responsibility falling squarely on their shoulders. Seeking out help is therefore not an option. The stereotype continues to trap Black women in a resilient, self-contained narrative; able to cope with adversities, neglecting their own needs as they enter motherhood. Thus, hardships experienced during this transition period appear to be perceived as a normal part of motherhood (Edge, 2013; Watson et al., 2019). Psychological stress during the perinatal period was additionally caused by the anticipation of gendered racism[4] towards participants' infant sons (Jackson et al., 2001).

The issues discussed above influence how Black women experience maternity services. Current findings mirror previous literature and identified themes, including poor physical care, lack of compassion, fear surrounding pain, discomfort and uncertainty (Edge, 2011; Redshaw & Heikkilä, 2011). Black women viewed health services as fragmented, and felt they were neglected and dismissed, reporting negligent care (Watson et al., 2019). Mistrust in professionals consequently forced them to become more self-reliant (Edge & Rogers, 2005; Fernando & Keating, 2008). Furthermore, participants felt their pain management was influenced by hidden biases within the healthcare team (Davis, 2019; Meghani et al., 2012; Morris & Schulman, 2014), which left them feeling powerless, no longer the expert in their own experiences.

To help buffer participants' negative experiences, family support was perceived as important. Participants appreciated when support was offered with physical tasks as they had difficulties asking for help (Edge, 2013). When family support was offered, participants felt this acknowledged and validated their suffering. Importantly, family members were seen as essential in advocating for participants' needs during the birthing experience. Support from other Black women provided connection, with shared cultural views and customs. Furthermore,

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[4] Gendered racism: The combination of racism and sexism to describe the intersectional experience of both forms of oppression (Jackson et al., 2001)

validation and solidarity in the experience of Black maternal care provided comfort. In contrast, support from white women (e.g. in support groups) was met with hesitancy, and left participants feeling uncomfortable and inferior. Spirituality acts as a significant moderator between adversity and negative psychological distress (Bowen-Reid & Harrell, 2002), used as an internal support mechanism for some of the participants.

Clinical implications

The narrative and biases surrounding Black women's strength should be considered by healthcare professionals. Staff training on how to notice and spot distress that may be atypical to Western displays of pain should be introduced to ensure Black women's symptoms are being detected in a timely manner. Being culturally sensitive in how language is used when interviewing Black women may overcome some of their inhibitions and allow them to report on pain and anxiety. Additionally, how recommendations are phrased may allow Black expectant mothers to accept them more easily. For example, self-statements such as "I'm doing it for the baby" allowed participants in this study to communicate their needs and accept help.

For Black women who receive maternity services, it appears crucial that they feel empowered. Participants in the current study reported on how being informed, in control of their birth and their symptoms being heard were important factors which could result in positive birth experiences. Transparency and regular communication could support this, as well as ensuring regular reviews of patients, particularly first-time mothers. Alongside this, having family members (maternal mothers and/or spouses) and staff to advocate for them appeared important. To support this, good rapport between mother (and family members) and professionals should be established, to allow for the development of trust. This can be supported by professionals being familiar with birth plans and maternal wishes, being patient and checking in with the mother and her emotional needs regularly. Fathers were relatively absent from the narrative; this may be representative of the cultural and traditional roles seen within Black families, where Black women internalise suffering. Sensitivity on how to involve fathers needs to be considered from both healthcare professionals and psychologists, mindful of the ‘strong-black-woman’ narrative and how this may unintentionally act as a barrier. Emotional support was often something participants wanted more of. Support from a psychological perspective on how to encourage staff within maternity services would be advisable (e.g. rephrasing statements, non-threatening alternatives to care-seeking), whilst holding both systemic and cultural frameworks which govern the Black woman identity.

Limitations

Although this study provides exploratory findings relevant to Black women, many cross-cultural differences between various Black cultures exist (e.g. whether people have African or Caribbean heritage) and therefore, subtle differences may have been lost during the analysis. Additionally, differences in religion, birth country (e.g. British born), and extent of integration with the majority population will also influence a Black mother’s experience of the perinatal period. This study was unable to specifically explore these variables. Future research may consider and systematically explore such differences amongst different Black communities.

In addition, all participants were married and completed higher education (university degree). Therefore, caution should be taken when generalising these findings to Black women from less privileged and stable backgrounds. Five participants self-reported a traumatic birth and therefore, there may have been a greater emphasis on the reported impact this had on their birthing experience compared to other Black mothers without trauma. However, it is important to reflect that Black women are currently four times more likely to die during, or shortly after birth (Knight et al., 2021). Thus, incidents of ‘near-misses’ and traumatic experiences may also be higher within this population, suggesting that the current sample may not be unrepresentative of the Black female population.

Recommendations for Future Research

Following the rise in attention that Black maternal healthcare has received since the publication of the MBBRACE ‘Saving Lives, Improving Mothers’ Care’ report (Knight et al., 2021), understanding how Black women are disproportionately impacted by maternal death is essential for change. Further research on critical incidents and ‘near-misses’ for Black women is urgently needed as it may inform guidelines for good practice for maternity staff.

Conclusions

Overall, findings depict the many difficulties Black women face from societal and cultural pressures which influence how they perceive themselves, and how they access support. The association between Black female identity and strength features strongly. This has significant consequences for Black women when they access maternity services. The clash between how Black women feel the need to preserve their strong image and how health professionals believe them to be coping, may potentially contribute to negligent care and therefore, dangerous service provision.

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CHAPTER THREE:

PRESS RELEASE FOR META-ANALYSIS:

Prevalence of Perinatal Post-traumatic stress disorder following birth

Word count: 611

PRESS RELEASE FOR EMPIRICIAL STUDY:

Black women's experiences of pregnancy and birth

Word count: 784

Press Release for Meta-analysis

New mums at risk of developing perinatal post-traumatic stress disorder following childbirth, latest review finds.

The most recent literature was reviewed to identify current prevalence rates for perinatal post-traumatic stress disorder (PPTSD) following birth. In 2020, there were 681,560 live births in the UK. With more awareness on maternal wellbeing, and research into maternal mental health difficulties, it is essential to know how many new mothers may go on to develop PPTSD following birth. This is particularly the case as statistics show that up to 30% of women describe birth as traumatic.

Previous reviews have identified a PPTSD prevalence rate of between 3-4% for new mothers within the community. For those women who are most at risk, who may have had traumatic births for example, their risk of developing PPTSD goes up to 15.7-18.5%, according to existing data. Furthermore, psychological problems associated with childbirth can have wider implications for the mother, her infant and her family. This can include disrupted mother-infant bonding, marital problems and delays in infant emotion regulation and development. Therefore, identifying and supporting mothers following birth is essential to minimise distress and ensure supported transitions into motherhood.

Previous research looked at the literature up until 2015. Therefore, the current meta-analysis aimed to provide quantitative estimates of prevalence rates for PPTSD reported by studies, published from January 2015 to June 2021.

To do this, PsychINFO, Web of Science and Medline databases were searched for studies reporting on quantitative estimates of prevalence rates for PPTSD. All studies from January 2015 to June 2021 which looked at PTSD, were crossed with perinatal-related and trauma-related terms to identify appropriate papers. Studies were selected according to a set of exclusion and inclusion criteria and needed to provide a statistic on prevalence rates of PPTSD following birth. Sixteen studies were included in this review, which totalled 14,054 women's data. Most studies recruited women from the general population and some studies assessed women at different time points to measure PPTSD over time. All studies were rigorously assessed for risk of bias and quality of study.

This analysis of the most up-to-date literature showed a prevalence rate of 16.48%, meaning that 1 in 6 women following childbirth may go on to develop PPTSD. In the general population, approximately 10-12% of women will go on to experience PTSD in their lifetime, with 5.2% experiencing it within a 12-month period. The prevalence rates found within this analysis are greater than both of these estimates, indicating that this needs attention.

However, considerations should be considered when interpreting these results due to methodological flaws. Studies included in the analysis had high levels of heterogeneity. This means that there was quite a lot of variance across the studies in their reported prevalence rates, which may be biased by the presence of uncontrolled or confounding methodological or individual factors. Further analysis of the data was conducted to source what may have contributed to the variation in this study's reported prevalence rate.

Across the various sources of bias and variations within this meta-analysis, there was a consistent pattern of better-quality study designs reporting lower prevalence rates. However, these were still markedly higher than the 12-month prevalence rate reported for women in the general population, who develop PTSD. Therefore, even if poorer quality studies are inflating the overall estimate of the prevalence of PPTSD, this current study suggests that the prevalence of PPTSD remains higher for women following childbirth than observed in the general population.

The prevalence rates documented here argue that more needs to be done to support women following birth. Psychological assessment of pregnant and postpartum women for PTSD may help identify symptoms sooner, allowing for better detection and provision of treatment.

Press release for empirical study

“Black women, we suffer”: Black women’s experiences of pregnancy and birth

These were the words echoed by one of six participants who spoke about their experiences of pregnancy and birth. Black women are currently 4x more likely to die during or in the weeks following childbirth. These shocking statistics have existed for over a decade, illustrating the massive health disparities which exist against Black people in the UK. Furthermore, limited research to understand why the disparities exist has been completed, leaving little room for policy and clinical practice change.

In addition, research has highlighted how important maternal mental health is, particularly as studies have recognised that women from minoritized groups are at an increased risk of experiencing a variety of mental health disorders during the perinatal period. Research has shown that Black women are more likely to worry about pain, discomfort and uncertainty surrounding labour compared to white women. Furthermore, they experience perinatal mental health services as fragmented, culturally insensitive, and dismissive, leading to inadequate care.

More information is needed to understand how Black women experience accessing services, to identify what is working well. Furthermore, the impact that social and cultural factors play in this needs to be considered. The stereotypes which exist in society are felt to create this narrative that Black women are strong, having huge complications for Black women when accessing healthcare services. Ongoing stigma and hidden biases by health professionals means that care needs are often ignored or dismissed, particularly centred around pain management.

Understanding Black women’s experiences of pregnancy, birth and maternity services is therefore essential to help address these existing health inequalities within the UK. To do this, six women were interviewed and asked to share their story of motherhood. Topics covered their experiences of pregnancy, birth and post-birth, with particular focus on support and their emotional wellbeing. Interviews lasted approximately 1 hour and were recorded using a Dictaphone. On average, participants were 30 years old, had all gone to university and were all in long-term relationships with their child's partner. All interviews were then transcribed and coded as part of the analysis phase.

Findings showed four overarching themes across all six participants:

"Black women, we suffer"

This theme touched upon the stereotypes which exist about Black women within Western society and Black culture. For example, the idea that Black women are strong, independent and can cope with high levels of adversity. These assumptions were passed down or observed within the Black community as well as common messages which exist within the UK. Therefore, there was a sense that Black women suffer more than other ethnic groups as there was a double standard placed upon them to be strong, by both society and their cultural community.

"That's motherhood"

The stereotypes about Black women which exist within society and in Black culture were found to influence participants' views on motherhood. Participants frequently described how motherhood was a lot about sacrifice, often meaning that their wants and needs were at the bottom. Participants also described the importance of appearing alright and preserving their image of strength. This meant asking for help from others was difficult at times.

Support systems

The support participants received throughout pregnancy, the birth and post-birth had a significant impact on their emotional wellbeing. Participants appreciated the physical support that was provided by family members and also regarded them as essential in advocating for their needs during childbirth. Friends with shared experiences was also another good area of support. Additionally, support from other Black women provided connection, validation and comfort, whereas support from white women (e.g. in support groups) was met with hesitancy. Finally, several participants spoke about the importance of their faith and how this was used as an internal tool throughout their pregnancy and birth.

Black experience of maternity services

Receiving care from Black healthcare professionals was often met with positivity, viewing them as an ally. However, outside of this, most participants felt they were treated differently, which left them feeling neglected and dismissed. Pain was a big factor here, with participants feeling like they weren't listened to, or pain acknowledged. Participants felt that their care from professionals was influenced by hidden biases about their ethnicity, which heightened their sense of feeling powerless. The majority of participants described experiencing trauma, and how this often reinforced the need to be more self-reliant on themselves.

The narrative and biases surrounding Black women's strength need to be considered by healthcare professionals. Staff training on how to notice and spot distress, that may be different to Western displays of pain, should be introduced. Being informed, in control of their birth and their voice being heard left Black women feeling empowered. This needs to be a priority within maternal services.

Appendix 1: Interview Schedule:

- Introduction of researcher and recap the purpose of the study
- Explain and reiterate confidentiality of the interview and space at the end if required
- Ask the participant if they have any questions before commencing the interview
- Let participant know when recording starts

These are the draft questions and may change slightly but will still be along the same topics. May talk about Covid-19 and how this has affected birth, if relevant.

General questions:

1. How did you feel when you realized that you were pregnant?
2. Was this your first birthing experience?
3. When did you share your pregnancy news with those around you? How did they react?
4. As a black woman, what have you been taught, or told, about motherhood? Has this influenced you?

During pregnancy questions:

1. What was it like being a black woman and being pregnant?
2. Who supported you during your pregnancy? Were there times you needed more or different support?
3. Did you use any of the antenatal support services, like groups? What were they like?
4. How did you find talking to your healthcare team about your pregnancy and your birth plan?
5. Did you feel that these services catered for black women?

Birthing experience:

1. What was your birthing experience like?
2. Did you feel that being a black woman had an impact on your birthing experience? How? [PROMPT: in the way you were treated, information being communicated, advocating for self?]
3. Looking back, what worked well and what was most difficult? Is there anything others could have done differently to support you?

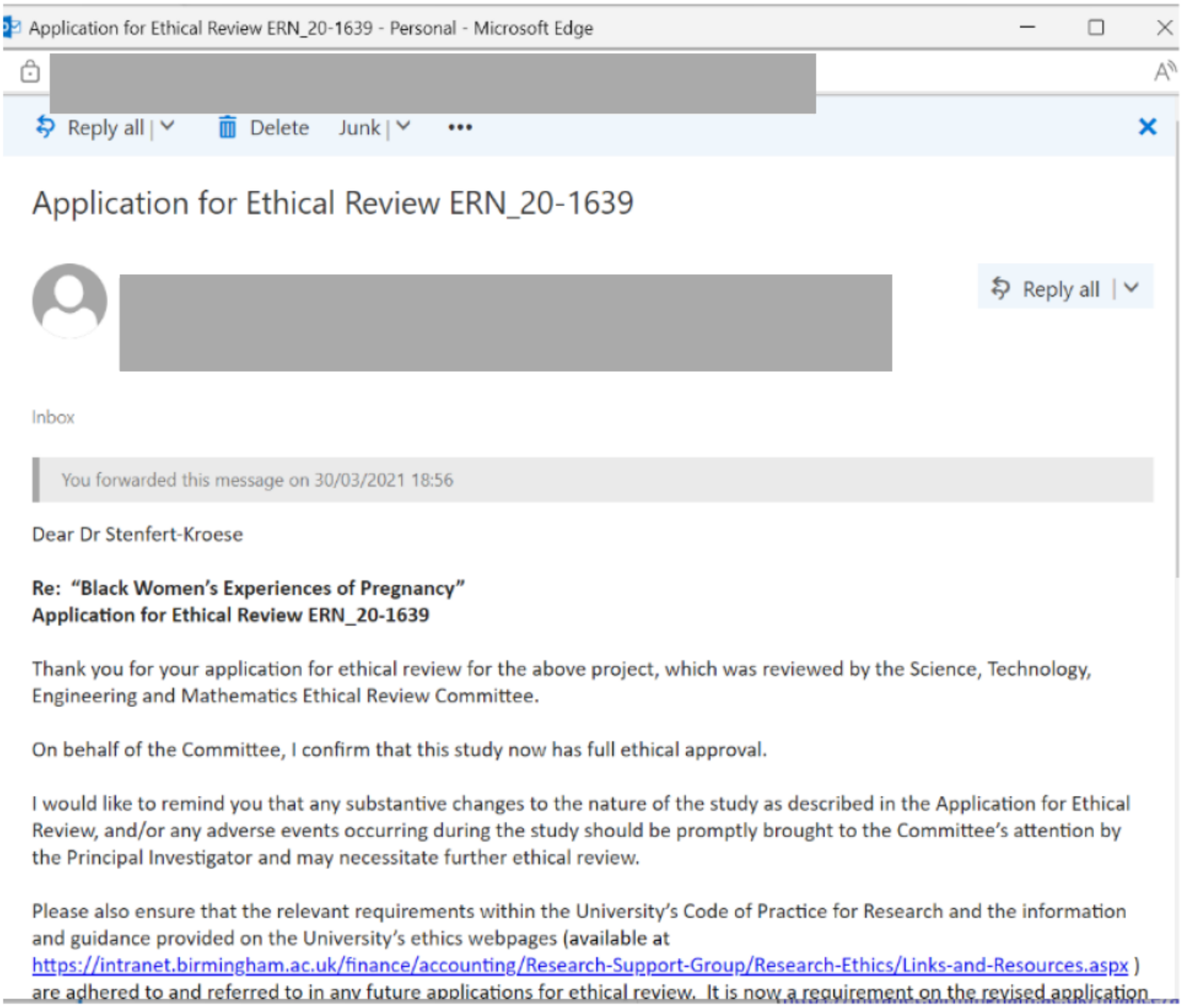
Post-birth questions:

1. What was your support network (partners, family members, friends, healthcare workers) like after the birth? Who/what was most helpful? Were there times you needed more or different support?

Wellbeing questions:

Finally, I wanted to ask about you – what types of things made you feel good or made you feel bad during your pregnancy, during the birth and after the birth?

Appendix 2: Ethics approval from University of Birmingham



[redacted]

Application for Ethical Review ERN_20-1639

[redacted]

You forwarded this message on 30/03/2021 18:56

Dear Dr Stenfert-Kroese

Re: "Black Women's Experiences of Pregnancy"
Application for Ethical Review ERN_20-1639

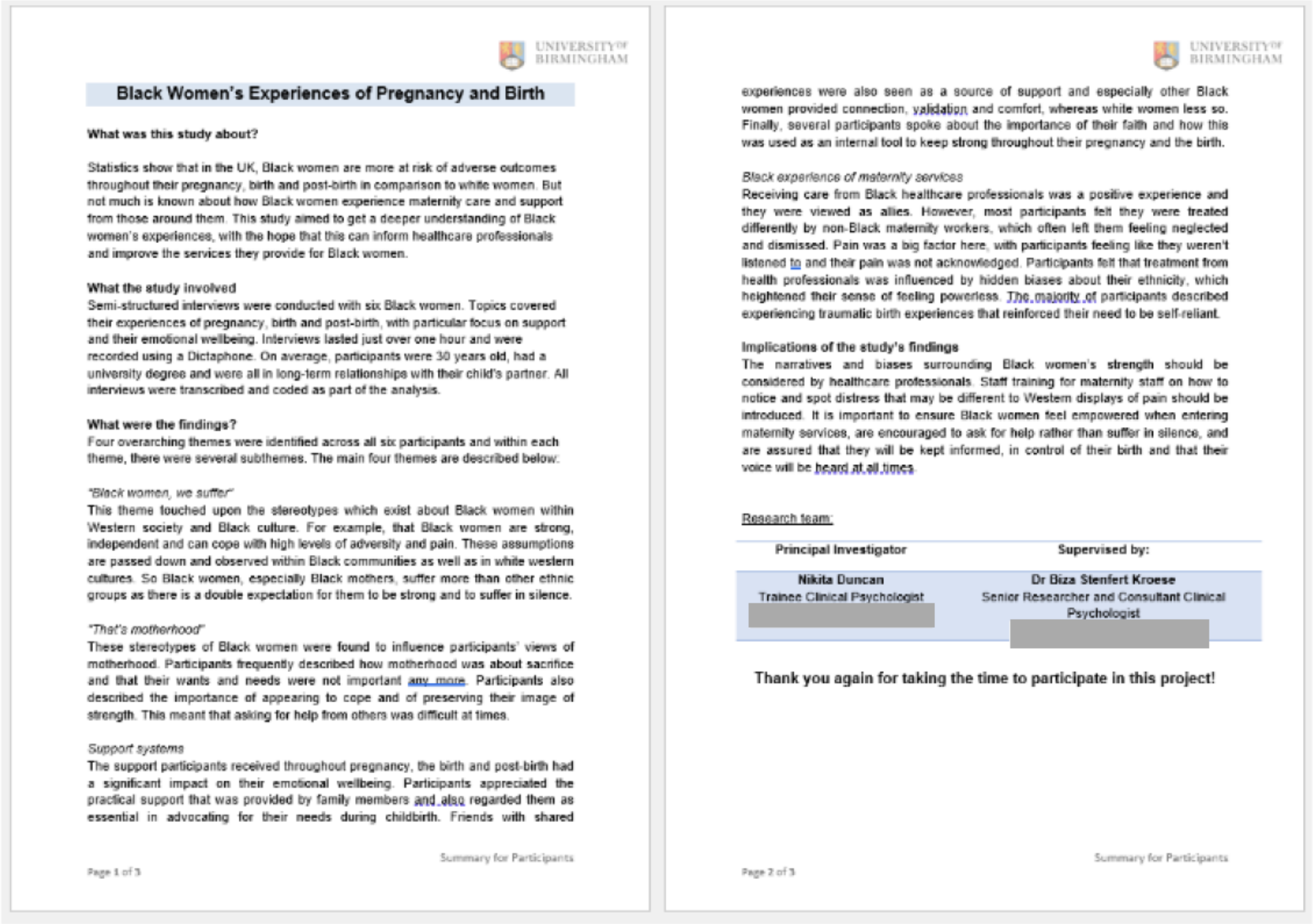
Thank you for your application for ethical review for the above project, which was reviewed by the Science, Technology, Engineering and Mathematics Ethical Review Committee.

On behalf of the Committee, I confirm that this study now has full ethical approval.

I would like to remind you that any substantive changes to the nature of the study as described in the Application for Ethical Review, and/or any adverse events occurring during the study should be promptly brought to the Committee's attention by the Principal Investigator and may necessitate further ethical review.

Please also ensure that the relevant requirements within the University's Code of Practice for Research and the information and guidance provided on the University's ethics webpages (available at https://intranet.birmingham.ac.uk/finance/accounting/Research-Support-Group/Research-Ethics/Links-and-Resources.aspx) are adhered to and referred to in any future applications for ethical review. It is now a requirement on the revised application

Appendix 3: Executive Summary



Black Women's Experiences of Pregnancy and Birth

What was this study about?

Statistics show that in the UK, Black women are more at risk of adverse outcomes throughout their pregnancy, birth and post-birth in comparison to white women. But not much is known about how Black women experience maternity care and support from those around them. This study aimed to get a deeper understanding of Black women's experiences, with the hope that this can inform healthcare professionals and improve the services they provide for Black women.

What the study involved

Semi-structured interviews were conducted with six Black women. Topics covered their experiences of pregnancy, birth and post-birth, with particular focus on support and their emotional wellbeing. Interviews lasted just over one hour and were recorded using a Dictaphone. On average, participants were 30 years old, had a university degree and were all in long-term relationships with their child's partner. All interviews were transcribed and coded as part of the analysis.

What were the findings?

Four overarching themes were identified across all six participants and within each theme, there were several subthemes. The main four themes are described below:

"Black women, we suffer"

This theme touched upon the stereotypes which exist about Black women within Western society and Black culture. For example, that Black women are strong, independent and can cope with high levels of adversity and pain. These assumptions are passed down and observed within Black communities as well as in white western cultures. So Black women, especially Black mothers, suffer more than other ethnic groups as there is a double expectation for them to be strong and to suffer in silence.

"That's motherhood"

These stereotypes of Black women were found to influence participants' views of motherhood. Participants frequently described how motherhood was about sacrifice and that their wants and needs were not important any more. Participants also described the importance of appearing to cope and of preserving their image of strength. This meant that asking for help from others was difficult at times.

Support systems

The support participants received throughout pregnancy, the birth and post-birth had a significant impact on their emotional wellbeing. Participants appreciated the practical support that was provided by family members and also regarded them as essential in advocating for their needs during childbirth. Friends with shared experiences were also seen as a source of support and especially other Black women provided connection, validation and comfort, whereas white women less so. Finally, several participants spoke about the importance of their faith and how this was used as an internal tool to keep strong throughout their pregnancy and the birth.

Black experience of maternity services

Receiving care from Black healthcare professionals was a positive experience and they were viewed as allies. However, most participants felt they were treated differently by non-Black maternity workers, which often left them feeling neglected and dismissed. Pain was a big factor here, with participants feeling like they weren't listened to and their pain was not acknowledged. Participants felt that treatment from health professionals was influenced by hidden biases about their ethnicity, which heightened their sense of feeling powerless. The majority of participants described experiencing traumatic birth experiences that reinforced their need to be self-reliant.

Implications of the study's findings

The narratives and biases surrounding Black women's strength should be considered by healthcare professionals. Staff training for maternity staff on how to notice and spot distress that may be different to Western displays of pain should be introduced. It is important to ensure Black women feel empowered when entering maternity services, are encouraged to ask for help rather than suffer in silence, and are assured that they will be kept informed, in control of their birth and that their voice will be heard at all times.

Research team:

Principal Investigator	Supervised by:
Nikita Duncan Trainee Clinical Psychologist [redacted]	**Dr Biza Stenfert Kroese** Senior Researcher and Consultant Clinical Psychologist [redacted]

Thank you again for taking the time to participate in this project!

Appendix 4: Recruitment poster and Participant Information Sheet

Poster:

To All Beautiful Black Queens

We want to hear YOUR pregnancy journey!

Not much is known about how Black women experience pregnancy and birth.

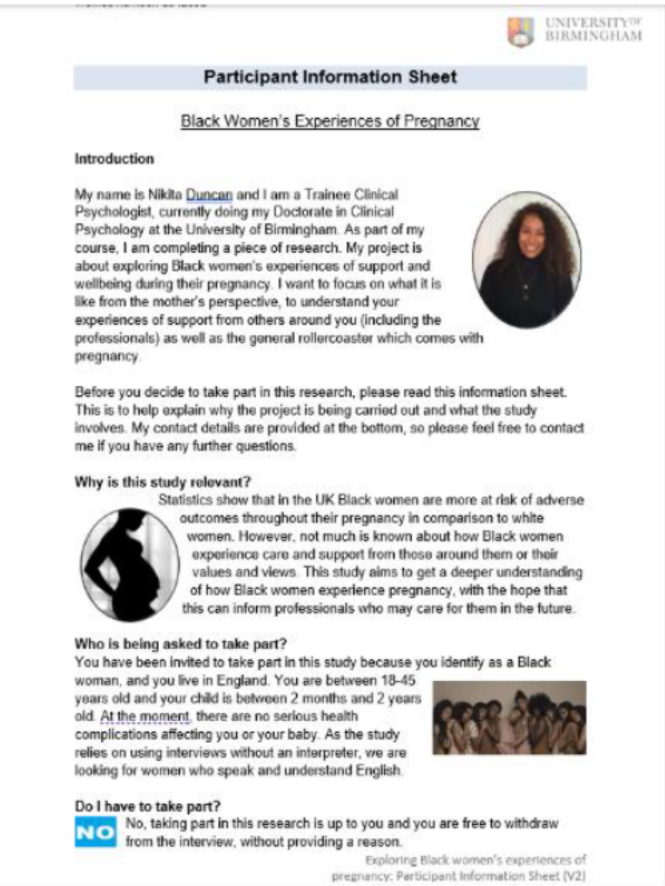
We want to hear your experience!

If you:
- Identify as a Black woman,
- Aged 18-45 years,
- Your baby is 2months to 2 years old,
- Fluent in English,
- No serious health complications affecting you or your baby at the moment.

You are invited to take part in a study exploring Black women's experience of pregnancy. If you would like to take part, you will be invited to an interview lasting no longer than 1 hour. For more information, please contact me on:

[redacted]

Participant information sheet:



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Participant Information Sheet

Black Women's Experiences of Pregnancy

Introduction

My name is Nikita Duncan and I am a Trainee Clinical Psychologist, currently doing my Doctorate in Clinical Psychology at the University of Birmingham. As part of my course, I am completing a piece of research. My project is about exploring Black women's experiences of support and wellbeing during their pregnancy. I want to focus on what it is like from the mother's perspective, to understand your experiences of support from others around you (including the professionals) as well as the general rollercoaster which comes with pregnancy.

Before you decide to take part in this research, please read this information sheet. This is to help explain why the project is being carried out and what the study involves. My contact details are provided at the bottom, so please feel free to contact me if you have any further questions.

Why is this study relevant?

Statistics show that in the UK Black women are more at risk of adverse outcomes throughout their pregnancy in comparison to white women. However, not much is known about how Black women experience care and support from those around them or their values and views. This study aims to get a deeper understanding of how Black women experience pregnancy, with the hope that this can inform professionals who may care for them in the future.

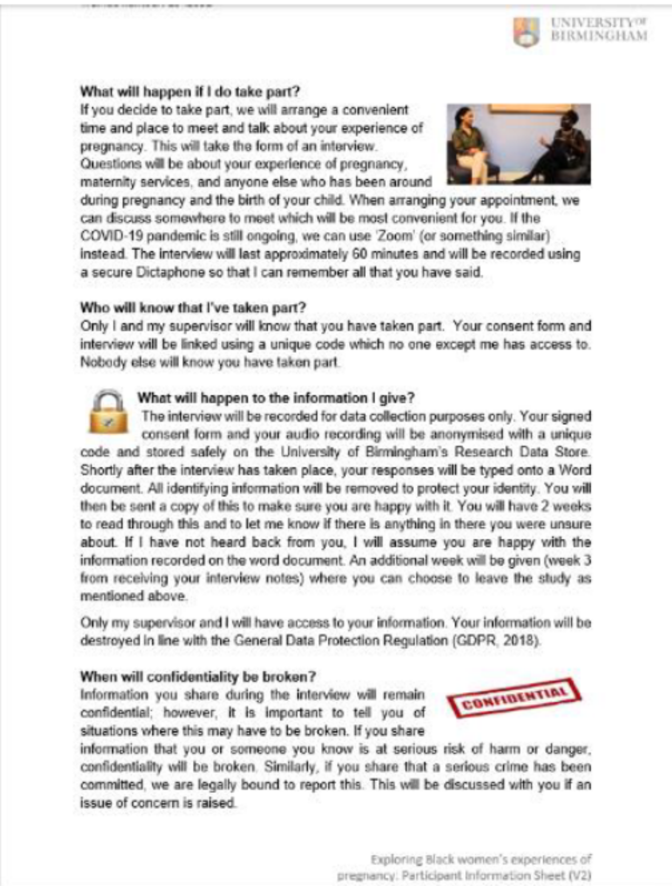
Who is being asked to take part?

You have been invited to take part in this study because you identify as a Black woman, and you live in England. You are between 18-45 years old and your child is between 2 months and 2 years old. At the moment, there are no serious health complications affecting you or your baby. As the study relies on using interviews without an interpreter, we are looking for women who speak and understand English.

Do I have to take part?

NO No, taking part in this research is up to you and you are free to withdraw from the interview, without providing a reason.

Exploring Black women's experiences of pregnancy: Participant Information Sheet (V2)



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What will happen if I do take part?

If you decide to take part, we will arrange a convenient time and place to meet and talk about your experience of pregnancy. This will take the form of an interview. Questions will be about your experience of pregnancy, maternity services, and anyone else who has been around during pregnancy and the birth of your child. When arranging your appointment, we can discuss somewhere to meet which will be most convenient for you. If the COVID-19 pandemic is still ongoing, we can use 'Zoom' (or something similar) instead. The interview will last approximately 60 minutes and will be recorded using a secure Dictaphone so that I can remember all that you have said.

Who will know that I've taken part?

Only I and my supervisor will know that you have taken part. Your consent form and interview will be linked using a unique code which no one except me has access to. Nobody else will know you have taken part.

What will happen to the information I give?

The interview will be recorded for data collection purposes only. Your signed consent form and your audio recording will be anonymised with a unique code and stored safely on the University of Birmingham's Research Data Store. Shortly after the interview has taken place, your responses will be typed onto a Word document. All identifying information will be removed to protect your identity. You will then be sent a copy of this to make sure you are happy with it. You will have 2 weeks to read through this and to let me know if there is anything in there you were unsure about. If I have not heard back from you, I will assume you are happy with the information recorded on the word document. An additional week will be given (week 3 from receiving your interview notes) where you can choose to leave the study as mentioned above.

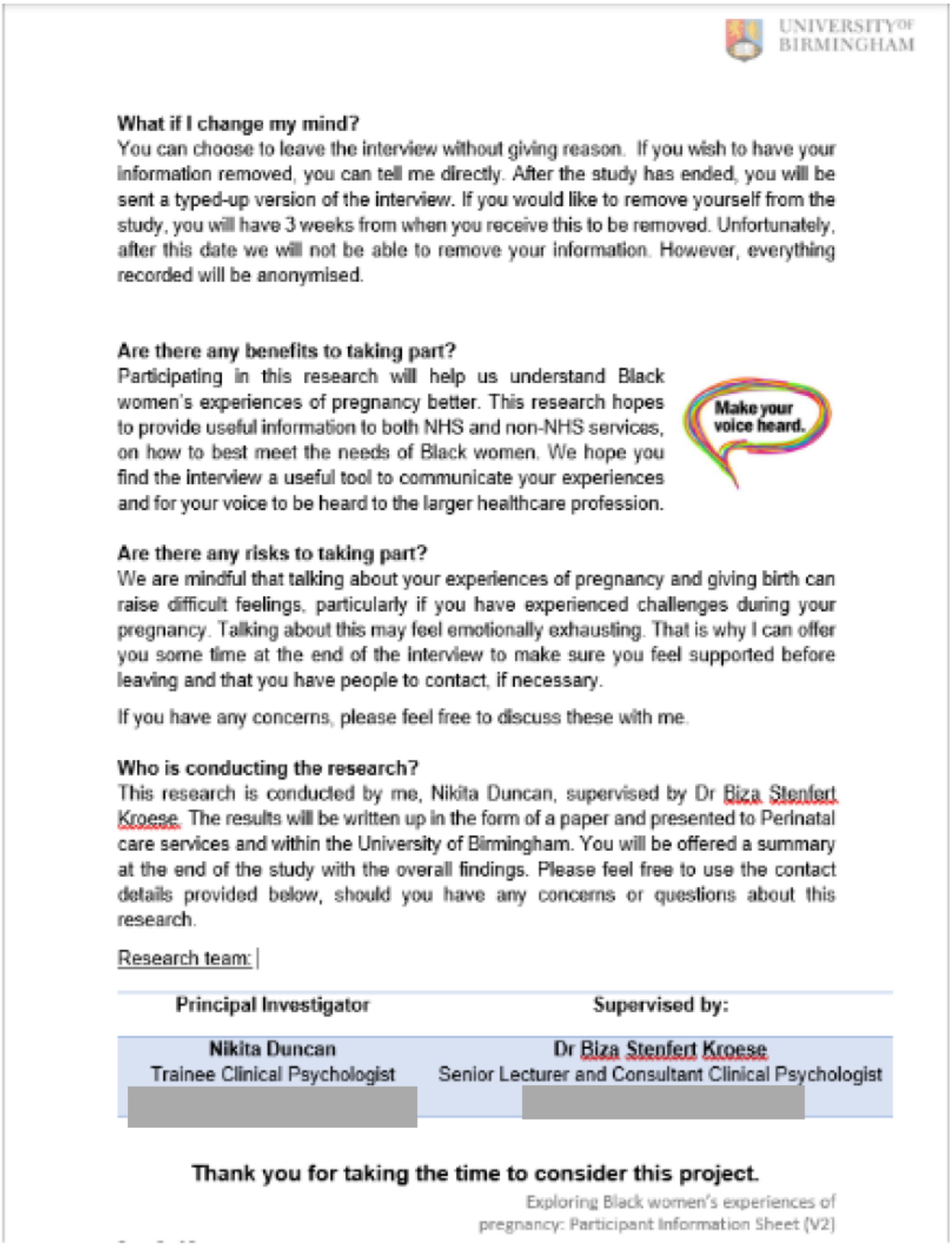
Only my supervisor and I will have access to your information. Your information will be destroyed in line with the General Data Protection Regulation (GDPR, 2018).

When will confidentiality be broken?

CONFIDENTIAL

Information you share during the interview will remain confidential; however, it is important to tell you of situations where this may have to be broken. If you share information that you or someone you know is at serious risk of harm or danger, confidentiality will be broken. Similarly, if you share that a serious crime has been committed, we are legally bound to report this. This will be discussed with you if an issue of concern is raised.

Exploring Black women's experiences of pregnancy: Participant Information Sheet (V2)



What if I change my mind?

You can choose to leave the interview without giving reason. If you wish to have your information removed, you can tell me directly. After the study has ended, you will be sent a typed-up version of the interview. If you would like to remove yourself from the study, you will have 3 weeks from when you receive this to be removed. Unfortunately, after this date we will not be able to remove your information. However, everything recorded will be anonymised.

Are there any benefits to taking part?

Participating in this research will help us understand Black women's experiences of pregnancy better. This research hopes to provide useful information to both NHS and non-NHS services, on how to best meet the needs of Black women. We hope you find the interview a useful tool to communicate your experiences and for your voice to be heard to the larger healthcare profession.

Are there any risks to taking part?

We are mindful that talking about your experiences of pregnancy and giving birth can raise difficult feelings, particularly if you have experienced challenges during your pregnancy. Talking about this may feel emotionally exhausting. That is why I can offer you some time at the end of the interview to make sure you feel supported before leaving and that you have people to contact, if necessary.

If you have any concerns, please feel free to discuss these with me.

Who is conducting the research?

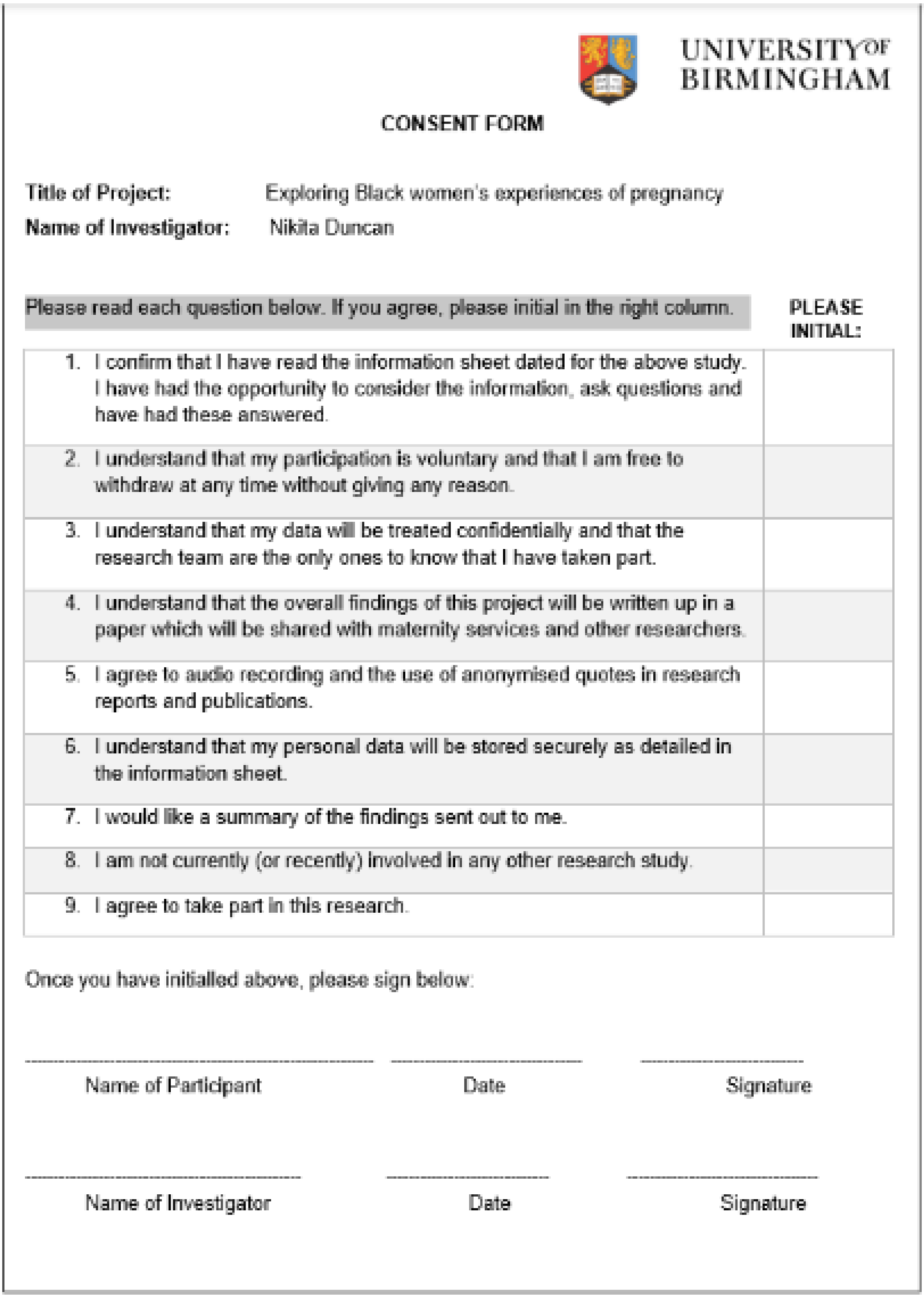
This research is conducted by me, Nikita Duncan, supervised by Dr Biza Stenfert Kroese. The results will be written up in the form of a paper and presented to Perinatal care services and within the University of Birmingham. You will be offered a summary at the end of the study with the overall findings. Please feel free to use the contact details provided below, should you have any concerns or questions about this research.

Research team:

Principal Investigator	**Supervised by:**
Nikita Duncan Trainee Clinical Psychologist [redacted]	**Dr Biza Stenfert Kroese** Senior Lecturer and Consultant Clinical Psychologist [redacted]

Thank you for taking the time to consider this project.

Appendix 5: Consent Form



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CONSENT FORM

Title of Project: Exploring Black women's experiences of pregnancy

Name of Investigator: Nikita Duncan

Please read each question below. If you agree, please initial in the right column.

	PLEASE INITIAL:
1. I confirm that I have read the information sheet dated for the above study. I have had the opportunity to consider the information, ask questions and have had these answered.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	
3. I understand that my data will be treated confidentially and that the research team are the only ones to know that I have taken part.	
4. I understand that the overall findings of this project will be written up in a paper which will be shared with maternity services and other researchers.	
5. I agree to audio recording and the use of anonymised quotes in research reports and publications.	
6. I understand that my personal data will be stored securely as detailed in the information sheet.	
7. I would like a summary of the findings sent out to me.	
8. I am not currently (or recently) involved in any other research study.	
9. I agree to take part in this research.	

Once you have initialled above, please sign below:

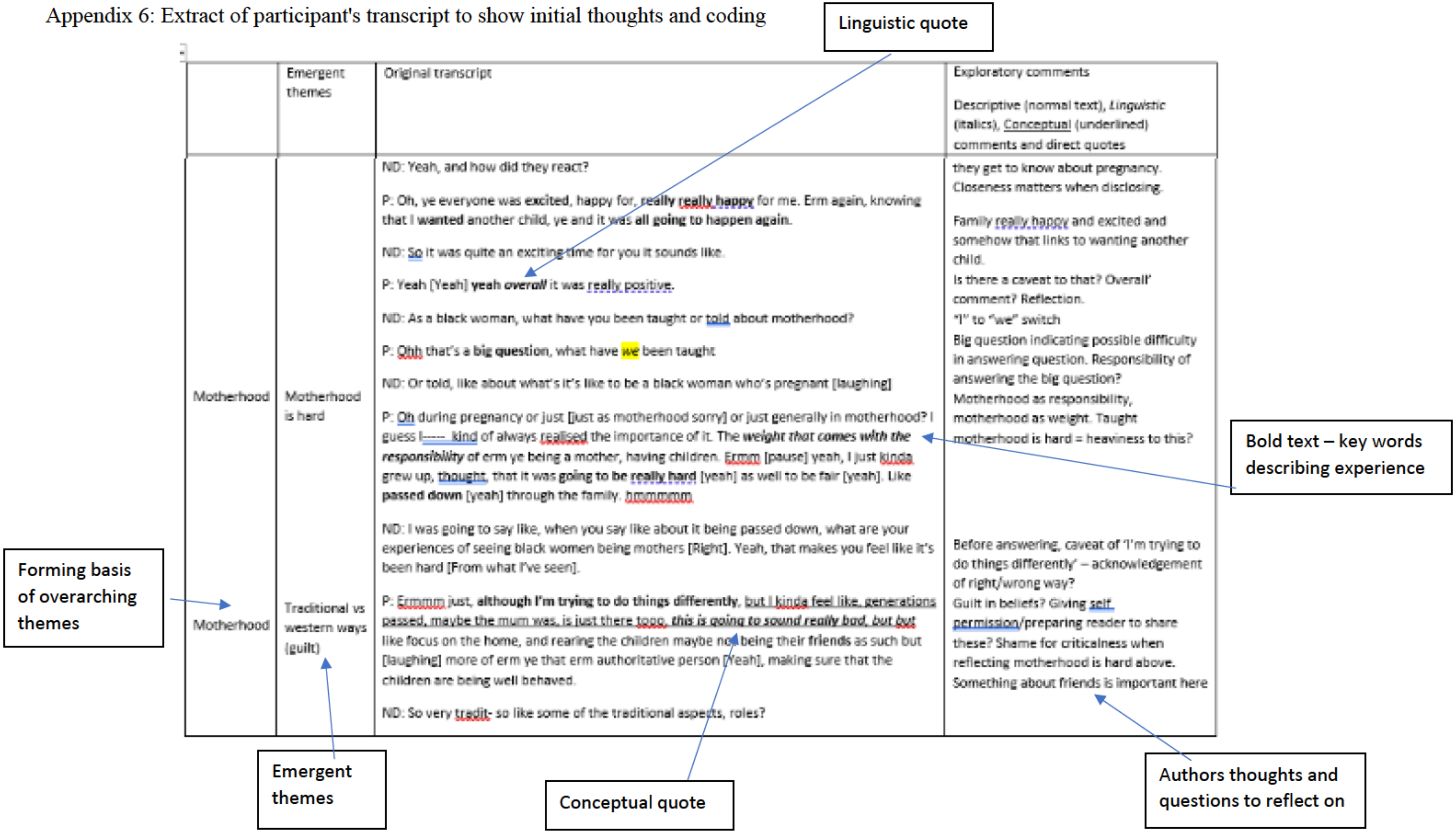
-- ---------------------------- ------------------------

Name of Participant Date Signature

-- ---------------------------- ------------------------

Name of Investigator Date Signature

Appendix 6: Extract of participant's transcript to show initial thoughts and coding



	Emergent themes	Original transcript	Exploratory comments Descriptive (normal text), *Linguistic* (italics), Conceptual (underlined) comments and direct quotes
Motherhood	Motherhood is hard	ND: Yeah, and how did they react? P: Oh, ye everyone was **excited**, happy for, **really really happy** for me. Erm again, knowing that I **wanted** another child, ye and it was **all going to happen again.** ND: So it was quite an exciting time for you it sounds like. P: Yeah [Yeah] **yeah *overall*** it was really positive. ND: As a black woman, what have you been taught or told about motherhood? P: Ohh that's a **big question**, what have *we* been taught ND: Or told, like about what's it's like to be a black woman who's pregnant [laughing] P: Oh during pregnancy or just [just as motherhood sorry] or just generally in motherhood? I guess I----- kind of always realised the importance of it. The ***weight that comes with the responsibility*** of erm ye being a mother, having children. Ermm [pause] yeah, I just kinda grew up, thought, that it was **going to be really hard** [yeah] as well to be fair [yeah]. Like **passed down** [yeah] through the family. hmmmmm ND: I was going to say like, when you say like about it being passed down, what are your experiences of seeing black women being mothers [Right]. Yeah, that makes you feel like it's been hard [From what I've seen].	they get to know about pregnancy. Closeness matters when disclosing. Family really happy and excited and somehow that links to wanting another child. Is there a caveat to that? Overall' comment? Reflection. "I" to "we" switch Big question indicating possible difficulty in answering question. Responsibility of answering the big question? Motherhood as responsibility, motherhood as weight. Taught motherhood is hard = heaviness to this?
Motherhood	Traditional vs western ways (guilt)	P: Ermmm just, **although I'm trying to do things differently**, but I kinda feel like, generations passed, maybe the mum was, is just there tooo, ***this is going to sound really bad, but but*** like focus on the **home**, and rearing the children maybe not being their **friends** as such but [laughing] more of erm ye that erm authoritative person [Yeah], making sure that the children are being well behaved. ND: So very tradit- so like some of the traditional aspects, roles?	Before answering, caveat of 'I'm trying to do things differently' – acknowledgement of right/wrong way? Guilt in beliefs? Giving self permission/preparing reader to share these? Shame for criticalness when reflecting motherhood is hard above. Something about friends is important here

Linguistic quote

Bold text – key words describing experience

Forming basis of overarching themes

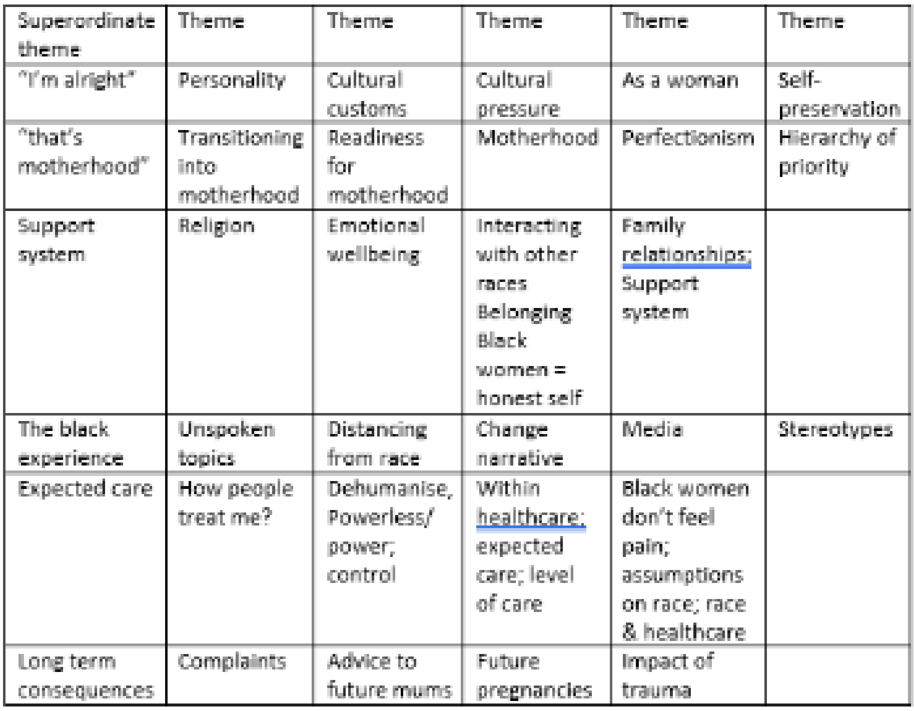
Emergent themes

Conceptual quote

Authors thoughts and questions to reflect on

Appendix 7: Superordinate themes

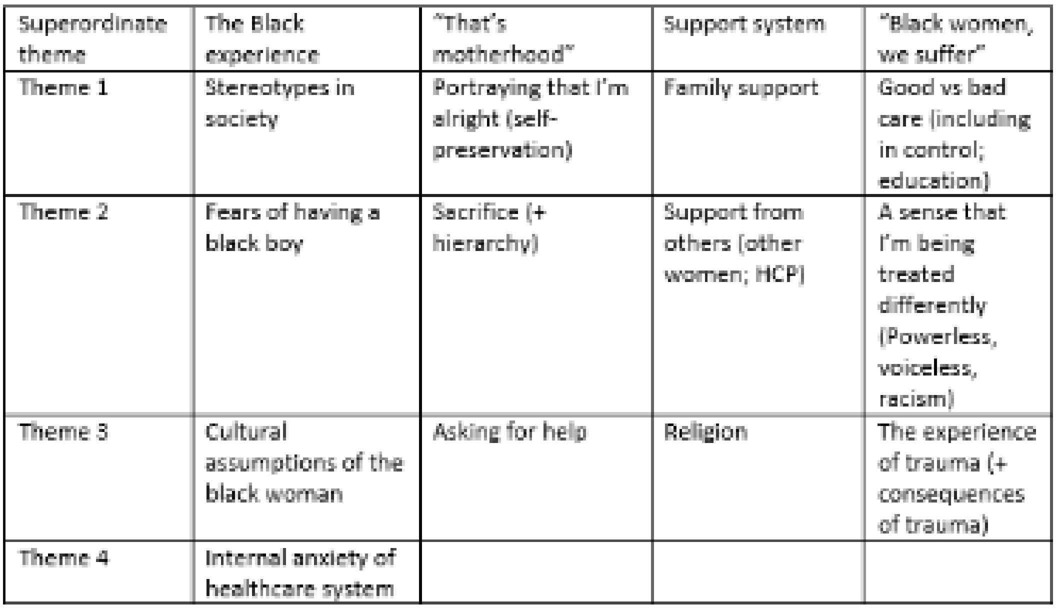
Table 1: First cross-theme: all themes across all 6 transcripts grouped into similar headings



Superordinate theme	Theme	Theme	Theme	Theme	Theme
"I'm alright"	Personality	Cultural customs	Cultural pressure	As a woman	Self-preservation
"that's motherhood"	Transitioning into motherhood	Readiness for motherhood	Motherhood	Perfectionism	Hierarchy of priority
Support system	Religion	Emotional wellbeing	Interacting with other races Belonging Black women = honest self	Family relationships; Support system	
The black experience	Unspoken topics	Distancing from race	Change narrative	Media	Stereotypes
Expected care	How people treat me?	Dehumanise, Powerless/ power; control	Within healthcare; expected care; level of care	Black women don't feel pain; assumptions on race; race & healthcare	
Long term consequences	Complaints	Advice to future mums	Future pregnancies	Impact of trauma	

Remaining:
Education
Black on black support
Race anxiety/gender anxiety

Table 2: Quotes added; themes rejigged accordingly.



Superordinate theme	The Black experience	"That's motherhood"	Support system	"Black women, we suffer"
Theme 1	Stereotypes in society	Portraying that I'm alright (self-preservation)	Family support	Good vs bad care (including in control; education)
Theme 2	Fears of having a black boy	Sacrifice (+ hierarchy)	Support from others (other women; HCP)	A sense that I'm being treated differently (Powerless, voiceless, racism)
Theme 3	Cultural assumptions of the black woman	Asking for help	Religion	The experience of trauma (+ consequences of trauma)
Theme 4	Internal anxiety of healthcare system			

Table 3: Themes cross-referenced with participants.

Superordinate theme	Theme	Angela P1	Joan P2	Janet P3	Charity P4	Cheryl P5	Tanisha P6
The Black experience ***Renamed: "Black women, we suffer"**	Stereotypes in society	x	X	x	x	x	x
	Fears of having a black boy			x		x	X
	Cultural assumptions of the black woman	X	x		x	x	
	Internal anxiety of healthcare system **(*removed)**	x	x				x
"That's motherhood"	Portraying that I'm alright	x	x	X	x		x
	Sacrifice	X	x	x	x	x	x
	Asking for help				x		
Support system	Family support	x	x	x	x	x	x
	Support from others	X	x	x	x	x	x
	Religion		x		x		x
"Black women, we suffer" ***Renamed: Black experience of maternity services**	Good vs bad care	x	x	x	x	x	x
	A sense that I'm being treated differently	x	x	x	x	x	x
	The experience of trauma	x	x	x	x	X	x

Superordinate themes were renamed for 'The Black experience' and "Black women, we suffer". Sub theme: 'internal anxiety of healthcare system' was removed from 'The Black experience and condensed into 'Black experiences of maternity services'.

Abdollahpour, S., Khosravi, A., & Bolbolhaghighi, N. (2016). The effect of the magical hour on post-traumatic stress disorder (PTSD) in traumatic childbirth: a clinical trial. *Journal of Reproductive and Infant Psychology*, *34*(4), 403-412. https://doi.org/10.1080/02646838.2016.1185773

Alcorn, K., O'Donovan, A., Patrick, J., Creedy, D., & Devilly, G. (2010). A prospective longitudinal study of the prevalence of post-traumatic stress disorder resulting from childbirth events. *Psychological medicine*, *40*(11), 1849-1859.

Allen, S. (1998). A qualitative analysis of the process, mediating variables and impact of traumatic childbirth. *Journal of Reproductive and Infant Psychology*, *16*(2-3), 107-131.

Altman, M. R., Oseguera, T., McLemore, M. R., Kantrowitz-Gordon, I., Franck, L. S., & Lyndon, A. (2019). Information and power: Women of color's experiences interacting with health care providers in pregnancy and birth. *Social science & medicine*, *238*, 112491.

Andersen, L. B., Melvaer, L. B., Videbech, P., Lamont, R. F., & Joergensen, J. S. (2012). Risk factors for developing post-traumatic stress disorder following childbirth: a systematic review. *Acta Obstetricia et Gynecologica Scandinavica*, *91*(11), 1261-1272. https://doi.org/https://doi.org/10.1111/j.1600-0412.2012.01476.x

Anderson, F. M., Hatch, S. L., Comacchio, C., & Howard, L. M. (2017). Prevalence and risk of mental disorders in the perinatal period among migrant women: a systematic review and meta-analysis. *Archives of Women's Mental Health*, *20*(3), 449-462. https://doi.org/10.1007/s00737-017-0723-z

Anekwe, L. (2020). Ethnic disparities in maternal care. *Bmj*, *368*, m442. https://doi.org/10.1136/bmj.m442

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