The Experience of and Subsequent Psychological and Professional Impact of Witnessing Childbirth

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Introductory Chapter: Thesis Overview

The birth of a child is momentous, a life-changing event. In 2020, there were approximately 615,557 live births and 2,429 stillbirths in England and Wales alone (Synowiec, 2021). Despite the frequency of childbirth, there is always a level of risk of harm to the baby (neonatal death) in the perinatal period.

Childbirth can result in positive outcomes for both mother and baby; however, the experience of pregnancy and birth can be unpredictable. Whilst pregnancy is often a joyous occasion, mental health difficulties such as anxiety and depression are common amongst women (Gustafsson et al., 2021) with postnatal depression being the leading cause of maternal mortality (Hanh-Holbrock et al., 2018). Thus, a women-centred care approach is highlighted as being essential when supporting the psychological needs of the mother throughout the perinatal period (Coats & Foureur, 2019). Perinatal mental health services offer support during pregnancy until the child's first birthday, which is known as the perinatal period (Public Health England, 2019).

In recent years, there has been an increase in complexity of childbearing women; with biomedical and psychosocial factors increasing the likelihood of complications during pregnancy and birth (Naughton et al., 2021). Common complexities include women being older, having underlying health conditions and a rise in obesity (NHS England, 2020) increasing the likelihood of adverse outcomes for mother and baby (Sheen et al., 2019). According to the World Health Organisation (WHO, 2017), in the perinatal period approximately 15% of women require obstetric intervention for life-threatening complications, without intervention there are negative implications for mother and baby. Serious complications during delivery can result in a range of birth injuries and in worst cases neonatal or maternal death (Collins & Popek, 2018; NICE, 2020).

The presence of complications can increase the likelihood of childbirth being perceived as traumatic by those present in the delivery room (Grekin & O'hara, 2014). Consequently, this has been found to have a significant impact on the mental health of mothers, as well as the system surrounding the mother, including personal support such as birth partners and professional support, such as staff involved in providing care (Rice & Warland, 2013).

Furthermore, the literature highlights the importance of preventing and minimising parental mental health difficulties and providing adequate support during childbirth. The first 1000 days of life are critical for a child's future, underpinning their health and psychological development from conception to two years old (House of Commons, 2019). Exposure to adverse events such as parental mental health difficulties in the perinatal period has been well documented to impact the child during this phase of life.

In light of this, providing high quality maternity services can be considered early intervention and consequently maternity staff require adequate resources to be able to provide the best care possible during the perinatal period (National Institute of Health and Care Excellence [NICE] 2015). The primary aim of the current thesis was thus to examine the emotional and experiential implications for the system surrounding the mother, following direct and indirect exposure to childbirth.

Considering this, chapter one presents a systematic review of qualitative studies examining the perceptions of post-birth emotional and experiential implications of non-professional birth partners having witnessed traumatic childbirth, both the emotional and experiential. Findings offer an insight into the experiences of non-professional birth partners' postnatal experience, which suggest birth partners suffer with mental health difficulties following childbirth, with interpersonal difficulties and changes to identity. Birth partners can

feel unprepared and unsupported by services following childbirth, leading them to cope by breaking down in private.

The second chapter is an empirical study which explores the experiences of MSWs and their exposure to stressful and traumatic events in the workplace. Furthermore, the study aims to explore the associated implications of this experience. Findings suggest MSWs are exposed to traumatic events in the workplace and in this study stuffer PTSD at similar rates to midwives. Risk factors include direct exposure (physically present) and younger age. The complexity and rapidity of clinical change in the maternity setting means their unqualified role and minimal training does not protect them from exposure and there is a need for MSWs to be provided with additional support. Taken together, both chapters inform maternity and perinatal mental health services of non-professional birth partners and MSWs experience of being present during labour and childbirth, as well as the emotional implications of this experience.

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Chapter One: Systematic Review

What are the Post-Birth Emotional Implications of Witnessing Traumatic Childbirth for Non-Professional Birth Partners? A Systematic Review

Manuscript prepared for submission to BMC Pregnancy and Childbirth (see Appendix A for author guidelines)

Abstract

Background

Childbirth can be considered a complex event, and in some cases perceived as traumatic which can lead to an array of positive and negative psychological responses. Literature suggests witnessing a traumatic event can elicit traumatic responses with individuals experiencing PTSD at clinical levels. Birth partners can offer continuous support during labour and childbirth, understanding how witnessing birth may affect non-professional birth partners is important. The aim of this review was to explore positive or negative outcomes amongst non-professional birth partners having witnessed traumatic childbirth.

Method

Five electronic databases were searched in June 2021 for qualitative, peer-reviewed research exploring birth partners post birth experiential and emotional implications of being present at traumatic childbirth. A thematic analysis was used to synthesis the data.

Results

In total 7403 citations were identified and screened by title and abstract, 7336 were excluded with 67 full-text articles assessed using detailed inclusion/exclusion criteria, leaving eight papers included in the review. Birth partners reported positive and negative outcomes following traumatic childbirth. Highlighting their experiences of prolonged mental health difficulties, lack of social and professional support and maladaptive coping strategies, all contributed to being present at a traumatic childbirth being perceived as distressing. Birth partners identified that their perception of masculinity acted as a barrier in accessing available support. Additionally, birth partners reported some positive changes postnatally, developing a solid foundation as a family.

Conclusion

The findings from this review further support existing quantitative literature regarding fathers' mental health difficulties following traumatic childbirth. Whilst some evidence suggests areas of positive change there were also consequences of this experience such as interpersonal difficulties and changes to identity, with partners feeling unprepared and unsupported by services leading them to break down in private. Furthermore, this review may be helpful in providing maternity care services with more information about how to best support birth partners in the postpartum period.

Keywords: Childbirth, Birth partners, Systematic Review, Mental health, Postnatal

Background

Giving birth can lead to an array of positive and negative psychological responses.[1] Thirty percent of women experience birth as traumatic[4] with postpartum Post-Traumatic Stress Disorder (PTSD) affecting approximately 4% of mothers.[5] Exposure to traumatic events can lead to PTSD, a disorder where symptoms can include avoidance, re-experiencing and hyperarousal.[3] Being present during childbirth can have a significant influence on an individual when experienced both directly (giving birth) and indirectly (watching someone give birth). Thus, exposure to indirect trauma can elicit traumatic responses of which participants can experience PTSD at clinical levels.[2,9] Birth partners can offer continuous support during labour and childbirth and in ideal situations have beneficial effects for birthing mothers and new-borns.[12] However, the presence of medical complications during childbirth such as shoulder dystocia, caesarean section, vacuum extraction delivery and postpartum haemorrhage (PPH), can contribute to both mothers and birth partners perceptions of events as traumatic.[6] Furthermore, the literature suggests predictors of PTSD include lack of social support both pre and post trauma,[7] with factors such as the interpretation of the event being stronger predictors of PTSD development than the severity,[8] and Lack of support from medical professionals and maladaptive coping methods are contributing factors to the onset and maintenance of PTSD postnatally.[10-11]

Birth Can Have Emotional Implications for Women

Extensive research has investigated maternal postpartum mental health, with childbirth being a longstanding prominent cause of PTSD amongst mothers, impacting maternal mental health and infant attachment.[17] Postpartum PTSD symptoms have an adverse impact on child social–emotional development.[19] When childbirth is considered a traumatic experience by mothers the risk of postpartum depression also increases.[19]

Positive implications following childbirth trauma have also been researched amongst mothers. A positive change that arises from a place of suffering and crisis is termed post traumatic growth.[20] Another study explored post traumatic growth amongst new mothers in the postnatal period, high levels of growth were associated with whether childbirth was considered central to a mother's identity and attachment with baby, posttraumatic growth was negatively associated with PTSD.[21] To summarise, the literature suggests that for some women, giving birth can be experienced as traumatic and lead to negative emotional consequences and there may also be implications for others in the room.

Psychological and Emotional Implications for Professionals

Research amongst professional staff including midwives and obstetricians suggests that witnessing a childbirth they themselves perceive as traumatic, they can subsequently experience lasting effects both emotionally and psychologically. More specifically, professionals can experience childbirth as traumatic and, in some cases, develop PTSD.[22] These consequences can have detrimental effects on the maternity workforce, leading to an increase in staff burnout and absenteeism.[23-24]

Psychological/Emotional Implications for Non-Professional Birth Partners

It is well documented that mothers can experience childbirth as traumatic and develop mental health difficulties such as postnatal depression, anxiety, and PTSD. Additionally, there has been an expansion of research exploring the impact on maternity staff.[23-24] In light of this, there is potential for non-professionals present in the delivery room to experience positive and negative implications following childbirth.

Non-professionals present during childbirth can offer continuous support during labour and childbirth and in ideal situations have beneficial effects for birthing mothers and new-borns.[12] Birth partners and companions can provide mothers with an array of informational, physical, and psychological support, acting as an advocate by bridging the gap

between the mother and healthcare professionals.[13] According to the World Health Organisation (1996),[14] “a woman in labour should be accompanied by the people she trusts and feels comfortable with: her partner, best friend, doula or midwife”.[14(pp 122)] Research suggests that caregiver support reduces the use of medication and the need for delivery with medical assistance.[15] Prior to the Covid-19 global pandemic, on average, 97% of women in the UK had a partner, family member or friend present when they give birth, often referred to as a birth partner.[16]

There is existing quantitative and qualitative literature exploring father’s presence and perceptions of childbirth and more specifically their role in the delivery room. Whilst evidence suggests men who attend childbirth generally find it positive experience[25] the experience can be emotionally demanding[26] and men often have difficulty identifying their role in the delivery room and feeling as though they are on the periphery.[27] The need for support during traumatic births is evident, with fathers reporting effective communication from professionals is important when there is a crisis in the delivery room.[28]

A recent cross-sectional survey showed several risk factors such as emergencies and distressing events in childbirth, as well as past traumatic experiences can contribute to developing PTSD following childbirth and postnatal depression for mothers and partners.[29] With approximately 90% of fathers in attendance at childbirth.[30] There is growing evidence to suggest fathers are at an increased risk of developing mental health disorders including PTSD following a complicated delivery.[31] Alternatively, not being present or being partially excluded from labour and birth can lead to negative impacts on fathers, and lead to heightened stress in the postnatal period.[32] Given the current climate, government restrictions have implications for women giving birth, as well those present at a birth which may also be important and merit consideration.

Unsurprisingly, the birth of a baby significantly impacts parents' lives. Couples' experiences are often strongly interlinked, with acute trauma symptoms increasing the likelihood of posttraumatic stress, and less secure attachment and dissatisfaction with partners support from associated with higher levels of postpartum distress.[33] Additionally, evidence suggests that the parental relationship can be impacted following childbirth. Some couples reported their marriage had improved after having a child, bringing them closer[34] and others reported symptoms of postnatal PTSD, which had a negative impact on the couple's relationship and bond with the baby[35]. Social support networks have also been researched, implying that reduced support systems can lead to PTSD symptoms.[36] It is important to explore what role presence at the birth might have on relationships.

Rationale

It is recognised that experiencing birth as traumatic can have negative implications for women and maternity staff. However, it is also important to understand the implications for non-professional birth partners including fathers. Several quantitative reviews have investigated father's mental health following childbirth.[37] However, there is paucity of reviewing non-professional birth partners qualitative experiences having witnessed childbirth. Whilst quantitative research is important, understanding birth partners' qualitative experience following childbirth is pivotal to supporting individuals with potentially negative outcomes, particularly when their experience is perceived as traumatic or complicated. Thus, the qualitative review plans to further add to existing quantitative literature.

Aim

The review aimed to systematically identify and review the existing qualitative literature on non-professional birth partners perspectives having been present during traumatic childbirth. In particular, looking at the impact on themselves, the emotional and psychological implications of this exposure and how they relate to their families.

Method

The method for the current systematic review and reporting of the results are written in accordance with Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines.[38]

Search Strategy

Comprehensive systematic literature searches of the research took place in January 2021 and were further updated in June 2021. The search terms were developed with the support of a specialised Librarian within the trust using the PICo (Participants, Phenomenon of Interest, and Context) framework to define key criteria to meet the aims of the review question. The databases used were PsycINFO, CINAHL, Medline, BMI and Web of Science. The search terms applied to each database included (Burnout OR Stress OR Trauma* OR relationship* OR Wellbeing OR emotion* OR feeling) AND (Father* OR Paternal OR Partner* OR Non professional OR Doula* OR Companion* OR Maternity*) AND (Childbirth OR birth* OR labour* OR labor* OR Delivery OR Perinatal*) AND (Witness* OR observ* OR Attend).

Inclusion Criteria:

The following inclusion criteria were applied: (a) published in English or have English abstract available, (b) report data from adults (in addition to the person giving birth) present during childbirth and over the age of 18, (c) report qualitative methodology (d) published by June 2021, (e) primary data from people who are present at birth, (f) include information on the experiential and emotional implications post-birth, (g) articles in peer-reviewed journals only.

Exclusion Criteria:

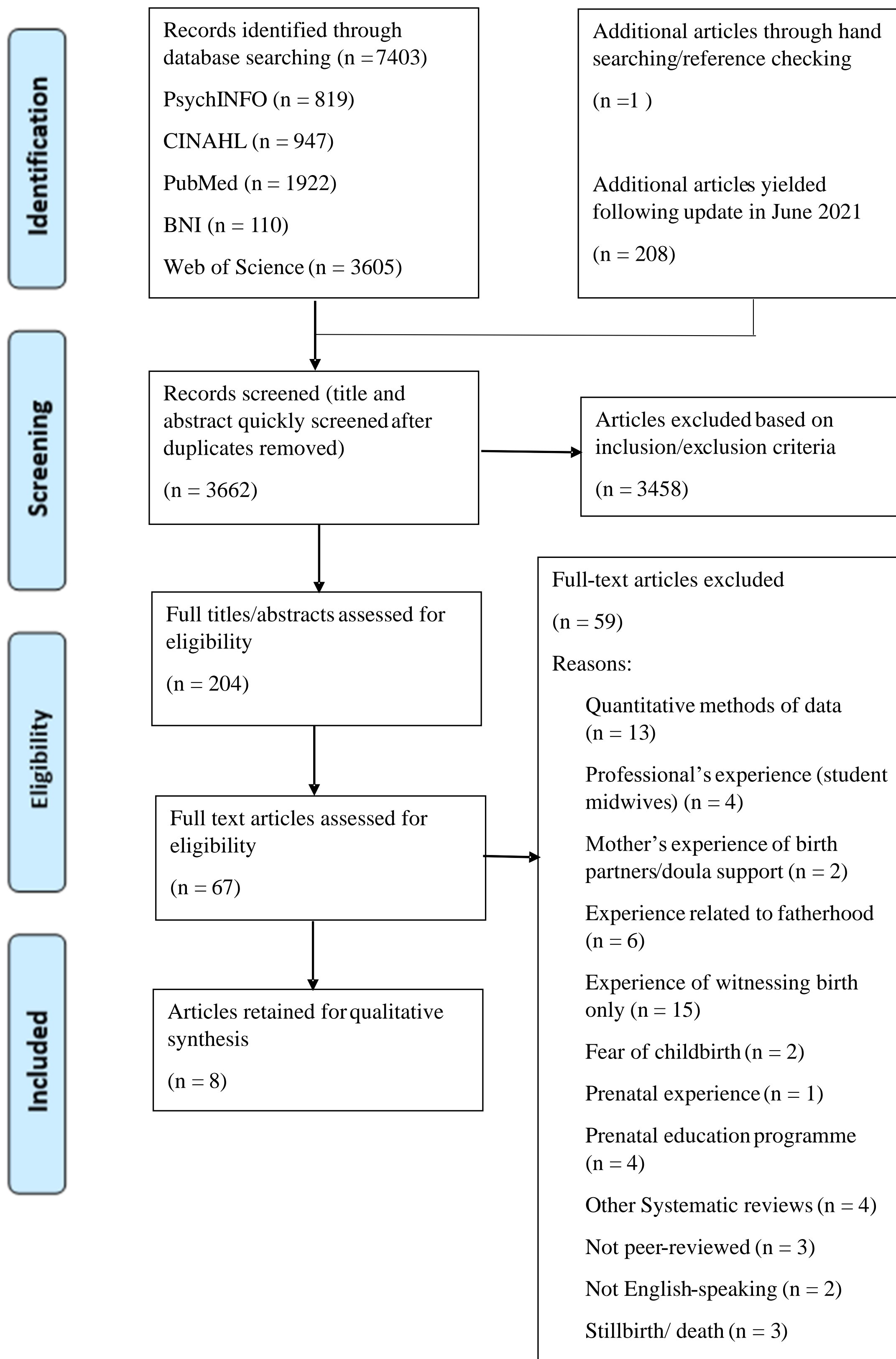
Exclusion criteria were as follows: (a) reports and experience of person giving birth, (b) professional/qualified staff reports/experience, (c) non-professional birth partners experiences/emotions during childbirth only (d) non-research articles, (e) experience where death occurred in mother/baby, (f) papers published before 2000.

Search Outcome

Paper Selection

The first stage of the review process involved screening the titles and abstracts for each paper according to the inclusion and exclusion criteria in a standardised manner. Papers identified as eligible were retrieved for full text assessment. Figure 1 shows the PRISMA flow diagram which summarises articles yielded from the searches and reasons for exclusion at each stage.[38] One additional paper was sought through manual cross-referencing of selected papers. The search yielded 7403 papers, following the removal of duplicates 3662 papers remained, 3458 articles were removed following a title scan to check eligibility to inclusion/exclusion criteria leaving 204 full abstracts to be assessed, a further 137 articles were excluded leaving 67 full-text articles to be assessed using detailed inclusion/exclusion criteria. Of these, an additional 59 articles did not meet criteria and were excluded, and thus a total of eight papers was included in the review.

Figure 1: PRISMA Flow Diagram



Quality Assessment

The Critical Appraisal Skills Program tool for qualitative research was used to assess the quality of the studies (Appendix B).[39] The CASP tool is commonly used in health and social care research.[40] The tool consists of 10 questions to broadly appraise the credibility, rigour, and relevance of qualitative research[41] by assessing the aim, methodology, recruitment, appropriate data collection, relationship between the researchers and participants, ethical consideration, data analysis and whether the research is valuable. The CASP tool supports researchers to identify the salient features of a paper as well as elements missing. The researcher scored each paper and extracted the data in to an excel spreadsheet, when information was present a score of two was given to indicate "yes", a score of zero when missing to indicate "no", if information was insufficient a score of one was given to indicate "can't tell". Twenty five percent of the papers were independently rated by a peer researcher (outside of the research team), small discrepancies in ratings were discussed to reach a decision.

Table 1

CASP Quality Appraisal

Authors (year)	*Aims*	*Method*	*Design*	*Recruitment*	*Data collection*	*Researcher bias*	*Ethical issues*	*Data analysis*	*Findings*	*Valuable*	*Score/20*
Nicholls and Ayers (2007)[35]	Yes	Yes	Yes	Yes	Yes	Can't tell	Can't Tell	Yes	Yes	Yes	18
Moore et al, (2019)[42]	Yes	Yes	Yes	Yes	Yes	No	Can't tell	Can't tell	Can't tell	Yes	15
Hinton et al, (2014)[43]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	19
Daniels et al, (2020)[44]	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes	Yes	19
Dunning et al. (2016)[45]	Yes	Yes	Yes	yes	Yes	Can't tell	Yes	Can't tell	Yes	Yes	18
Etheridge and Slade (2017)[46]	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	Yes	Yes	Yes	19
White (2007)[47]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Can't tell	Yes	19
Inglis et al, (2016)[48]	Yes	Yes	Yes	Yes	yes	Yes	Yes	Yes	Yes	Yes	20

Data Extraction

Following the search processes, data pertinent to the research question was extracted using the Joanna Briggs Institute Qualitative Data Extraction Tool (Table 2) which included the author(s) and year of publication; phenomenological aims, method of data collection, setting, geography/country of origin, participants, sampling method, analysis, and conclusions.

Thematic Synthesis

Thematic synthesis is a narrative approach that brings together components of grounded theory and meta-ethnography and is often used to explore complex qualitative data[49] and addresses systematic review questions about individuals' perspectives and experiences.[50]This approach follows an inductive process whereby outcomes are meaningful, accessible and have good transparency.[51] Thematic synthesis was therefore chosen for the purpose of this review following the recommended framework outlined by Thomas and Harden (2008).[52] Thematic synthesis has three distinctive phases of analysis; the first phase includes 'line by line coding' of all primary data included in the results section which is pertinent to the systematic review question and aims. In the second phase, 'descriptive themes' were developed, whereby the researcher identified descriptive similarities between the codes developed in phase one, descriptive codes were entered on to an excel spreadsheet to facilitate comparison between studies. The third stage of synthesis involved the progression from 'descriptive themes' to 'analytical themes', to interpret the meaning across studies in relation to the review question.[51]An iterative and reflexive process of coding and returning to coded data was retained when developing themes to ensure consistency throughout the analysis.[50] The researcher adopted a critical realist perspective in line with a thematic synthesis approach.[53]This epistemological stance supports the view that the

development of codes and themes are influenced by the researchers' perceptions, beliefs, and own experience.[54]

Table 2

Data Extraction

Author(s) Year	*Method*	*Phenomena Aims*	*Setting*	*Geography*	*Participants*	*Sampling method*	*Analysis*	*Conclusions*
White (2007)[47]	Qualitative Semi-structured interviews	Fathers experience of post-traumatic stress disorder following childbirth	Non-clinical: Email/postal interview	New Zealand	N = 21 Fathers 18 = White 2 = Pacific islanders 1 = Maori	Purposive sampling Time since birth ranged from 0 to 27 years	Content Analysis (Colaizzi, 1978)[55]	Some fathers are left with a negative emotional experience with serious consequences for their relationships and families
Inglis et al., (2016)[48]	Qualitative Semi-structured interviews	Father's experience and perceptions of traumatic childbirth	Non-clinical: Face to face and video call at an Australian University	Australia	7 = Men Diversity not reported	Purposive sampling Time since birth not recorded	Thematic Analysis (Braun & Clarke, 2006)[56]	Fathers reported a sense of marginalisation after childbirth. and a negative impact following birth on both themselves and relationships. However, some fathers reported post-traumatic growth from the experience and others identified friends and family as a valuable source of support.

Author(s) Year	*Method*	*Phenomena Aims*	*Setting*	*Geography*	*Participants*	*Sampling method*	*Analysis*	*Conclusions*
Etheridge & Slade (2017)[46]	Qualitative Semi-structured interviews	Father's experience of traumatic childbirth including the impact of the experience on behaviour and relationships	Non-clinical: Telephone interview	England	11 = Men First time fathers at time of birth Diversity not reported	Purposive sampling Time since birth ranged from 2 months to 6 years.	Template analysis	Fathers may experience extreme distress as a result of witnessing childbirth, which may be exacerbated by current maternity care.
Dunning et al. (2016)[45]	Qualitative Semi-structured interviews	Fathers experience of their partners having PPH[1] during childbirth	Non-clinical: Participants homes	London, England	6 = Men Diversity not reported	Maximum variation sampling Time since birth ranged from 4 to 14 months	Matrix based thematic analysis	Fathers require more information from professionals and support postnatally when their partners have experienced PPH[1]
Nicholls & Ayers (2007)[35]	Qualitative Semi-structured interviews	The experience and impact of childbirth related PTSD in women and their partners	Non-clinical: Participant homes	England	6 = Men 6 = White	Purposive sampling Time since birth ranged from 9 months to 10 years	Inductive thematic analysis	Fathers with postnatal PTSD may have a negative impact on a couple's relationship and the parent-baby bond.

[1] Post-Partum Haemorrhage (PPH)

Author(s) Year	*Method*	*Phenomena Aims*	*Setting*	*Geography*	*Participants*	*Sampling method*	*Analysis*	*Conclusions*
Moore, et al. (2019)[42]	Audio recordings and transcripts of qualitative Semi-structured interviews	To explore discursive construction and social actions given by men following a birth whereby the mother developed life-threatening complication	Non-clinical: Audio recordings of participants	England	4 = Men 4 = White	Purposive sampling Time since birth 1 to 5 years	Discourse analysis	Narrative discourse highlights the separation of health professionals from laymen, men use self-reliance within their families to construct recovery from childbirth
Hinton, et al. (2014)[43]	Open-ended narrative and qualitative semi-structured interviews	To explore the impact of a “near miss” obstetric emergency, focusing on partners	Non-clinical: Participants own homes	East London, England	10 = men 1 = women Socio-economic diversity reported	Purposive Sampling Time since birth 14 weeks to 10+ years	Qualitative interpretive approach combining thematic analysis and constant comparison	The long-term emotional impacts were profound for some participants who experienced depression, flashbacks and PTSD months and years after the emergency
Daniels, Arden-Close & Mayers (2020)[44]	Qualitative online qualitative questionnaire	To explore fathers’ experiences of traumatic birth, the impact on father’s wellbeing and support they received	Non-clinical: Online	England	61 = Men Diversity not reported	Purposive Sample Time since birth, less than 10 years.	Thematic analysis (Braun & Clarke, 2006)	Witnessing a traumatic birth had a significant impact on fathers, affecting mental health with issues including depression, anxiety, postnatal stress, OCD[2] and PTSD symptoms and their relationships postnatally.

[2] Obsessive Compulsive Disorder (OCD)

Results

Quality Appraisal

The CASP tool was used to assess the quality of the articles included (Table 1). The scores of the studies ranged from 15-20num/20, with lower scores indicating insufficient detail as opposed to completely missing information. The CASP is not formally scored, and scores are used for critical reflection purposes. The CASP revealed that all studies stated clear research aims which were appropriate for qualitative research methodology and design and all the findings were clearly stated and considered valuable research. The most common limitation amongst the studies was researcher bias, with one study[42] not considering the influence of researcher bias at all, and four studies[35,44,45,46] only partially considering the influence of researcher bias. In qualitative research it is important to consider the influence of the researchers' position on the participant-researcher relationship as the researcher may hold assumptions and prejudices that may impact data collection and analysis.[41] All studies had formal ethical approval and discussed appropriate ethical issues, however two studies identified ethical approval sought from ethics committee, but provided limited information about the maintenance of ethical standards[35,42]; and the remaining five studies sufficiently considered ethical issues, which is important to consider when conducting all research. The data analysis was significantly rigorous for the majority of studies, however two studies offered partial information regarding the researcher's potential influence on data selection and analysis.[42,45] A total of 127 participants contribute to the development of themes. The external validity of the study findings may be impacted due to the variation in sample sizes. It is important to highlight all eight studies included fathers, with only one study conducted with a female participant,[43] which contributed to the four themes. The review aimed to include the experience of all non-professional birth partners, however the literature found

does not reflect the diversity at present. In addition, the time from birth varied largely, ranging from 14 weeks to 27 years in the studies, which could potentially impact themes.

Data Synthesis

The systematic review identified six overarching analytical themes and 16 sub-themes regarding birth partners' experience and perception of impact of being present for labour and childbirth (Table 3). Themes included: 1) i*mpact on mental health (Emotional distress, PTSD symptoms, and difficulties lingered),* 2) *interpersonal difficulties (loss of connection with partner and Avoidance of intimacy,* 3) *Positive changes (closeness to partner, solid foundation, positive coping strategies helped)*, 4) *breakdown in private (emotional control, avoidance to cope, difficult to support men)*, (5) *identity (changes to daily living and perceptions of masculinity),* 6) *underprepared and overlooked (not what we expected, feeling unimportant, let down by professionals).*

The most prominent theme across studies was the impact on mental health, which was reported across all eight studies. This theme highlighted the emotional distress that follows being present at childbirth, the experience of post-traumatic stress symptoms and the prolonged amount of time that difficulties lingered. The distribution of analytical and descriptive themes across all papers included in the review are summarised in Table 3.

Table 3

Distribution of Themes

Analytical and descriptive themes	References							
	Nicolls & Ayers (2007)	White (2007)	Hinton et al. (2014)	Dunning et al. (2016)	Inglis et al. (2016)	Etheridge & Slade (2017)	Moore et al. (2019)	Daniels et al. (2020)
1. Impact on mental health	X	X	X	X	X	X	X	X
Emotional distress	X		X	X	X	X	X	X
PTSD symptoms		X	X		X	X	X	X
Difficulties lingered			X	X	X	X	X	X
2. Interpersonal difficulties	X	X			X	X		X
Loss of connection	X	X			X	X		X
Avoiding intimacy	X	X			X			
3. Positive change	X			X	X	X	X	X
Closeness to partner	X				X	X		X
Solid foundation					X	X	X	X
Positive coping strategies helped	X			X	X	X		
4. Breakdown in private	X	X	X		X	X	X	X
Emotional control	X	X	X		X	X	X	X
Coping through avoidance	X		X		X	X		X
Difficult to support men			X		X	X	X	X
5. Identity	X		X	X	X	X	X	X
Changes to daily living			X		X	X	X	X
Perception of masculinity	X		X	X	X	X	X	X
6. Unprepared and overlooked	X	X	X		X	X	X	X
Not what we expected		X	X			X	X	X
Feeling unimportant	X						X	X
Let down by professionals			X		X		X	

Theme 1: Impact on Mental Health

All 8 papers were included in the development of this analytical theme, permeating all narratives. Birth partners talked about their experience of mental health difficulties that occurred following childbirth.

Emotional Distress

The majority of participants (across seven studies) experienced significant emotional distress with childbirth being described as having a "huge impact on mental health" for birth partners.[43] Some participants experienced heightened emotions immediately after childbirth with episodes of "prolonged crying"[48] and a range of complex emotions feeling fragile and low in mood *"Upset, distressed and unable to cope very well"*[44].

PTSD

Overwhelmingly, six studies (110 participants) reported symptoms of post-traumatic stress disorder, with one participant receiving a formal diagnosis.[43] Some participants reported being triggered by external stimuli such as television programmes about childbirth and when visiting hospitals.[46,44] Whilst others reported frequent flashbacks,[47] hallucinations, rumination and intrusive thoughts following the birth. A large proportion of participants contributed to this theme, the two studies that did not contribute to the development of this theme had smaller sample sizes with Hinton, et al., (2014)[43] having 11 participants and Nicholls et al. (2007) having 6. [35]

Difficulties Lingered

Participants not only discussed the impact that witnessing childbirth had on their mental health but also the severity of the impact. Participants discussed that the impact was either immediate or sometimes delayed following their childbirth experience *"two fathers*

identified that the birth had had a delayed impact on them".[46] However, the emotional impact was long lasting and lingered for a prolonged period "*…we haven't quite put it behind us. It still manifests itself sometimes"*. [43] Harbouring feelings of uncertainty and those difficulties were unresolved: *"…for most there was a sense that something was endured which was yet to be addressed"*. [46] Interestingly two studies that largely contributed to the development of this theme which could be suggestive of the time frame since birth, [46, 43] due to the studies having longer time frames since birth than the other studies. [45,48]

Theme 2: Interpersonal Difficulties

Five studies permeated narratives around interpersonal difficulties, describing the negative impact witnessing childbirth had on subsequent relationships. Three of the lowest scored studies were not included in the development of this theme. Interestingly, two of these studies gathered data closer to the time of birth (less than five years) as opposed to the remaining five studies which captured experiences up to 27 years postnatal. [45,42] Additionally, one study had a small sample size of 4 participants which could indicate limited data available.[42]

Loss of Connection

Birth partners talked about the difficulty connecting with their partners post birth, *" "There are probably quite a few things we haven't discussed. She keeps her bits to herself, and I keep mine to myself*". [35] With serious marital consequences for some parents: *"his wife and his baby survived but his marriage did not"*.[47] The three studies with the highest CASP score and largest sample sizes (total of 93 participants) contributed to the development of this theme.

Avoiding Intimacy

The avoidance of intimacy between couples post birth was prominent across three papers. Elements of sexual scarring was evident across partners' experiences, with sexual activity often avoided due to re-traumatising: *"Indulging in sexual activity led fathers to feel intense psychological and physiological distress at exposure to cues that symbolised [sic] or resembled an aspect of the traumatic event"* [47] and triggering flashbacks *"I had flashbacks whenever I went into the bedroom. I could smell blood and stuff…"*. [35]

Theme 3: Positive Change

Six studies contributed to the development of this analytical theme. Participants discussed that although witnessing childbirth was traumatic, there was an element of growth from the experience, both individually and as a family. Two studies did not contribute to the development of these themes, this may be due to the studies focus to explore mental health difficulties and negative outcomes following childbirth. [43,47]

Closeness to Partner

Some participants described that although childbirth was emotionally distressing, they experienced a sense of closeness with their partners: *"going through such a traumatic experience, including the fear that they could have lost their partners, created a stronger bond between couples"* . [44] Witnessing childbirth led to increased empathy for some partners, strengthening their bond as a couple and a sense of feeling supported: *"…we grew a tonne, you know it's the closest we've been, and we've been married for eight years already"*.[48]

Solid Foundation

Participants described how their experience had enabled them to develop a solid foundation as a family: *"um, my wife and I are extremely close we have a very solid foundation…"* , [48] with reports of feeling proud of how they coped together and worked

together as a team: "*We've worked through it and we have done it ourselves. You know. And I'm quite proud of that"* to build resilience.[42]

Positive Coping Strategies Helped

Participants talked about how positive coping strategies helped them to navigate their experiences and manage postnatally. Some participants used their social support networks to help manage emotional distress and trauma following the birth, "*I don't think I personally would have made it through this experience without the support of my family and friends!! They gave me something to look forward to!"*.[48] Some took refuge in talking about and expressing their emotions, *"talking to each other has helped to…"*,[35] and *"venting about their experiences was seen as cathartic…"*.[48]

Theme 4: Breakdown in Private

Almost all the studies (7) contributed to the development of this theme. The narrative of breaking down in private was something that occurred frequently, *"you cope by breaking down in private*".[47] Studies that scored the highest on the CASP tool contributed to the development of this theme.

Emotional Control

Participants discussed the stigma around discussing emotions with other men, *"As a lad it's not easy to talk to male mates"* [44] and subsequently the process of which participants *"bottled it up"* [46] and dismissed their own emotional response as participants indicated that they did not feel they had the right to be affected: *"I felt guilt…that I was feeling traumatised when, you know, obviously I hadn't really gone through anything"*.[46]

Coping Through Avoidance

Avoidance was a dominant theme with participants not only being reluctant to discuss their difficulties following childbirth but also actively avoiding the process of childbirth again, *"he had a vasectomy to make sure they did not have to go through childbirth again"* [43] and finding themselves emotionally detached from their situations to cope, *"Um , yeah [sic] it was going to that clinical sort of very business-like situation trying to deal with what I've just seen…"*.[48]

Difficult to Support Men

Participants discussed that there is a need for support for birth partners, however, they also recognised that birth partners can be difficult to support, [43] *"I think men are quite difficult to get support from…"* often with a reluctance to access support provided, *"very little but I could have sought more help, so I put no blame there"*. [44]

Theme 5: Identity

The theme identity was developed across seven of the studies, this theme identified the changes to birth partners identities, the change in role and impact on their place of work, perception of masculinity and the role this plays in coping postnatally. Only one study did not discuss this theme,[47] this may be due to the studies aims focussing specifically on PTSD symptoms following childbirth.

Change to Daily Living

Changes to daily living were apparent across five studies, with participants discussing the impact witnessing childbirth had on them in their place of work. Participants reported difficulties functioning as normal, [43] *"it was just horrific and my whole life has fell apart"* with debilitating consequences, *"I must have put two stone on...I didn't really focus any energy anymore on doing the things I used to do like playing football…"*. [48] Some participants discussed the changes in their roles, becoming the primary caregiver due to their

partners becoming unwell: *" She ended up with a few issues and I spent a bit of time off work looking after her"* and resulting in taking time off work,[44] *"I kind of got to the point that I said, look I need to stop work for a bit and … take some time out*".[46]

Perception of Masculinity

Participants engaged in self-reflection with a self-critical narrative in relation to how they managed their experiences and their own emotional response, *"I'm having all these flashbacks and that, I can't go to work, what sort of man am I?"*.[42] Participants explored their role as a male; with expectations of being self-reliant and stoical amidst the difficulties they experience post-birth. They discussed their own expectations of manhood in a female-dominated environment, "*because I'm a big lad I can look after myself"*[46] and reflected on how they attempted to use existing masculinity to manage the situation, *"I have that warrior that comes out and wants to sort the problem…only you don't have the tools to do it…and, therefore, for me, frustration because I cannot solve the problem. I cannot help"* which brought its own challenges.[35]

Theme 6: Unprepared and Overlooked

The majority of papers (7) contributed to this theme, with participants feeling unprepared for childbirth and overlooked when it came to support.

Not What We Expected

Participants reflected on the enormity of their birth experience,[46] as well as the unrealistic societal expectations they held prior to witnessing childbirth with the realisation that they too may be impacted emotionally, *"the woman is biologically equipped to forget that experience, the male carries the memory perfectly and vividly"*.[47] Partners discussed their preconceived expectations about fatherhood *"I expected to feel an instant bond with the baby, and I didn't"*.[44]

Feeling unimportant

Participants talked about feeling marginalised in the postpartum period within a female dominated environment: *"I found very little support for me as the father/male. Everyone asked about my wife but rarely did anyone ask about me"*.[48] A lack of communication was a contributing factor, *"afterwards I thought, there was space there, to actually involve me a bit more in what was going on. And it wouldn't have taken too much effort…"*.[43] This experience of marginalisation led to not feeling needed *"…feelings of unimportance by their own experiences"*.[44]

Let down by professionals

Participants reported feeling let down by professionals. Feeling dismissed when seeking professional support,[43] *"when Rob finally plucked up the courage to go and see his GP, the response was devastating"* and not offered support when needed *"we realised we weren't going to get any help from anyone else…"*.[42]

Discussion

The review synthesised qualitative data from eight research studies exploring birth partners' experience of being present during traumatic childbirth and the associated positive and negative implications of this experience. The synthesis included studies from 2007 to 2020, conducted across England, New Zealand and Australia. The researchers created six analytical themes which captured their partner's experience of emotional and experiential implications following traumatic childbirth.

Theme one comprised of, '*impact on mental health'*, which depicted the nature of emotional distress, symptoms of PTSD and the timeframe of which difficulties lingered with many reporting prolonged and unresolved distress which had a profound impact on mental health amongst birth partners (fathers and one female partner). The findings from the

qualitative synthesis further support existing quantitative literature regarding fathers' mental health difficulties following childbirth. Partners' experience of emotional distress, symptoms of depression and rumination in the postnatal period further supports the work of Bradley and Slade (2011)[37] who found fathers experienced postnatal depressive symptoms and OCD postnatally, which in subsequently impacted on their interaction's partners and children. Additionally, Thomas and Anderton (2021)[31] found fathers were at an increased risk of PTSD following childbirth. This is an important finding from this review revealed childbirth is experienced by partners as stressful, reporting symptoms of posttraumatic stress and in some studies receiving a formal diagnosis of PTSD post birth. [43] This is supportive of existing research highlighting the prevalence of PTSD and postnatal depression following childbirth.[29] A quantitative study conducted looked at fathers' scores on the Impact of Events Scale (IES), which is used to measure symptoms of PTSD.[58] Results concluded that men experienced symptoms of intrusion and avoidance after birth. Bradley et al. (2008)[59] measured symptoms of posttraumatic stress, anxiety, and depression in new fathers 6 weeks postnatally, and results revealed low prevalence of PTSD symptoms in men, however high anxiety scores. This fits with the current review, whereby partners reported experiencing mental health difficulties.

Theme two included '*interpersonal difficulties*' following traumatic childbirth whereby partners reflected on the loss of connection with their partner, having a negative impact on the relationship and leading to avoidance of intimacy and subsequent pregnancies. This finding is in line with existing literature implying postnatal PTSD has a negative impact on the couple's relationship [35] and that distress is interlinked in couples.[33]

In contrast, theme three highlighted '*positive change*' amongst individuals through the development of positive coping strategies which helped to better manage distress and develop solid foundation as a family and closeness partner. Existing literature suggests mothers can

experience positive changes following childbirth. Another study found an association between low PTSD symptoms and low levels of posttraumatic growth amongst a sample of 30 mothers using the posttraumatic growth inventory (PTGI) with relating to others being the highest dimension.[60] This is supported by the current review, with birth partners reporting closeness with their partner and developing a solid foundation following their experience.[34,21]

Theme four, '*breakdown in private'*, generated coping strategies implemented by partners, such as emotional control and avoidance as well as the difficulty and barriers to accessing to support, particularly for male partners in a female-dominated setting.

Theme five, '*identity',* captured the changes experienced in relation to daily living such as the impact on work and feeling unable to function, this theme also captured fathers' perception of masculinity and the role this plays in partners' identity following traumatic childbirth. The transition to fatherhood is notably a significant change, literature suggests that the integration of this role requires identity adjustment, which is historically associated with discourse surrounding traditional masculine identities e.g., 'being the breadwinner', often fathers' experience uncertainty surrounding their identity which is governed by their social and political context.[57]

Theme six '*underprepared and overlooked'* highlighted the unpredictability of outcomes following traumatic childbirth with partners feeling unimportant and let down by professionals. This finding is supportive of studies that found a lack of professional support in conjunction with maladaptive coping can contribute to the onset and maintenance of PTSD.[10,11] Moreover, findings presented in this review support the need for additional support in the perinatal period for partners who report feeling unprepared and overlooked with little support provided. Harvey and Pattison (2012)[36] found higher symptoms of postnatal depression were associated with lower social support. Partners have more positive

experiences of childbirth when they feel prepared for potential complications, well supported, and included in the process.[61]

Clinical Implications

This review highlights the mental health needs of partners postnatally, following experience of traumatic childbirth. Due to the potentially detrimental impact witnessing traumatic birth may have on partners, it may be critical for partners to be routinely offered additional support, particularly when they experience low mood, anxiety, or symptoms of PTSD in the postnatal period. In addition, these findings have important implications for maternity care service providers. A recurring theme across the studies was the lack of professional support offered to birth partners, additionally the review highlights the complexity of engagement for fathers, with a number of significant barriers to accessing support, such as their perception of masculinity and their change in role and identity transition. It may be important for maternity services to continue to include fathers in antenatal preparation classes as well as signposting fathers to mental health support services such as 'Dads Matter UK', whereby support is provided to men postnatally. The implications of the findings are discussed in the context where childbirth is considered traumatic, however, it may also be important for maternity services to offer routine support for birth partners present at a birth that is not considered traumatic. Including and supporting birth partners antenatally and postnatally is not only important for their own mental health following childbirth but the parental relationship also.

Strengths and Limitations

It is important to acknowledge the subjective perception of the qualitative synthesis. The review followed rigorous methodology.[52] The CASP quality assessment showed that the quality of the studies included in the review was high, and all studies contributed to the

development of the themes to provide a comprehensive understanding of experiences. However, the amount of data extracted varied from each study, with one study contributing less towards the themes due to the primary aim not solely focussed on birth partners' experience and therefore only contributing to three of the themes.[45]

The review findings are limited to largely male partners/fathers, with only one study including one same sex partner. [43] A large majority of participants were white men; therefore, the results suffer from a lack of diversity and inclusion amongst participants, which means results may not be a diverse representation of birth partners' experiences. Only eight studies met the inclusion criteria for this review, which attempted to include additional non-professionals present at birth and experiential and emotional outcomes, however limiting the inclusion criteria to peer-reviewed articles may have excluded potential grey-literature surrounding this experience. Although inherent in qualitative research, it is important to note that a limitation of the synthesis is the lack of generalisability from the findings.

Future Research

Being present during childbirth is a highly emotive and life changing experience. This review includes a large representative of male birth partners, and it was evident that there is limited representation of other non-professionals who may be present during childbirth. It would be helpful to further explore the experiences of same-sex couples, maternity support workers, family members and friends to provide an inclusive understanding of birth partners' experiences. In addition, it may be helpful to think about factors including the nature of birth partner's relationship with the mother, the prior knowledge of childbirth and the emotional impact postnatally.

The current review synthesises data collated up to 27 years post birth, future research could synthesis data from different time frames post childbirth, in order to understand the

differences in birth partners emotional and experiential outcomes immediately following childbirth and longitudinally. Which could support and target those most at risk and tailor support.

Conclusion

In summary, the review identified childbirth can impact birth partners mental health, whilst some evidence suggests areas of positive change there were also consequences of this experience such as interpersonal difficulties and changes to identity, with partners feeling unprepared and unsupported by services leading them to cope by breaking down in private. In line with the theoretical framework this review suggests that birth partners may be at considerable risk of developing negative outcomes postnatally, with the lack of social support and presence of maladaptive coping strategies they may be at risk of developing PTSD. Considering the current climate and restrictions to birth partners attending childbirth due to the Covid-19, further research is needed to support birth partners and their potential exposure to indirect trauma. Furthermore, this review may be helpful in providing maternity care services with more information about how to best support service users in the postpartum period.

Abbreviations

PTSD: Post traumatic stress disorder; OCD: Obsessive compulsive disorder; PPH: Post-partum haemorrhage; DSMV: Diagnostic and statistical manual of mental disorders; Posttraumatic growth inventory (PTGI).

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Consent for Publication

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Not applicable

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Chapter Two: Empirical Paper

Maternity Support Workers' (MSWs) Exposure to Stressful and Traumatic Events in Their Role in Supporting Childbirth and its Impact Upon Personal and Professional Wellbeing

Manuscript prepared for submission to BMC Pregnancy and Childbirth (see Appendix D for author guidelines)

Abstract

Background

Maternity services are an area of care provision where life-threatening events can occur and situations change rapidly requiring considerable focus. It is known that midwives and obstetricians can develop symptoms of post-traumatic stress and may also experience reduced empathy, lower job satisfaction, burnout and functional impairment. MSWs fulfil a relatively new role supporting midwives and obstetricians and little is known about their experiences at work. This study aimed to explore their exposure to work-related stress and traumatic events and the subsequent personal and professional impact.

Method

Participants (n = 98) were recruited via online cross-sectional survey advertised by the Royal College of Midwives (RCM). Quantitative analysis was used to determine predictors of PTSD symptoms amongst MSWs. As consequence of exposure, burnout, attitude to professional role, job satisfaction, functional impairment, and empathy were measured to examine the association with PTSD symptoms. Content analysis was used to identify themes relating to questions around perinatal traumatic events.

Results

Approximately 90% of MSWs indicated direct or indirect exposure to perinatal traumatic events in the workplace, with almost 15% reporting PTSD symptoms at clinical levels. Direct exposure to a traumatic event (being physically present) and age were associated with greater PTSD. In relation to trauma exposure, 15.9% indicated moderate to high levels of depersonalisation, almost 30% scored within the significantly impaired range at work and 25% in family life. Negative attitudes towards professional roles were associated with higher burnout rates. Qualitative analyses revealed themes regarding what made the

perinatal event traumatic; (1) Exposure to severe unpredictable events and distress (2) Impact of distress (3) Working with Complexity (4) Maybe the event was preventable, (5) Lack of support for MSWs.

Conclusions

This study highlights the unpredictability of childbirth and thus the prevalence of routine trauma exposure amongst MSWs. Predictors of PTSD symptoms were younger age and being physically present at event. MSWs’ lack of qualification and training does not protect them from experiencing traumatic events in the workplace and as they are unqualified members of staff, they feel unprepared and unsupported when traumatic events occur, highlighting a need for further training and support.

Keywords: Maternity Support Workers, Childbirth, PTSD, Burnout, Maternity Services

Background

Exposure to traumatic events amongst midwifery staff and obstetricians has been well documented and as consequence, midwifery staff have experienced post-traumatic stress symptomatology at clinical levels.[4,5] Through the provision of care, clinicians and healthcare workers are potentially exposed to a wide range of work-related stressful events, for example, exposure to serious injury, medical complication, and death.[1] Pregnancy, birth and the early weeks of a child's life are a crucial period for the future of the mother, baby and the family. It is therefore vital that families are supported by high quality maternity services which cater for their individual needs and support them to begin their new lives together.[2] The majority of births result in positive outcomes for both mother and baby, however, there is potential for adverse events whereby mother or her baby is suddenly at risk of serious injury or death.[3] Stressful and traumatic events in the workplace can have significant effects on an individual's functioning, both psychologically and behaviourally, impacting mental health and wellbeing.[1] MSWs is a relatively new role in maternity services and little is known about their experiences, however, they are working in the same environment as midwives and obstetricians and it could be argued they experience the same stressful situations and traumatic events that occur; albeit without the professional training to prepare them as well as their colleagues. This paper will review the reported findings of experiences of professionals working in maternity cares and then draw on the new role of MSWs to consider the potential impact for their personal and professional wellbeing.

Exposure to Traumatic Events in Maternity Services

Post-Traumatic Stress Disorder (PTSD) is recognised as a psychiatric disorder according to the Diagnostic Statistical Manual of Mental Disorders (DSMV).[15] When individuals have been exposed to a traumatic event involving actual or threatened death or

serious injury to the self or others, PTSD can occur. PTSD is characterised by symptoms whereby individuals emotionally or physically re-experience traumatic events, avoid being reminded of or talking about the event, and experience hyperarousal, often feelings of being "on edge" and unable to relax. A formal diagnosis of PTSD requires the individuals to experience feelings of intense fear, helplessness or horror at the time of the event.

There is an emerging body of literature which suggests that midwives and student midwives may experience aspects of their work as traumatic and report post-traumatic stress symptomatology at clinical levels.[4] Furthermore, when midwives know the mother involved, there was an increased rate of PTSD symptoms. This has serious implications for the proposed continuity of care model which aims to build consistency in care teams through pregnancy and birth.[4] According to Wahlberg et al. (2016),[16] a substantial proportion of both obstetricians and midwives reported symptoms of partial or probable PTSD following severe traumatic events experienced on the labour ward. The analysis identified several predictive factors including having feelings of guilt, experiencing negative reactions from parents involved, and insufficient support both professionally and personally. The study also found midwives were more likely to take work-related sick leave than obstetricians, impacting staffing and resource.[16] An association of negative outcomes for psychosocial health and well-being has been found amongst midwives and obstetricians immediately following a traumatic childbirth and up to four weeks later.[17] Research suggests high rates of PTSD symptoms are prevalent amongst obstetric and gynaecology trainees and consultants, with factors such as ethnicity increasing the risk of PTSD at clinical levels amongst those from black and ethnic minorities.[20] Factors such as age at trauma and gender have been found predictive factors of PTSD Amongst other populations. [44]

A more recent study qualitatively investigated events perceived as traumatic by maternity professionals including obstetricians and gynaecologists, both qualified and in

training.[21] Results revealed similarities between the perception of traumatic events between professionals; difficult delivery, maternal or neonatal death/stillbirth and haemorrhage were frequently reported as traumatic, with the unpredictability of events and perceived preventability of negative outcome being significant contributors toward the perception of trauma. [21] Additionally, the absence of support, involvement in procedures and pre-existing relationship with recipient of care further heightened the individual's perception of trauma. Similar themes have been reported regarding midwives' perceptions of perinatal traumatic events. Sheen et al. (2016b)[22] found themes which included severe unexpected episodes which contributed to feeling out of a comfort zone, emotional upset, self-blame and feelings of vulnerability. Extensive literature has investigating PTSD prevalence amongst maternity professionals including midwives and obstetricians; however, little is known about prevalence and impact on MSWs. The evidence is suggestive of specific events being defined as traumatic, of mediating factors such as support available and how well known the patient is, and little difference between professional groups. Therefore, whilst there is little known about MSWs, it could be suggested their experience may be similar.

There is recognition of the psychological impact of birth trauma on the workforce in the development of resilience programmes. The POPPY programme, developed for qualified midwives, incorporates educational and supportive resources to prevent the development of PTSD and has shown to improve midwives' mental health and sensitivity of care they provide as well as reduce service disruption and costs for trusts.[19] The evidence suggests that resilience training may prevent healthcare providers from developing symptoms of severe anxiety and promote professional retention. However, there are challenges to implementation due to lack of organisational support and individual coping strategies.[18] This highlights the prevalence of trauma experienced by perinatal staff and its implications following a perinatal traumatic event both personally and in the workplace.

Stress and Burnout Amongst Maternity Staff

Maternity services have faced significant changes over the past few years, particularly with a significant decline of practising midwives.[2] Statistics indicate that the number of newly qualified midwives equate to the number of existing midwives leaving the profession; creating an equal turnover each year.[15] There are several reasons for this decline in qualified staff including exposure to excessive workloads and little resources leading to burnout and high stress levels. The three most common reasons for feeling workplace stress are workload (78.7%), staff shortages and not enough time to do the job.[12] These reasons are unchanged since 2016 and suggest a service remaining under-resourced and under-staffed results in 65.9% of staff feeling unwell as a result of work-related stress. These findings highlight the prevalence of work-related stress amongst the maternity workforce. In addition to existing stressors the Covid-19 pandemic has undoubtedly changed the way in which maternity care is received and delivered. Given the lack of existing literature, consideration regarding the impact of Covid-19 was considered both qualitatively and quantitatively within the study to better understand experience in the current climate and potential impact due to the pandemic.

Burnout amongst clinicians is well documented, and more recently in midwifery indicating negative consequences for employees.[4] At present, maternity units are under high demand, overworked and understaffed and under intense pressure to be able to meet the demands of the service without appropriate support.[12] Burnout is a prolonged response to chronic interpersonal stressors in the workplace.[23] It comprises three elements including: depersonalisation (detached and distorted perception of the self, others and environment;[24] emotional exhaustion, and decreased personal accomplishment,[25] leading to decreased work efficiency, little interest in work, and poor job satisfaction amongst medical professionals.[26] There are a number of psychosocial factors that significantly affect how maternity professionals deal with burnout, which include years in profession, shifts worked, psychosocial

issues amongst workload and level of exercise.[27] Links have been found between PTSD and the depersonalisation and emotional exhaustion elements of burnout in maternity staff. [4] Additionally, Toohill et al. (2018)[28] found that increased levels of fear within a job role was associated with low confidence within a sample of midwives, thus making it more difficult to provide compassionate and sensitive care. Considering this literature, burnout may to be prevalent amongst MSWs, working alongside midwives.

Empathy

Empathy is a construct which has cognitive, affective and behavioural components which include awareness of another person's emotional state, experiencing personal distress related to this awareness and withdrawing from the situation.[29] The ability to empathise enables individuals to regulate emotions and soothe own personal distress toward the other person's pain and discomfort, allowing them to offer compassion and support to others.[30] Providing empathic care is a pivotal skill for MSWs. Recent research suggests that reduced empathy in midwives impacts their ability to empathically engage with women, provide compassionate care, and to facilitate effective communication.[19] Additionally, negative correlation was found between resilience and empathy in midwives and subsequent PTSD symptoms, those with higher empathy and lower resilience were more likely to experience PTSD symptoms.[31] This implies those who have high empathy and low resilience may be at an increased risk of developing PTSD, with subsequent consequences impacting the quality of care provided to the recipient. Professional experience can also impact empathy. Gleichgerrcht and Decety (2014)[32] found that experienced physicians were more desensitised to the pain of others than less experienced physicians, however, this impact was not apparent in relation to physician personal distress. Evidence suggests a balance is required when providing care; clinicians need to not be too empathic but empathic enough to provide sensitive and compassionate care.[33]

MSWs in the Maternity Workforce

The Royal College of Midwifery (RCM) is the UK's largest trade union and professional organisation for midwives and the majority of UK-based MSWs are members. MSWs are health care workers who do not have a recognised professional qualification. According to the RCM, the number of MSW posts are rising amongst the maternity workforce; their role is defined as supporting and assisting midwives in caring for women and their babies,[6] making an important contribution toward the care of the childbearing woman, families and maternity teams.[7] They were primarily developed by the National Service Framework (NSF) for Children, Young People and Maternity Services[8] to support midwives with the increasing complexities in maternity care and work towards the long-term plan of providing continuity of care for all mothers by 2024; aiming to reduce pre-term births, hospital admissions, need for intervention and improve women's experience.[9] The workload of MSWs is broad and includes administration and clerical tasks, housekeeping and supporting midwives with health care delivery. They may be working in the community providing care for mothers and babies throughout pregnancy or in delivery suites to support midwives, including situations where neonatal or maternal emergencies may arise.[10] The 'long term plan' (2019) instigated by the NHS aims to implement a continuity of care model,[9] whereby all women receive care from the same team of midwives throughout the perinatal period, aiming to reduce pre-term births, hospital admissions, need for intervention and improve women's experience. With a ratio of 1:1 MSW to midwives in Birmingham, MSWs have helped to improve the long-term sustainability of the homebirth service by assisting midwives with neonatal emergencies and holistic care.[2] MSWs are recruited into the lower paid bands 2-4 under agenda for change with no set requirements in terms of qualification. This varies across trusts from GCSE level education to college health and social care qualifications, nursery nursing or childcare. At present, MSWs receive basic mandatory

training in NHS which includes safeguarding and basic life support. Trusts identify requirements for MSWs which range from “caring and patient”, “willing to be present at childbirth”, “able to work under pressure, with other people’s emotions” and “adaptable to deal with unpredictable situations” with little requirement for formal training. The development and deployment of the role has presented with considerable differences in the experience, training, skills required and lack of role clarity.[11].

Maternity staff provide care in a context where life threatening, or stressful events can occur, and research suggests that exposure to indirect trauma can elicit traumatic responses and affect wellbeing and subsequent care provided.[3] Potential consequences of exposure to traumatic events can include reduced empathy and organisational stress resulting in increased likelihood of staff sickness and absence from work; factors which are particularly prominent for midwifery staff.[4] It can be hypothesised that in light of the expanding workforce and complexity of care, the potential for exposure to trauma for maternity staff may increase. As is also evident, the MSWs’ role may be highly varied by context in addition to their lack of training and professional support when dealing with life threatening and potentially traumatic situations. In 2017, the RCM conducted a report following a mixed methods survey taken from 500 MSWs.[12] Results revealed that the MSW population is overwhelmingly female, an aging workforce with 55.8% aged over 40. Just over 40% worked within their role for over 10 years and almost 20% aimed to continue training to become qualified midwives. Interestingly, 58% of MSWs who took part in the survey reported feeling frustrated in their role. Additionally, MSWs identified potential training needs, with consistent reports highlighting the need for training to support families who had experienced bereavement and mental health concerns.[13]

Rationale

The MSW profession is expanding albeit as an unqualified workforce, supporting midwives to manage job role demands whilst delivering person-centred care in already stressful environments. Given the literature on the experiences of midwives, obstetricians and gynaecologists that certain events are perceived as traumatic it could be suggested that MSWs in the same arena are experiencing these events. Little is known about MSWs' experience in managing work-related stress, whether they are exposed to traumatic events in the workplace, or the impact of any such exposure to trauma. Thus, there is a paucity of research investigating the roles and psychological wellbeing of MSWs which is likely to be increasingly important given the crisis amongst the trained maternity workforce.[12] Accordingly, the present study had the following aims:

1. To identify the proportion of MSWs who report being exposed to traumatic events at work.
2. To identify what proportion of MSWs have been exposed are suffering with significant levels of PTSD symptoms.
3. To compare those exposed to those who have not been exposed on demographics, job descriptors, job satisfaction and psychological measures.
4. Of staff exposed to trauma, to explore what factors (demographics, job descriptor, job satisfaction) predict experience of PTSD symptomatology or not.
5. To identify the impact of exposure to traumatic perinatal events on personal and professional life and understand what contributes to events being perceived as traumatic

Method

Design

Participants completed a cross sectional survey which included both quantitative and qualitative information derived from open questions online using Qualtrics software.

Quantitative analysis was used to determine predictors of PTSD symptoms (outcome variable), predictors included demographic variables and type of exposure to traumatic event, direct (physically present) and indirect (heard about). Consequences of exposure were also measured including burnout, job satisfaction, functional impairment, and empathy. Qualitative analysis was used to identify themes within the descriptive data.

Participants

A total of 531 MSW's accessed the survey link. 153 gave consent to participate in the survey with 101 completing the survey. **Inclusion criteria:** Participants must be currently employed and working as a MSW for a minimum of 3 months. **Exclusion criteria:** Individuals who are not currently employed as a MSW and have not been for 3 months or more. Three participants were excluded from the survey due to meeting exclusion criteria. Of the 101 who met criteria to be included, complete data was recorded for 98 participants. A total of 88 participants indicated exposure to work-related traumatic events in the workplace (89.79%), therefore only the exposed sample was included in the analysis due to the small number of those not exposed (n=10). Participants were 100% (n = 88) female aged between 20-62 with a mean age of 39 (M = 39.36, SD = 10.29).

Power Analysis

Based on previous studies assessing work related trauma in maternity staff, recruited using the RCM database for participant recruitment yielded a 16-18% response rate of the total population.[4] Given the estimated number of MSW members in the RCM (approximately 1000) a minimum sample size of 160-180 was predicted. Research studies estimate 50% of participants report being exposed to a traumatic event (criterion A, DSM-V)[15], this would allow a sample size of 80-90 to complete all questionnaires including the IES-R. Power analysis for linear regression with 4 predictors was conducted in G*Power to determine a

sufficient sample size using an alpha of 0.05, a power of 0.80, and a medium effect size (f2 = 0.15).[34] Based on the assumptions, the desired sample size was 84.

Procedure

The study took place in the UK. Participants were recruited via the Royal College of Midwives (RCM). The RCM is the UK's largest trade union and professional organisation for midwives and the majority of UK based MSWs are members. The survey link was advertised by the RCM on the weekly newsletter sent out to all MSW members and via social media on the MSW Facebook page, which is a closed group for RCM members. Links to the survey were available from November 2020 to March 2021. Once MSWs clicked on the survey link they were shown an information sheet and asked to confirm consent before proceeding with the survey (Appendix E). MSWs were then asked to provide demographic information, short, brief, and unidentifiable descriptions of their experiences and complete five self-report questionnaires. At the end of the survey, participants were given debrief support and the option to enter a prize draw to win vouchers. Participants who chose not to participate in the study were thanked for their time.

Measures

Basic descriptive information was collected from participants including age, gender, ethnicity, marital status, childbearing history, time worked in profession, NHS pay band, professional designation and area of work, personal experience of mental health difficulties and the impact of the Covid-19 global pandemic (Appendix G). Trauma exposure was assessed using *criterion A*; which is defined by the American Psychological Association in the DSM- V as exposure to an event involving perceived threat to self or somebody else's life (DSM-V, APA, 2013) this definition was described in the survey. Participants were asked whether they had ever been present during a perinatal traumatic event (1) whilst working as a MSW, (2) in the past 5

years working as a MSW (3) if they had experienced a sense of "intense fear, helplessness or horror" at the time of the event. Participants were asked to indicate if they (1) had ever taken time off work or had a change of allocation, and (2) seriously considered leaving the job role due to experiencing a perinatal traumatic event. MSWs were asked to report their confidence around supporting women in labour and birth at the time of the event, responses were scored between 0 (not confident at all) to 4 (very confident). Five standardised self-report measures were included in the survey (see below).

Open questions asked MSWs to provide short descriptions of perinatal traumatic events without identifiable information, describe any adverse/beneficial effects of experiencing a perinatal traumatic event in the workplace and any impacts of Covid-19.

Measures

1. Post-Traumatic Stress Symptoms

Post-Traumatic Stress (PTS) symptoms were measured using the Impact of Events Scale-Revised (IES-R).[35] The scale consists of 22 items and three subscales, measuring symptoms of intrusion, avoidance and arousal, with a scoring range of 0 (not at all) to 4 (extremely) and a total score out of 88. Items included statements such as "I felt irritable and angry". Clinical cut off scores suggest 33 or above to indicate a probable diagnosis of clinical PTSD.[35] Only participants indicating exposure to a perinatal traumatic event in the workplace completed this measure, which was found to be highly reliable (22 items; $\alpha = .96$). (See Appendix H for IES-R).

2. Functional Impairment

Perceived impairment was measured using the Sheehan Disability Scale (SDS)[36] Functional impairment was assessed across three inter-related domains; work/school, social and family life. For example, "My experiences of work related traumatic perinatal events have disrupted my work". Scores range from 0 (unimpaired) to 30 (highly impaired). High

scores are associated with significant functional impairment. Only participants indicating exposure to a perinatal traumatic event completed this measure. The SDS demonstrated good internal consistency (3 items; α = .87) (See Appendix I for SDS).

3. Burnout

Symptoms of burnout were measured using the Maslach Burnout Inventory Human Sciences Survey (MBI, Maslach et al., 1997). The MBI measures three domains of burnout including emotional exhaustion, depersonalization and personal accomplishment, with items such as "I feel very energetic". Elevated burnout is indicated with higher scores on the emotional exhaustion and depersonalisation subscales and low scores on personal accomplishment. Good internal consistency has been indicated for each burnout domain which was found to be highly reliable amongst the current sample (22 items; α = .79)[25] (See Appendix J for MBI).

Job Satisfaction

An adapted version of The Attitudes to Professional Role Scale was used to measure job satisfaction.[37] Domains assessed professional satisfaction, professional support, and professional development. Items are scored 1 (strongly agree) to 5 (strongly disagree) on seven items, with the remaining seven items reversed scored from 2 (strongly agree) to -2 (strongly disagree). Scores range between -2 to 2 followed by calculation of mean scores for each subscale. Negative attitudes are signified with lower scores. For the purpose of this study the researcher worked closely with a Professor of Midwifery and Senior Midwife/regional head RCM representative to review the instrument for the purpose of MSWs and amend accordingly. Subsequently, the client interaction subscale was removed, and one of the professional development items as these were not applicable to the MSW job role. Additionally, the term "professional" was removed and "midwife" was replaced with

"MSW". The adapted attitudes to professional role for MSW scale was found to be highly reliable (14 items; α = .81). (See Appendix K for The Attitudes to Professional Role Scale).

4. Empathy

Empathy was measured using the empathic concern subscale taken from the Interpersonal Reactivity Index (IRI).[38] Their IRI consists of four subscales, perspective taking, personal distress, fantasy and empathic concern (EC). The EC subscale measures an individual's tendency to feel sympathy and compassion for those in need. There are 7 items for this subscale, scored on a scale of 1-5, producing scores with a potential range of 7- 35. An example of an item is "I am often quite touched by things I see happen". The IRI has demonstrated good internal consistency (Davis, 1983). The EC scale was found to be just below acceptable internal consistency (7 items; α = .63) in this sample and results relating to this measure therefore need to be interpreted with caution. (See Appendix L for IRI).

Ethics

Ethical approval for the research was granted by the University of Liverpool Research Ethics Committee. See Appendix C for ethics approval confirmation.

Plan of Analysis

Continuous data was assessed for assumptions of normality and homogeneity of variance. Normality of the data was tested by examining skew, kurtosis, histograms, and running a Kolmogorov-Smirnov test. Non-parametric test equivalents were used for the data as the main outcomes did not follow normal distribution. Mann-Whitney U tests were used to compare means of independent samples, Spearman's Rank Order correlations assessed associations between bivariate data, and bootstrapping was implemented for the linear regression analysis.

Descriptive statistics and analyses were conducted using IMB SPSS v.27. Descriptive statistics (means and SDs) were calculated for scores on the measures for IES-R, burnout,

attitudes to professional role, functional impairment, and empathy, (Table's 3-7).T-tests (independent measures) were computed to inspect initial associations and differences between IES total score (PTSD symptoms) according to personal demographic variables including ethnicity, job role (community/hospital), pay band (0-2/3-4), previous mental health difficulties, current mental health difficulties, type of exposure to perinatal traumatic event, time taken out of work, consideration of leaving the job, trauma experienced outside of work, own birth experience and years worked (0-6/6+ years), years worked were derived using the median. Bivariate correlations were used to assess the relationships between functional impairment, burnout, attitudes towards professional role, empathic concern, confidence in job role and the outcome variable PTSD (scores on IES-R).

Independent variables that reached a significant level (<.05) in the bivariate analysis were included in the linear regression, potential consequences of PTSD such as on empathy and burnout were not included in the regression. A multiple linear regression was computed to explore independent variables that may be significant predictors of PTSD (outcome), for the regression PTSD (IES-R score) were treated on a continuum and independent variables (predictors) were entered together in one model.

A content analysis was used to analyse qualitative data collated through open questions. Content analysis is a subjective interpretation on the content of text data, through a process of systematic clarification between researchers.[39] Coding categories were extracted from the raw data to identify key concepts collected from participants, the evidence collated was analysed to identify main themes and sub-themes within the data.[40] (See Appendix M for example of coding for content analysis, including direct quotes).

Results

Participant Characteristics

Descriptive statistics are shown for those participants subsequently included in the analysis (n = 88; Table 1) and participants excluded from the analysis due to the small data set of those not exposed to trauma (n = 10; Appendix M).

Table 1

Demographic, Job Role Experience and Designation for Participants

		N = 88 (exposed to trauma)	
		M (SD)	Range
Age		39.36(10.29)	20-62
		N	%
Gender	Female	88	100
	Male	0	0
Ethnicity	White	77	87.5
	Black, Asian and minority ethnic	11	12.5
Marital status	Married/cohabiting	55	62.5
	Single/divorced/separated/widowed	33	37.5
Years worked as MSW	0-6	46	52.3
	6+	42	47.7
Job role	Community	24	27.3
	Hospital	64	72.7
NHS band	2	35	39.8
	3	44	50
	4	8	9.1
	other	1	1.1
Employed by	NHS	87	98.9
	Other	1	1.1
Job role changed due to covid19	Yes	50	56.8
	No	38	43.2
Covid-19 impacted ability to perform job	Yes	34	38.6
	No	54	61.4
Mental health difficulties present before COVID-19	Yes	40	45.5
	No	8	9
	No mental health difficulties	40	45.5
History of GP Consultation for mental health	Yes	48	54.5
	No	40	45.5
Current mental health input	Yes	17	19.3
	No	71	80.7
Outcome of mental health input/GP consultation (referral)	Was not referred on	20	22.7
	Referred for professional help	28	31.8
	No consultation or mental health input	40	45.5

		N	%
Considered leaving job due to work related perinatal trauma	Yes	25	28.4
	No	63	71.6
Sick leave taken because of perinatal trauma	Yes	6	6.8
	No	57	64.8
	Considered it but did not	25	28.4
Experience of trauma outside of work	Yes	41	46.6
	No	47	53.4
Personal experience of giving birth (self/partner)	Yes	64	72.7
	No	24	27.3
How many times given birth (self or partner)	1 time	15	17.05
	2 times	29	32.95
	3 times	15	17.05
	4+ times	10	11.36
	0 times	19	21.59
Consider personal experience of birth to be traumatic	Yes	25	28.4
	No	39	44.3
	No personal birth experience	24	27.3
Experience impacted role as MSW	Yes	20	22.7
	No	5	5.7
	No personal traumatic birth experience	63	71.6
Confidence around supporting birth and labour when physically present at event	Not confident	2	2.3
	Slightly confident	6	6.8
	Somewhat confident	6	6.8
	Fairly confident	22	25.0
	Moderately confident	19	21.6
	Very confident	13	14.8
	Not present at event/heard about	20	22.7
Traumatic experience outside the workplace	Yes	41	46.6
	No	47	53.4
Sense of fear/hopelessness or horror at event outside the workplace	Yes	37	42
	No	4	4.5
	Not traumatic event experienced outside workplace	47	53.4

The majority of the sample were white females, married or cohabiting and almost all employed by the NHS. Over half worked as a MSW for at least three months to six years and

the remaining working seven plus years. Comparisons between trauma exposed (n = 88) and non-exposed (n = 10) participants were not feasible due to the latter small data set.

Job Role

The majority of MSWs considered themselves primarily hospital based with just over one quarter working within the community. With regards to pay, according to the agenda for change pay scale, over half were currently on pay band 3 or 4, with less than half on pay band 2 or lower.

Mental Health

Over half of MSWs had consulted GPs about their mental health, including problems with sleep and "nerves" in the past, almost half reported mental health difficulties were present prior to Covid-19 and almost one quarter were receiving professional input for their mental health, sleep, and "nerves" at present.

Birth Experience

Almost three quarters of the sample had personal experience of giving birth (self or partner), with over one quarter of those who had personal experience considered this experience to be traumatic. Almost one quarter reported their personal birth experience has impacted on their subsequent work as an MSW. Eighty percent (n = 20) of those who reported their own birth experience as traumatic reported that their own experience has impacted their work as an MSW.

Impact of Covid-19

Over half of participants stated their job roles have been impacted as a direct result of the Covid-19 pandemic with, with over one third stating Covid-19 had negatively impacted their ability to do their jobs.

Perinatal trauma in the workplace

Exposure

The initial aim was to identify the proportion of MSWs who reported being exposed to traumatic events at work. Results show that approximately 90% (n = 88) of total participants indicated exposure to work-related stressful events, of whom 77.3% (n = 68) reported experiencing feelings of fear, hopelessness, or horror in response to the perceived threat of death or injury to self or somebody else's life at the time of the event (Table 2).

Demographic and job descriptors were analysed amongst the exposed sample. Most participants reported being physically present at a traumatic perinatal event as shown in Table 2. The frequency of events experienced are also shown in Table 2, with over half of all participants having experienced 1-5 traumatic perinatal events. Almost three quarters indicated that the most recent traumatic perinatal event occurred within the last year, and approximately one quarter had experienced the event over one year ago. At the time of the traumatic event, 67% (n = 59) of MSWs reported experiencing a senses of fear hopelessness or horror (Table 2). On average, MSWs reported feeling moderately confident with their practice around supporting labour/birth at the time of the perinatal traumatic event (Table 1). Almost 90% (89.8%, n = 79) of MSWs exposed to traumatic events in the workplace had heard about a traumatic perinatal event, with one third reporting hearing about 1-5 traumatic perinatal events and almost two thirds (59.1%, n = 52) experiencing a sense of fear/hopelessness or horror at the time of the traumatic event/s (Table 2).

Table 2

Frequency of Events Experienced by Participants Physically Present at a Perinatal Traumatic Event

Direct exposure (physically present) (n = 68)	N (%)
1-5 events	48 (54.4)
6-10 events	4 (4.5)
11+ events	7 (8)
Most recent event/s occurred in the past 12 months	49 (72.05)
Most recent event/s occurred over 1 year ago	19 (27.94)
Experienced fear/hopelessness/horror	59 (67)
Indirect exposure (heard about) (n = 79)	N (%)
1-5 events	29 (33)
6-10 events	28 (31.8)
11+ events	16 (18.2)
Experienced fear/hopelessness/horror	52 (59.1)

As a result of hearing about or being physically present at a perinatal traumatic event, fewer than ten percent (n = 6) took time out of work, almost thirty percent considered taking time off, but did not and almost two thirds did not take time off. Interestingly, approximately thirty percent seriously considered leaving the job role following the perinatal traumatic event (unrelated to Covid-19). Over twenty five percent (26%, n = 23) reported adverse effects following a perinatal traumatic event, with over half (59%, n = 52) reporting subsequent beneficial impact after experiencing a perinatal traumatic event. Outside of the workplace, almost half of MSWs reported experiencing a traumatic event, with 42% (n = 37) experiencing a sense of fear/hopelessness or horror in relation to the event/s (Table 1).

Posttraumatic Stress Symptoms

The second aim of the study was to identify the proportion of those who had been exposed to traumatic events in the workplace and were suffering with significant levels of PTSD symptoms. Mean total scores were computed for the IES-R (M = 14.72, SD = 16.59) for MSWs who reported experiencing a perinatal traumatic event in the workplace (n = 88; Table 3).

Table 3

Descriptive Statistics for Scores on the Impact of Event Scale-Revised

IES-R subscale	Total sample (n = 88)	
	Mean (SD)	Range
Intrusion	6.22 (6.75)	0-32
Avoidance	5.15 (6.28)	0-32
Hyperarousal	3.35 (4.92)	0-24
Total IES-R	14.72 (16.59)	0-88

Total IES-R scores were used to indicate PTSD symptoms (Table 4). A score of 22+ indicates partial PTSD and clinical concern, scores of 33 (cut off) and above indicate probable diagnosis of PTSD.[35]Table 4 shows approximately 15% (n = 13) of MSWs reported PTSD symptoms at clinical levels while a further 6% (n = 5) met the subclinical threshold.

Table 4

Presence of Self-Reported Work-Related Stress and Rates of PTSD in MSWs Reporting Work-Related Traumatic Experiences Split by Total Impact of Events Scale-Revised Score and Categorised by Clinical and Subclinical Threshold.

IES-R Total	Total Frequency %	N
No significant PTSD symptoms (<22)	79.5%	70
Partial PTSD symptoms (Sub-clinical >=22)	5.7%	5
Probable PTSD symptoms (Clinical >33)	14.8%	13
Total	100%	88

Burnout

The third aim of the study, which was to compare those exposed to traumatic events to those who have not been exposed on demographics, job descriptors, job satisfaction and psychological measures. This was not fulfilled due to only a small number of participants in the non-exposed group and comparisons between exposed and non-exposed not being feasible.

Mean scores of those exposed were indicative of a moderate level of emotional exhaustion, low level of depersonalisation and a moderate level of personal accomplishment. Just over thirty-five percent reported high levels of emotional exhaustion, two percent reported high levels of depersonalisation and just under forty-five percent reported low levels of personal accomplishment (Table 5). The classification of low, moderate, and high was pre-specified by the MBI.

Table 5

Descriptive Statistics for Scores on the Maslach Burnout Inventory (MBI)

		Mean (SD)	Range
		Total sample (n = 88)	
Emotional Exhaustion		21.65 (10.92)	0-54
Depersonalisation		2.87 (3.70)	0-30
Personal Accomplishment		32.57 (6.18)	0-48
Category		Total sample (n = 88) N(%)	
Emotional Exhaustion	High %	31 (35.2)	
	Moderate %	28 (31.8)	
	Low %	29 (33)	
Depersonalisation	High %	2 (2.3)	
	Moderate %	12 (13.6)	
	Low %	74 (84.1)	
Personal Accomplishment	High %	14 (15.9)	
	Moderate %	35 (39.8)	
	Low %	39 (44.3)	

Attitude to Professional Role

Mean scores within the attitudes to professional role scale indicate that MSWs held more negative attitudes towards professional development and professional support, with slightly more positive attitudes held towards professional satisfaction (see Table 6).

Table 6

Descriptive Statistics for Scores on the Attitude to Professional Role Scale

	Exposed sample (n = 88)	
	Mean (SD)	Potential Range
Professional Satisfaction	.49 (.65)	-2 to 2
Professional Support	-.19 (.69)	-2 to 2
Professional Development	-.62 (.75)	-2 to 2

Functional Impairment

The fifth aim of the study was to assess the impact of exposure to traumatic perinatal events participants on personal and professional life. Sheehan Disability Scale mean scores were not indicative of MSWs being highly impaired. However, almost thirty percent scored within the high range of significant functional impairment at work and one quarter in family life (Table 7). A score of 5 or more on any individual subscale is indicative of high score.[36]

Table 7

Descriptive Statistics for Scores on the Sheehan Disability Scale

Total functional impairment	Total sample (n = 88)	
	Mean (SD)	Range
Sheehan disability score	8.39 (6.53)	0-30
Subscale	% scored “high” (n)	
Work	27.27 (24)	
Social life	11.36 (10)	
Family life	25.00 (22)	

Empathic Concern

The average IRI, empathic concern score for women is (M = 21.67, SD = 3.83) (Davis, 1980). The mean score on the IRI, empathic concern subscale is higher-than-average empathy amongst MSWs (M = 23.01, SD = 3.91, Range = 0-28).

Demographic and Occupational Variables and PTSD Symptoms Using Mann-Whitney U Tests and Spearman’s Rank Correlations

The fourth aim was to investigate the exposed sample considering demographics, job descriptors, job satisfaction and psychological measures to explore which factors are associated with higher PTSD symptoms (Table 8 and Table 9).

Table 8

Mann-Whitney U test for Demographic and Occupational Variables and PTSD Symptoms Using IES-R Total Scores

Index	Group	Mean Rank (MD)	N	U	Z	P	r
Job role	Hospital based	12.5	64	543.00	-2.11	.04*	-.22
	Community based	4	24				
Current MH input	Yes	21	17	308.50	-3.13	.002**	-.33
	No	8	71				
Physically present	Yes	13	68	377.00	-3.03	.002**	-.32
	No	2	20				
Heard about	Yes	9	79	169.50	-2.57	.01**	-.27
	No	20	9				
Ethnicity	White	11	77	400.00	-.30	.77	-.03
	BAME	14	11				
Marital status	Single/divorced/separated/widowed	8	33	824.50	-.72	.47	-.08
	Married/cohabiting	11	55				
Years worked	0-6	13	46	779.50	1.56	.12	-.20
	6+	8	42				
Pay band	2/other	13	36	719.00	-1.85	.07	-.20
	3 & 4	9	52				

Effect sizes were calculated; r values above .1 can be described as a small effect size, values above .3 can be described as moderate, and values above .5 can be described as large effect size.[41] Mann-Whitney U tests showed a significant difference in IES-R scores between job roles, with hospital based MSWs scoring significantly higher than community based MSWs, with a small effect size. Additionally, participants who were currently receiving input for mental health difficulties had significantly higher IES-R scores than MSWs not currently receiving mental health input, with a medium effect size. Participants physically present at a perinatal traumatic event had significantly higher IES-R scores than those who were not, with a medium effect size. Participants who heard about a perinatal traumatic event had significantly higher IES-R scores than those who did not hear about a perinatal traumatic event, with a small effect size.

No significant difference in IES-R scores was found for white participants when compared to participants from BAME backgrounds. No significant difference in IES-R scores was found between single/divorced/separated or widowed participants compared to the married/cohabiting group. Additionally, no significant difference in IES-R scores was found for years worked in the profession, with those who worked fewer than 6 years compared to those who worked for six years or more. No significant difference in IES-R scores were found between pay band, band 2 and other or band 3 and 4.

A Spearman's rank-order correlation analysis was conducted to examine the association between PTSD symptoms and age, and PTSD symptoms and confidence in job role at time of perinatal traumatic event. A negative correlation was found between age and IES-R total, which was statistically significant ($r_s = -.32$, $p = .02$, N = 88) indicating that younger MSWs experienced higher rates of PTSD symptoms. Additionally, no significant relationship was found between confidence in job role at the time of the event and IES total score,($r_s = .06$, $p = 65$, n = 68).

1040 **Associations Between Measures and PTSD Symptoms**

1041 Furthermore, a spearman's rank-order correlations were conducted in line with aim
1042 four, to determine the relationship between PTSD symptoms (IES-R total) and functional
1043 impairment (Sheehan disability scale), empathic concern, burnout (emotional exhaustion,
1044 depersonalisation, personal accomplishment), and attitude to professional role (professional
1045 satisfaction, support, and development) (Table 9).

Table 9

Spearman's Rank-Order Correlations of PTSD Symptoms, Functional Impairment, Empathic Concern, Burnout, Attitude to Professional Role.

						N = 88				
Measure	Source	IES-R total	Sheehan disability scale	Professional satisfaction	Professional support	Professional development	Empathic concern	Emotional exhaustion	Depersonalisation	Personal accomplishment
IES-r total	Correlation	1	37**	-.02	-.11	.03	.22*	.12	.17	.03
	sig		<.001	.84	.32	.77	.04	.27	.12	.78

Functional Impairment

Results indicated in Table 9 show that there was a significantly positive association between IES-R score and functional impairment (Sheehan disability scale), indicating that high rates impairment were associated with higher scores of PTSD symptoms

Empathic Concern

A positive association was found between IES-R score and empathic concern, indicating higher empathy was related to higher rates of PTSD symptoms.

Burnout

No significant associations were found between IES-R score and emotional exhaustion, depersonalisation, or personal accomplishment.

Attitudes to Professional Role

No significant associations were found between IES-R score and the factors relating to attitudes to professional role.

Multiple Regression Analysis to Consider the Roles of Potential Risk Factors for PTSD

Following the Mann-Whitney U tests and bivariate analysis, predictor variables that reached statistical significance with IES-R scores were included in the linear regression. Therefore, as data was non-normally distributed, a linear regression with bootstrapping (1000 replications) was carried out to investigate whether age, type of exposure to traumatic event (physically present or heard about) and area of work (hospital based) could significantly predict participants' IES-R scores. The results of the regression indicated that the model explained 16% of the variance and that the model was a significant predictor of IES-R total score, $F(3, 84) = 5.31$, $p = .002$, $R^2 = .16$. Significant contributors to the model included age ($b = -.45$, $SE = .17$, $p < .01$, CI 95% [-.78-1.16]) and being physically present at perinatal

traumatic events (b = 8.39, SE = 3.33, p< .01, CI 95% [1.56-15.29]). These results suggest that age and being physically present at a perinatal traumatic event are significant predictors of IES-R total score, indicating that younger age and direct exposure (physically present) was related to higher PTSD symptoms. Area of work (hospital vs. community setting) was not a significant predictor of PTSD scores (b = 3.61, SE = 3.5, p = .29, CI 95% [-3.81,10.26]).

Qualitative Analyses

Participants were asked a series of open questions briefly describing their experience of traumatic perinatal events in the workplace and the impact of Covid-19 on their job role. Additionally, they were asked to report any perceived adverse or beneficial effects following the experience. Written feedback was checked throughout by members of the team to ensure appropriate identification and labelling of the themes and subthemes with repeated checking of the evidential basis. Direct examples from the data are included below.

What Made the Event Traumatic?

A total of 68 (77.27%) participants recorded a brief description of the perinatal traumatic event/s where they had been physically present, with 77 (87.5%) recording a brief description of a perinatal traumatic event they had heard about in the workplace. Strong parallels were found across the descriptions of those physically present at a traumatic event and those heard about a traumatic event and therefore themes were analysed together. Five themes were identified in the open responses; *(1) Exposure to severe unpredictable events and distress (2) Impact of distress (3) Working with Complexity (4) Maybe the event was preventable, (5) Lack of support for MSWs.* There was also a high representation of events where the MSW witnessed maternal or neonatal death and medical complications including haemorrhage, shoulder dystocia and resuscitation. Participant identification is recorded in brackets.

1. Exposure to Severe Unpredictable Events and Distress

This theme highlights the urgency and unpredictable nature of the events in maternity care, emphasising that sudden deterioration in what had appeared to be straightforward clinical situations can occur and result in negative outcomes, contributing to the nature of the event being perceived as traumatic. 1.1), nature and unpredictability of the event (1.1), being first on the scene (1.2), Women's story and extremity of their distress (1.3).

1.1 Nature and Unpredictability of the Event

MSWs were present when emergency events occurred which deteriorated quickly in front of them.

mother terminated baby; mother went septic. emergency section performed, baby was disintegrated, mother died after numerous CPR[3] attempts failed (ID3)

MOH[4] (ID7)

An eclamptic seizure on the antenatal ward (ID20)

Low risk women birthed on a birth centre, textbook [sic] pregnancy and labour etc. On delivery the baby came out with no heartbeat and was unresponsive (ID42)

1.2 Being First on the Scene

As a result of the unpredictability a consequence could be that despite the severity the MSW were first on the scene.

... Phoning a code red and waiting for 5 minutes to realise the code red didn't get placed correctly. To having to put another code red [5] out and waiting....(ID23)

[3]Cardiopulmonary resuscitation
[4] Major Obstetric Haemorrhage
[5] Code red is a policy in place for clinicians to declare major trauma or haemorrhage and inform to haematology to enable blood to be delivered to patients at the earliest opportunity ([42]Morton, S., Perritt, E., Gory, J., & Jones, C. (2018). Analysis of 'Code red trauma calls' promoting the development of a novel cognitive aide for blood product resuscitation. *Journal of Clinical Investigation and Studies, 1*(2), 1-7.Doi: 10.15761/JCIS.1000109.

Having resuscitate a flat baby and answering a buzzer to a lady with Strep A and an IUD[6] *that was in cardiac arrest. I came across a baby very unwell in a single room with his mum. On picking baby up, he was floppy, unresponsive and eyes rolled (ID68).*

1.3. Womens' Story and Extremity of Distress

A consequence of working closely with women and families MSWs could be frequently exposed to the highly distressing situations.

The mother described waking up with the baby on the breast, blue, dead and with blood round his nose. (26)

Dealing with a situation where a baby was born in poor condition and later found to have a condition that was untreatable. The parents had no prior warning this would be the case and it was extremely distressing for all involved (ID31)

Many women tend to confide in MSWs once on the postnatal wards, so much so that I can't recall the number during my career (ID40)

Mother who became acutely unwell then demise of both her babies. Ended up on ITU[7] *close to death. Supported partner with seeing babies and involved in care of babies (ID2)*

2. Strength of Feelings Impact of Distress

This theme highlights the strength of feelings following a perinatal traumatic event, being present with a woman in stressful situations, advocating for women not being heard or listened to and the impact this can have on staff members. Strong themes emerged within the data such as empathy for the situation (2.1), resulting in MSWs driving this empathy to advocate for women in their care (2.2) as well as impact on colleagues (2.3).

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[6] Intrauterine device
[7] Intensive care unit

2.1 Empathy for the Situation

As a result of exposure to distress, MSWs could experience increased empathy towards the women they work with.

Watched a young mother give birth and I felt so upset and heart-broken that she was alone and struggling to push, I actually fainted… (ID12)

the death of her baby, how it had affected her [sic]. seeing her pain and tears (ID14)

Being in the setting while there are sad cases, just hearing the screams and the crying and then helping in the room afterwards and not feeling like I know what to say or do (ID56)

2.2 Advocate for Women

A consequence of exposure to traumatic events, MSWs felt supporting women with seeking appropriate care and communicating with midwives was important.

She informed me that she was still in pain although her midwife said she was doing good. She became tearful at the thought of the birth. I took her to one side and told her to ask for a debrief. I informed her to ask her midwife to arrange or to make an appointment with her GP. I explained that a debrief is an opportunity to speak to someone who can answer your questions and give you some clarity on your delivery.(ID68)

2.3 Impact on Colleagues

As a result of trauma exposure, MSWs observed the emotional impact on their colleagues.

…a very scary case that affected the whole team(ID29)

One of my colleagues called me crying because one of her patients' baby had no heartbeat (ID10)

3. **Complexity**

This theme includes high levels of complexity whilst working with women, including impact of serious parental mental health (3.1) and inadequacy of the service in meeting complex needs (3.2).

3.1 Parental Mental Health

A consequence of working closely with women in distress may be that MSWs were exposed to complex mental health difficulties.

On visiting a woman postnatally at home, she disclosed that she had feelings of helplessness and didn't feel she should be alone with her baby, as she just wanted to go to sleep and not wake up (ID39)

Witnessing a client having a psychotic episode (ID53)

An antenatal woman [sic] taking her own life (ID60)

3.2 Inadequacy of Service in Meeting Complex Needs

MSWs were aware of the difficulties services faced in meeting women's complex needs, which could contribute to events seen as traumatic.

The last and most significant event was about a non-English speaker mother whom I was helping with interpreting that had an anencephalic baby, was evangelical and believed that a miracle would happen, and her baby would be fine despite all the clear medical explanations given to her with empathy. I also went to visit her soon after in delivery suite. She was devastated, and I talked to her a bit and also helped the professionals with interpreting (ID15).

Lady not being able to speak English, translation was being done through her friend, before a Romanian speaking doctor came in. She was punching herself in the head, pulling her hair, screaming, and thrashing around the bed (ID9)

4. Maybe the Event was Preventable

This theme highlights factors which may have contributed to negative outcomes for both mother or baby, which may have been preventable and avoidable and therefore made the event seem traumatic. Factors include human error such as medical/professional error (3.1) and poor practice/unclear communication in the workplace (3.2) and being short staffed (3.3),

4.1 Human Error Such as Medical/Professional Error

A consequence of being present during perinatal events, could be that MSWs experience medical errors.

During a trial of forceps delivery in theatre, the baby slipped out of the doctor's hands once the blades were removed and fell to the floor, the cord snapped very close to the baby's abdomen, and we were unsure if the baby would have any head injury (ID61).

4.2 Poor Practice/Unclear Communication in the Workplace

Poor practice contributed to events being perceived as stressful by MSWs.

It was traumatic event for me as I was not given proper hand over about the poor condition of the babies. I was relieved that it ended well because the baby was revived (ID11)

4.3 Short Staffed

A consequence of being short staffed MSWs may be that MSWs are the only staff present when emergency situations occurred.

Being on an MLU[8] *and having a [sic] undiagnosed breech delivery and being the only other member of staff apart from the Midwife Delivering on hand… (ID23)*

5. Lack of Resource and Support for MSW

[8] Midwifery-led unit

This theme highlighted the lack of resource and support provided for MSWs within maternity care, the reduced sense of belonging and lack of clarity around the job role and working beyond the level of competence. In particular, the lack of training and experience (5.1), job role and competence (5.2) and not really belonging (5.3).

5.1 Lack of Training and Experience

Receiving basic training may mean that MSWs are left feeling out of their depth attending to complex situations.

At that time I didn't know how to check for dehydration via fontanelle (although I did with urine crystals) and what were the clear dangers of weight loss in terms of low sugar, high sodium, etc.…I naively mentioned in a subdued tone of voice that if she insisted in not taking the baby to hospital, we would have to contact social services.…I called the maternity helpline and they told me to call the supervisor of midwives straight away. I did and she was very supportive and mentioned that she would call the mother and also send a midwife next morning.…The same colleague that had sent me apologised for sending me and went back (ID9).

A patient who we thought had took a stroke after childbirth. Due to working in the alongside unit, the experienced midwife had been taken to the obstetric unit with a transferred patient and was not allowed to return. I had grabbed a student for support, to help me when she was on her break as I am not even allowed to do clinical observations (ID54)

5.2 Job Role and Competence

Due to the lack of resource, MSWs may be expected to perform responsibilities outside of their job role which may contribute toward events being perceived as stressful.

Difficult deliveries, being expected to help in various places and help various people at once. Having lots of unspoken responsibility because you are the 'extra' person in many of these situations (ID6).

5.3 Not Really Belonging

As a result of being unqualified, MSWs could feel unsupported by their colleagues.

The worst part is attending an emergency/horrific event and not receiving the same support as what the midwife/obstetric team get. As an MSW we get overlooked. For example, the event which stayed with me most happened on a night shift. The managers were contacted etc as per protocol. Once the day shift started to arrive and managers etc, all midwives had cuddles and a debrief session, yet I was made to go and clean a room - almost as if my upset weren't [sic] valid because I wasn't a registered member of staff (ID42).

What are the Beneficial and Adverse Impacts of Exposure to Perinatal Traumatic Events?

A total of 23 (36%) participants indicated adverse effects of hearing about or physically experiencing a perinatal traumatic event in the workplace, with 52 (59%) indicating perceived beneficial effects. Two strong themes emerged, considering the impact on self (1) and impact on the MSW role (2).

1. Impact on Self

This theme highlighted the beneficial and adverse impact on the self of being present at or physically experiencing a perinatal traumatic event in the workplace. Adverse impacts included being fearful of own experiences of birth (1.1), impact on own mental health (1.2) and feelings following loss of life or bereavement (1.3), whilst beneficial impacts included self-reflection and role development (1.4) confidence in role (1.5), increased empathy and understanding (1.6) and care and appreciation for self and colleagues (1.7).

1.1 Fearful for own Birth Experiences

As a result of experiencing perinatal traumatic events, MSWs could become fearful of their own experience.

It made me frightened at times about my own birth, and during my third pregnancy I really struggled with my own mental health and anxiety (ID8)

1.2 Impact on Own Mental Health

MSW's mental health might be significantly impacted following a traumatic event.

Struggling to sleep and having vivid nightmares (ID26)

I almost took my own life (ID35)

1.3 Experiencing Loss/Bereavement

MSWs may feel a sense of loss following a traumatic event.

losing twins/giving birth to them at 22 weeks and 4 day (ID4)

1.4 Self-reflection and Role Development

Self-reflection was a beneficial impact following traumatic events.

Made me more aware of the not so nice things that can happen, and more aware of my practice (ID3)

1.5 Confidence in Role

MSWs could feel more confident following traumatic events.

I now feel more confident in these situations (ID8)

1.6 Increased Empathy and Understanding

As a result of experiencing traumatic events, MSWs could have an increased understanding for others.

Increases empathy towards others and understanding (ID41)

It has helped me to understand further other people's experience of bereavement (ID50)

1.7 Care and Appreciation for Self and Colleagues

MSWs had an increased appreciation for their colleagues following traumatic events, which motivated them in their role.

At times hearing the resolution and the dedication of my colleagues has encouraged and helped me to continue in my roles (ID11)

2. Impact on Role

This theme highlighted the beneficial and adverse impacts on carrying out the MSW job role following presence at or hearing about a perinatal traumatic event in the workplace. Adverse impacts included increased fear and loss of confidence in the job role (2.1), considered leaving the role (2.2) learning experience (2.3) and increased checking (2.4). Beneficial impacts included learning experience (2.5), increased empathy and advocacy for women (2.6), additional training (2.7) and adaptations to patient care and practice (2.8).

2.1 Increased Fear and Loss of Confidence in Job Role

As a result of experiencing a traumatic event MSWs could lose confidence in their abilities.

Increase in fear at work, what if I miss something, what if I get something wrong (ID13)

2.2 Considered Leaving the Role

As a result of losing confidence MSWs may question leaving their job roles.

questioned myself about staying in job (ID4)

2.3 Learning Experience (Adverse)

MSWs reflected on traumatic events as learning experiences.

Every traumatic experience I hear about gives me tool to learn, look and understand better the psychology and physiology. When you hear of a traumatic event from a mother, I believe

it is best to listen bit there will often be another medical side to a story that perhaps the mother didn't grasp at the time (ID18)

Look at life differently (ID23)

2.4 Increased Checking

As a result of exposure, MSWs sought reassurance from others and checked their work.

Making sure you are checking what you are doing/advice you are giving/written notes (ID3)

2.5 Learning Experience

Traumatic events could be seen as a learning experience and preparation for future traumatic events.

A greater understanding of what would be expected of you should a similar event happen again (ID12)

2.6 Increased Empathy and Advocacy for Women

As a result of exposure, MSWs had increased empathy for women.

I feel I have the opportunity to speak up for the women either in labour, or arrange a debrief after (ID27)

Yes, I advocate for better support for new mothers (ID15)

2.7 Additional Training

As a result of traumatic experiences, MSWs accessed additional training.

MSW's now have mandatory Neonatal Resus training (ID44)

2.8 Adaptations to Patient Care and Practice

A beneficial impact could be MSWs making changes to patient care.

Changed the way I talk to patients in my care (ID15)

Has the Job Role Been Impacted by Covid-19?

A total of 49 (55.68%) participants indicated that their job role had been impacted as a direct result of Covid-19, with 35 participants indicating Covid-19 had impacted their ability to do the job. Strong parallels were found across the impact of Covid-19 on job role and ability to perform job. Open responses indicated four main themes; (1) Increased workload, (2) emotional impact, (3) barriers, adaptations, and challenges due to covid restrictions and guidance and (4) changes to job role and workforce.

1. Increased Workload

This theme highlighted the extra duties (1.1) taken on by MSWs following the pandemic, the increase level of risk management with regards to the role (1.2) and less professional support (1.3).

1.1 Extra Duties

A consequence of the Covid-19 pandemic could be additional workload.

Lack of staffing, Staff sickness , increasing my own workload, working in different [sic] clinical areas (ID26)

Changes to antenatal appointments. MSWs running booking blood clinic. Heavier workload (ID50)

1.2 Increased Risk Management

As a result of Covid-19, MSWs may work with high levels of risk.

Now dealing with high-risk women as well as the usual low risk women (ID46).

1.3 Less Support

Due to Covid-19 MSWs may have received less support from supervisors.

There was less supervision, more working from home and travelling directly to patient homes. Less support from midwives (ID16).

2. Emotional Impact

In this theme, the emotional impact of Covid-19 towards the self and others was considered. Increased workload was circular to this theme, with increased stress experienced by women adding and increasing stress experienced by MSW. Themes highlighted the direct impact on self (2.1) and the impact on patients (2.2).

2.1 Impact on Self

As a result of Covid-19 MSWs may experience increased stress.

Working directly with Covid mothers' patients on the ward and other mothers who don't have Covid. It [is] so wrong and places a lot of stress on staff (ID8)

2.2 Impact on Women

The unpredictability of Covid-19 may be experienced as scary for women on the maternity ward.

I think women find a room full of masks very intimidating and scary unable to assess what is going on especially in theatre (ID18)

3. Adaptations and Challenges Due to Covid-19 Restrictions/Guidance

This theme highlights the practical challenges that had arisen from Covid-19 restrictions and guidance. Including complications with virtual support and restrictions to face to face (3.1) Personal Protective Equipment (PPE) (3.2), becoming unwell and testing positive for Covid-19 (3.3), and shielding (3.4).

3.1 Virtual Support and Restrictions to Face-to-Face Contact

Working virtually may be challenging for MSWs.

have trouble hearing people and am very aware of their distance between us (ID11)

3.2 Personal Protective Equipment (PPE)

MSWs may find some aspects of their role difficult due to Covid-19 restrictions.

Difficult with PPE to see well for breastfeeding support and NBBS[9], barrier (ID15)

3.3 Becoming Unwell and Testing Positive for Covid-19

Managing positive Covid-19 patients may be challenging for MSWs.

Positive patients staff testing positive, visitors still permitted (ID25)

3.4 Shielding

Staff shortages due to Covid-19 restrictions may impact MSWs ability to perform role.

Due to staff shortages and shielded staff patients have less time with staff so infant feeding is directly impacted (ID38)

4. **Change to Job Role**

This theme highlights some of the reasons for changes to the role of the MSW, following Covid-19. Including staff shortages (4.1), reorganisation of the responsibilities of the MSW role (4.2), loss of training and appropriate resources (4.3) and none or little change (4.4).

4.1. Staff Shortage

As a result of Covid-19 MSWs may have less staff to support women.

Yes, it takes time for PPE and always short staffed 2 MSW to 46 patients (ID7)

4.2 Reorganisation of Responsibilities

A consequence of Covid-19 may suggest that MSWs roles have changed dramatically.

Redeployed to a different hospital site (ID42)

4.3 Loss of Training and Resource

[9] New-born bloodspot screening

Reduced access to resource may occur due to Covid-19 restrictions.

Training has been postponed. Short staffed. Trying to cover for different area's (ID26)

training sessions and meetings cancellations, reorganising our activity (ID15)

4.4 Little Change

Some MSWs roles may have remained the same following Covid-19 restrictions.

Not really (ID10)

The qualitative data highlights the prevalence and type of perinatal traumatic events MSWs are exposed to in the workplace. Factors such as the severity and unpredictability of maternity care, complexity of patient care, witnessing distress and outcomes which may be preventable alongside feeling unsupported, all appear to contribute to events being perceived as traumatic. Interestingly, several adverse impacts were reported including the impact on own mental health experiences albeit a large proportion of MSWs reported beneficial impacts of experiencing traumatic events in the workplace such as self-reflection and role development.

Discussion

This study aimed to identify to what extent MSWs were exposed to perinatal traumatic events in the workplace, and if so, what proportion were exposed and whether they experienced PTSD symptoms. Further investigations explored PTSD symptoms at clinical levels and associations of PTSD symptoms with burnout, empathy, functional impairment, and their attitude toward the professional role.

The vast majority of participants (86.76%) reported exposure to direct or indirect work-related stressful and traumatic events, with almost 15% reporting related PTSD symptoms at clinical levels. This finding is significantly higher than that of the general

population, reporting approximately 4.4% clinical levels of PTSD symptoms.[43]Interestingly, the level of MSWs experiencing PTSD symptoms at clinical levels echoes that of midwives, with similar findings to the POPPY study, which found 14% of midwives experienced probable PTSD symptoms at clinical levels.[19] The current study highlights that the prevalence of trauma and increased risk of developing PTSD amongst unqualified members of maternity staff is the same as qualified members of the maternity workforce. Moreover, these findings suggest that exposure to traumatic events in the workplace is likely to be a significant aspect of the MSW role, both directly and indirectly. These findings further support the literature suggesting indirect trauma can elicit traumatic responses, impact emotional wellbeing and care provided.[3]

The study aimed to explore exposure and predictive factors of PTSD symptoms. Our results indicate that factors such as direct exposure to a traumatic event (i.e., being physically present) and age are associated with an increased likelihood of PTSD, highlighting that younger MSWs are possibly more at risk of developing post-traumatic symptoms than their older colleagues, which is in line with non-perinatal PTSD literature.[44] Interestingly, some factors that might be assumed to be associated with PTSD symptoms such as duration in job role, number and recency of events, marital status and ethnicity were unrelated. Additionally, MSWs reported feeling moderately confident in supporting labour and birth at the time of traumatic events experienced. The fact that confidence at the time of the event was not associated with PTSD symptoms may suggest that adverse impacts of perinatal traumatic events may not be due to lack of confidence in the role and confidence may not act as a protective factor against PTSD. Almost thirty percent of MSWs considered leaving the job role or taking time out of work following a perinatal traumatic event. This is an important finding considering stress-related absenteeism is prevalent in maternity staff.[3]

Overall, moderate levels of emotional exhaustion and personal accomplishment and low levels of depersonalisation were found amongst the sample, these findings were not suggestive of burnout across all three domains. However, 15.9% showed moderate to high levels of depersonalisation; this finding is concerning as the ability to empathetically engage with women in the perinatal period is essential for the MSW in providing efficient communication and compassionate care. However, the percentage of MSWs showing moderate to high levels of depersonalisation is low in comparison to midwifery literature.[19] Furthermore, in relation to work-related disability, almost thirty percent of the sample scored within the significantly impaired range at work and twenty-five percent reported significant impairments in family life related to their trauma exposure. Correlations revealed a significantly positive relationship between functional impairment and PTSD symptoms. This could suggest higher symptoms of PTSD, the more likely it is for MSWs to experience functional impairment. Alternatively, the findings could suggest that the greater the functional impairment the more likely individuals are to experience symptoms of PTSD. As this data is correlational and cross sectional rather than longitudinal, it is not possible to discriminate between these two explanations. These findings support previous studies who found high rates of burnout correlated negatively with work engagement in medical professionals.[26]

MSWs generally held negative attitudes toward their professional role. Results show they held more negative attitudes towards the specific aspects of professional development and professional support and more positive attitudes towards professional satisfaction. These findings are similar to that of midwives, with MSWs holding slightly more positive attitudes towards professional support and satisfactions than midwives but more negative attitudes toward professional development.[19] This implies a need for greater training and support.

Our results suggest that the sample of MSWs in the current study were highly empathic, a quality pivotal to the role. A positive relationship between PTSD symptoms and empathy was found, suggesting greater PTSD symptoms in those who have higher empathic concern. If it is confirmed that MSWs generally report high empathy as a group, they may be at particular risk of developing symptoms of PTSD. Alternatively, higher rates of PTSD could lead to higher empathy. Cognitive models hypothesise that heightened empathy may occur following a traumatic event, due to the increase in the amygdala's responsivity, increasing attention to others' emotions.[47] This finding is interesting considering the positive association also found between depersonalisation and PTSD symptoms amongst the sample, which mirrors findings in midwives.[3] It is important to note that the empathic concern measure (IES-R) is a general measure of empathy toward others whereas the depersonalisation subscale (MBI) is specifically focussed to the work context. One suggestion for this contradictory finding may be the type of scale used, measuring empathy in different contexts.

Qualitative analyses revealed several themes regarding what made the event in the workplace traumatic. A common theme contributing to events that were seen as traumatic was the nature of events including the type of situation they were exposed to and the unpredictability of working within maternity care. MSWs' most frequently cited events described as traumatic included neonatal/maternal death, major obstetric haemorrhage, shoulder dystocia and resuscitation. This is suggestive of similarities between perinatal events perceived as traumatic by other maternity professionals such as obstetricians and gynaecologists. [21] Another theme outlined the impact of distress on staff, having increasing empathy for the situation, resulting in MSWs driving this empathy to advocate for women in their care as well observing the impact on their colleagues. Working with increasing complexity in maternity care such as parental mental health difficulties and lack of resources

to accommodate women where English is not their first language contribute to events being perceived as stressful and traumatic for MSWs. Events that may have been preventable were important in the data, suggesting that perception of medical/professional error, poor practice within the workplace and understaffing contributed to events perceived as traumatic. Moral injury is the psychological distress experienced resulting from violation of an individual's moral or ethical code following actions, or the lack of them. Moral injury has been associated with negative outcomes including PTSD, depression, and suicidal thoughts.[45] In light of qualitative data, it can be hypothesised that MSWs may also be at risk of developing moral injury, with repetitive exposure to loss of life and events and outcomes that may have been preventable in maternity care, as well as feeling unsupported and unprepared and lacking social support.[45]

The final theme that contributed to events being perceived as traumatic was lack of resources and support for the MSWs themselves, highlighting important factors such as lack of training and experience, lack of clarity and competence within the job role and little sense of belonging within the wider team, being contributing factors to traumatic events. These findings support Griffin's (2017)[13] findings, with MSWs identifying the need for additional training and support in managing difficult situations. The qualitative and quantitative data strongly suggests that the maternity context is unpredictable and severe events can unfold rapidly, often with women experiencing extreme emotion. These findings support theoretical literature highlighting that the nature of the critical incidents can be a predictor for PTSD, increasing the risk of developing PTSD.[46] Therefore, as MSWs are exposed to the same events as midwives, they may show similar risks of developing PTSD. Their role having unqualified status and their lack of specialist training does not protect them from this unpredictable exposure but in fact experiencing perinatal traumatic events is part of the role.

Various beneficial outcomes of experiencing perinatal traumatic events were revealed amongst the qualitative data, both towards the self and the job role. Themes contributing to the beneficial impact of experiencing traumatic events on the self, included self-reflection and development, increased confidence in job role, increased empathy and understanding for recipients of care and care and appreciation for self and colleagues. Whilst beneficial impacts of exposure to traumatic events in the workplace highlighted events were learning experiences which provided an opportunity to develop empathy and advocate for women in their care, make adaptations to patient care and practice and attend additional training to support potentially traumatic events in the future. Parallels were also found between the adverse impacts toward the self and the job role, with adverse impacts on the self-included being fearful of own experiences of birth, impact on own mental health and experiencing loss/bereavement. Adverse impacts on the job role highlighted increased fear and loss of confidence, increased checking that work is correct and consideration for leaving the role.

The context of this research needs to be considered. When the information was collected, over half of the sample reported their job role had been directly impacted by the Covid-19 pandemic, with one quarter indicating subsequent adverse effects. Themes revealed several changes to job role and ability to perform in the workplace which included experiencing an increased workload and changes to the workforce role, managing the emotional impact on self and patients, facing barriers and challenges due to restrictions and government guidance, and adapting to these in the midst of the pandemic.

Strengths and Limitations

This is the first study to investigate exposure to trauma and PTSD amongst MSWs. When interpreting the results, several limitations need to be considered. The initial survey response rate is a limitation (19%) as the data may suffer from sampling bias and impact the

validity of the responses being representative for the MSW population. However, research into trauma amongst other groups of maternity professionals yielded a similar response rate and factors suggesting the reason for the response rate need to be considered. It is important to highlight participants were recruited during the peak of the Covid-19 global pandemic, and this may have inhibited the response rate. Although there is a lack of diversity within the sample, with the current demographic sample being primarily white married/cohabiting women who were mainly hospital based, this is reflective of the workforce as reported by the RCM.[10,13] Generally, survey responses are often reliant on individual interest regarding trauma in the workplace, this factor could have impacted response rate, additionally, individuals who cope with traumatic experiences by avoiding talking about such events could also have impacted the response rate. The procedure could be criticised as the survey was not emailed directly to individuals but advertised within a weekly briefing email and a closed MSW member Facebook group. If the study was replicated, this could be amended so that each MSW received a survey link directly and a larger sample size could be obtained. It is also important to highlight that Cronbach's alpha for empathic concern was slightly low (<0.7), thus these findings should be approached with caution. Finally, as the study is cross-sectional, conclusions about causality cannot be drawn.

Clinical Implications

MSWs are likely to be exposed to stressful and traumatic events in the workplace during their careers, with evidence to suggest they are also at risk of developing PTSD at clinical levels. This study suggests that age and type of exposure (direct) may be predictive risk factors in determining PTSD symptoms. These findings support Brewin et al. (2000) meta-analysis of pre-trauma risk factors that can contribute to the development of PTSD

[10] Royal College of Midwives

including; gender, race, age, education, previous trauma exposure and childhood adversity.[44] In addition, life stressors and lack of social support, were found to be somewhat stronger risk factors to the development of PTSD.[44] Prominent PTSD theories focus on cognitive-processing, emotional processing, and dual representation in explaining the development and maintenance of PTSD.[48]More recently, social theorists have suggested that one of the strongest post trauma predictors for developing PTSD is the lack of social support, playing a significant role in the severity of symptoms.[49] This is important to consider as this study suggests that MSW are workforce that feel unsupported. Additional risk factors for developing PTSD at clinical levels include the type and severity of trauma and with protective factors including sympathy and social support.[48] Therefore, implementing social support structures within the workplace prior to and immediately after events in alongside effective post trauma psychological interventions may reduce the likelihood of PTSD symptoms.[50]It is important to take a staffing perspective and consider the potential implications regarding MSWs consideration of leaving their job role or taking time out of work following a perinatal traumatic event, particularly important given the current maternity workforce climate. In light of this, employers may address the risk by routinely including MSWs in post-incident debrief, increasing staffing and integrating trauma prevention programmes.[19, 21]

As mentioned earlier, MSWs may be at increased risk of developing moral injury. With this in mind, it is important for employers to ensure appropriate training and support is in place for MSWs. In order to help deliver high quality and safe maternity services, the development of a single accredited learning programme such as MSW NVQ addresses core skills and are mapped to national competencies and standards may be helpful in preparing MSWS for stressful events in the workplace.[11]

Findings suggest an albeit low proportion of MSWs scored high on levels of depersonalization, this has potential implications and should be considered in the context that MSWs are often first on the scene and women speak with them before speaking to a midwife. Thus, any depersonalization or perceived lack of empathic engagement has the potential to impact directly on women's experiences.

Future Research

MSWs have become an increasingly important part of the maternity workforce since 2004. The maternity context is unpredictable, and results suggest that the nature of events perceived as traumatic by MSWs are similar to events perceived as traumatic by other maternity professionals. MSWs need to be included in evaluation of prevention and intervention programmes for PTSD in maternity staff.

Furthermore, an evaluation of this inclusion is needed to learn more about MSW needs. Additionally, if this study were replicated, survey links could be directly emailed to MSW RCM members to potentially obtain a larger sample size. There is abundant room for further progress in determining significant predictors of PTSD in the MSW population, future research could investigate the role of current pragmatic and social support structures.

Conclusion

In summary, MSWs are exposed to traumatic events and 15% in this study suffer PTSD at similar rates to midwives. Those exposed in person and younger are more at risk. The complexity and rapidity of clinical change in the maternity setting means their unqualified role and minimal training does not protect them from exposure, highlighting an evident need to be included in prevention and intervention programmes for PTSD as other maternity staff are.

In conclusion, this study highlights the prevalence of routine trauma exposure amongst MSWs, the implications of this exposure and the need for further research into the MSW population.

List of Abbreviations

MSW: Maternity Support Worker; PTSD: Posttraumatic Stress Disorder; RCM: Royal College of Midwifery, NHS: National Health Service, Diagnostic Statistical Manual of Mental Disorders; DSMV, IES-R: Impact of Events Scale-Revised, SDS: Sheehan Disability Scale, MBI: Maslach Burnout Inventory Human Sciences Survey, IRI: Interpersonal Reactivity Index, CPR: Cardiopulmonary resuscitation, MOH: Major Obstetric Haemorrhage, ICU: Intensive Care Unit, MLU: Midwifery-led Unit, NBBS: New-born bloodspot screening.

Declarations

Ethics Approval and Consent to Participate

Ethical approval was obtained from University of Liverpool Research Ethics Committee in October 2020 (Appendix D).

Consent for Publication

Not applicable

Availability of Data and Materials

Not applicable

Competing Interests

Not applicable

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Appendices

Appendix A: Author Guidelines for BMC Pregnancy and Childbirth Systematic Review

Review

Criteria

Reviews are summaries of recent insights in specific research areas within the scope of *BMC Pregnancy and Childbirth*. Key aims of Reviews are to provide systematic and substantial coverage of a research or clinical area of wide interest or to present a critical assessment of a specified area. A review must focus on recent research and on a topic that is timely and relevant to the field. All Reviews published by *BMC Pregnancy and Childbirth* are peer-reviewed.

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Preparing your manuscript

The information below details the section headings that you should include in your manuscript and what information should be within each section.

Please note that your manuscript must include a 'Declarations' section including all of the subheadings (please see below for more information).

Title page

The title page should:

- present a title that includes, if appropriate, the study design e.g.:
  - "A versus B in the treatment of C: a randomized controlled trial", "X is a risk factor for Y: a case control study", "What is the impact of factor X on subject Y: A systematic review"
  - or for non-clinical or non-research studies: a description of what the article reports
- list the full names and institutional addresses for all authors
  - if a collaboration group should be listed as an author, please list the Group name as an author. If you would like the names of the individual members of the Group to be searchable

through their individual PubMed records, please include this information in the "Acknowledgements" section in accordance with the instructions below

- indicate the corresponding author

Abstract

The Abstract should not exceed 350 words. Please minimize the use of abbreviations and do not cite references in the abstract.

Keywords

Three to ten keywords representing the main content of the article.

Background

The Background section should explain the background to the article, its aims, a summary of a search of the existing literature and the issue under discussion.

Main text

This should contain the body of the article, and may also be broken into subsections with short, informative headings.

Conclusions

This should state clearly the main conclusions and include an explanation of their relevance or importance to the field.

List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations should be provided.

Declarations

All manuscripts must contain the following sections under the heading 'Declarations':

- Ethics approval and consent to participate
- Consent for publication
- Availability of data and materials

- Competing interests
- Funding
- Authors' contributions
- Acknowledgements
- Authors' information (optional)

Please see below for details on the information to be included in these sections.

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

Ethics approval and consent to participate

Manuscripts reporting studies involving human participants, human data or human tissue must:

- include a statement on ethics approval and consent (even where the need for approval was waived)
- include the name of the ethics committee that approved the study and the committee's reference number if appropriate

Studies involving animals must include a statement on ethics approval and for experimental studies involving client-owned animals, authors must also include a statement on informed consent from the client or owner.

See our editorial policies for more information.

If your manuscript does not report on or involve the use of any animal or human data or tissue, please state "Not applicable" in this section.

Consent for publication

If your manuscript contains any individual person's data in any form (including any individual details, images or videos), consent for publication must be obtained from that person, or in the case of children, their parent or legal guardian. All presentations of case reports must have consent for publication.

You can use your institutional consent form or our consent form if you prefer. You should not send the form to us on submission, but we may request to see a copy at any stage (including after publication).

See our editorial policies for more information on consent for publication.

If your manuscript does not contain data from any individual person, please state "Not applicable" in this section.

Availability of data and materials

All manuscripts must include an 'Availability of data and materials' statement. Data availability statements should include information on where data supporting the results reported in the article can be found including, where applicable, hyperlinks to publicly archived datasets analysed or generated during the study. By data we mean the minimal dataset that would be necessary to interpret, replicate and build upon the findings reported in the article. We recognise it is not always possible to share research data publicly, for instance when individual privacy could be compromised, and in such instances data availability should still be stated in the manuscript along with any conditions for access.

Data availability statements can take one of the following forms (or a combination of more than one if required for multiple datasets):

- The datasets generated and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS]
- The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.
- All data generated or analysed during this study are included in this published article [and its supplementary information files].
- The datasets generated and/or analysed during the current study are not publicly available due [REASON WHY DATA ARE NOT PUBLIC] but are available from the corresponding author on reasonable request.
- Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

All financial and non-financial competing interests must be declared in this section.

See our editorial policies for a full explanation of competing interests. If you are unsure whether you or any of your co-authors have a competing interest please contact the editorial office.

Please use the authors initials to refer to each authors' competing interests in this section.

If you do not have any competing interests, please state "The authors declare that they have no competing interests" in this section.

Funding

All sources of funding for the research reported should be declared. The role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript should be declared.

Authors' contributions

The individual contributions of authors to the manuscript should be specified in this section. Guidance and criteria for authorship can be found in our editorial policies.

Please use initials to refer to each author's contribution in this section, for example: "FC analyzed and interpreted the patient data regarding the hematological disease and the transplant. RH performed the histological examination of the kidney, and was a major contributor in writing the manuscript. All authors read and approved the final manuscript."

Acknowledgements

Please acknowledge anyone who contributed towards the article who does not meet the criteria for authorship including anyone who provided professional writing services or materials.

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

See our editorial policies for a full explanation of acknowledgements and authorship criteria.

If you do not have anyone to acknowledge, please write "Not applicable" in this section.

Group authorship (for manuscripts involving a collaboration group): if you would like the names of the individual members of a collaboration Group to be searchable through their individual PubMed records, please ensure that the title of the collaboration Group is included on the title page and in the submission system and also include collaborating author names as the last paragraph of the "Acknowledgements" section. Please add authors in the format First Name, Middle initial(s) (optional), Last Name. You can add institution or country information for each author if you wish, but this should be consistent across all authors.

Please note that individual names may not be present in the PubMed record at the time a published article is initially included in PubMed as it takes PubMed additional time to code this information.

Authors' information

This section is optional.

You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials. Note this section should not be used to describe any competing interests.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

Figures, tables and additional files

See General formatting guidelines for information on how to format figures, tables and additional files.

References

Examples of the Vancouver reference style are shown below.

See our editorial policies for author guidance on good citation practice

Web links and URLs: All web links and URLs, including links to the authors' own websites, should be given a reference number and included in the reference list rather than within the text of the manuscript. They should be provided in full, including both the title of the site and the URL, as well as the date the site was accessed, in the following format: The Mouse Tumor Biology Database. http://tumor.informatics.jax.org/mtbwi/index.do. Accessed 20 May 2013. If an author or group of authors can clearly be associated with a web link, such as for weblogs, then they should be included in the reference.

Appendix B: The Critical Appraisal Skills Program (CASP) Tool for Qualitative Research

CASP Checklist: 10 questions to help you make sense of a **Qualitative** research

How to use this appraisal tool: Three broad issues need to be considered when appraising a qualitative study:

- Are the results of the study valid? (Section A)
- What are the results? (Section B)
- Will the results help locally? (Section C)

The 10 questions on the following pages are designed to help you think about these issues systematically. The first two questions are screening questions and can be answered quickly. If the answer to both is "yes", it is worth proceeding with the remaining questions. There is some degree of overlap between the questions, you are asked to record a "yes", "no" or "can't tell" to most of the questions. A number of italicised prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

About: These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomised controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist, a group of experts were assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

Referencing: we recommend using the Harvard style citation, i.e.: *Critical Appraisal Skills Programme (2018). CASP (insert name of checklist i.e. Qualitative) Checklist. [online] Available at: URL. Accessed: Date Accessed.*

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CASP
Critical Appraisal
Skills Programme

Paper for appraisal and reference:

Section A: Are the results valid?

1. Was there a clear statement of the aims of the research?

Yes / Can't Tell / No

HINT: Consider
- what was the goal of the research
- why it was thought important
- its relevance

Comments:

2. Is a qualitative methodology appropriate?

Yes / Can't Tell / No

HINT: Consider
- If the research seeks to interpret or illuminate the actions and/or subjective experiences of research participants
- Is qualitative research the right methodology for addressing the research goal

Comments:

Is it worth continuing?

3. Was the research design appropriate to address the aims of the research?

Yes / Can't Tell / No

HINT: Consider
- if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)

Comments:

CASP
Critical Appraisal Skills Programme

4. Was the recruitment strategy appropriate to the aims of the research?	Yes Can't Tell No	HINT: Consider • If the researcher has explained how the participants were selected • If they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study • If there are any discussions around recruitment (e.g. why some people chose not to take part)

Comments:

5. Was the data collected in a way that addressed the research issue?	Yes Can't Tell No	HINT: Consider • If the setting for the data collection was justified • If it is clear how data were collected (e.g. focus group, semi-structured interview etc.) • If the researcher has justified the methods chosen • If the researcher has made the methods explicit (e.g. for interview method, is there an indication of how interviews are conducted, or did they use a topic guide) • If methods were modified during the study. If so, has the researcher explained how and why • If the form of data is clear (e.g. tape recordings, video material, notes etc.) • If the researcher has discussed saturation of data

Comments:

CASP
Critical Appraisal
Skills Programme

6. Has the relationship between researcher and participants been adequately considered?

Yes

Can't Tell

No

HINT: Consider

- If the researcher critically examined their own role, potential bias and influence during (a) formulation of the research questions (b) data collection, including sample recruitment and choice of location
- How the researcher responded to events during the study and whether they considered the implications of any changes in the research design

Comments:

Section B: What are the results?

7. Have ethical issues been taken into consideration?

Yes

Can't Tell

No

HINT: Consider

- If there are sufficient details of how the research was explained to participants for the reader to assess whether ethical standards were maintained
- If the researcher has discussed issues raised by the study (e.g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)
- If approval has been sought from the ethics committee

Comments:

CASP
Critical Appraisal
Skills Programme

8. Was the data analysis sufficiently rigorous?

Yes
Can't Tell
No

HINT: Consider
- If there is an in-depth description of the analysis process
- If thematic analysis is used. If so, is it clear how the categories/themes were derived from the data
- Whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process
- If sufficient data are presented to support the findings
- To what extent contradictory data are taken into account
- Whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation

Comments:

9. Is there a clear statement of findings?

Yes
Can't Tell
No

HINT: Consider whether
- If the findings are explicit
- If there is adequate discussion of the evidence both for and against the researcher's arguments
- If the researcher has discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst)
- If the findings are discussed in relation to the original research question

Comments:

CASP
Critical Appraisal
Skills Programme

Section C: Will the results help locally?

10. How valuable is the research?

HINT: Consider
- If the researcher discusses the contribution the study makes to existing knowledge or understanding (e.g. do they consider the findings in relation to current practice or policy, or relevant research-based literature
- If they identify new areas where research is necessary
- If the researchers have discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used

Comments:

Appendix C: University of Liverpool Ethics Approval Confirmation

Central University Research Ethics Committee B

6 October 2020

Dear Prof Slade

I am pleased to inform you that your application for research ethics approval has been approved. Application details and conditions of approval can be found below. Appendix A contains a list of documents approved by the Committee.

Application Details

Reference:	6375
Project Title:	Are Maternity Support Workers' (MSWs) exposed to stressful and traumatic events and what are the effects?
Principal Investigator/Supervisor:	Prof Pauline Slade
Co-Investigator(s):	Miss Charlotte Smart, Dr Charlotte Krahe
Lead Student Investigator:	-
Department:	Psychological Sciences
Approval Date:	06/10/2020
Approval Expiry Date:	Five years from the approval date listed above

The application was **APPROVED** subject to the following conditions:

Conditions of approval

Please note: this approval is subject to the restrictions laid out in the Policy on research involving human participants in response to COVID-19. Therefore all face-to-face contact with human participants for the purpose of research should be halted until further notice; *unless* the study has received approval from the research ethics group that reviews requests to conduct face to face research, as described in the Policy on face to face research during the pandemic.

- All serious adverse events must be reported to the Committee (ethics@liverpool.ac.uk) in accordance with the procedure for reporting adverse events.
- If you wish to extend the duration of the study beyond the research ethics approval expiry date listed above, a new application should be submitted.
- If you wish to make an amendment to the study, please create and submit an amendment form using the research ethics system.
- If the named Principal Investigator or Supervisor changes, or leaves the employment of the University during the course of this approval, the approval will lapse. Therefore it will be necessary to create and submit an amendment form within the research ethics system.
- It is the responsibility of the Principal Investigator/Supervisor to inform all the investigators of the terms of the approval.

Kind regards,

Central University Research Ethics Committee B
ethics@liverpool.ac.uk
0151 794 8290

Appendix D: Author Guidelines for BMC Pregnancy and Childbirth - Research Article

Title page

The title page should:

- present a title that includes, if appropriate, the study design e.g.:
    - "A versus B in the treatment of C: a randomized controlled trial", "X is a risk factor for Y: a case control study", "What is the impact of factor X on subject Y: A systematic review"
    - or for non-clinical or non-research studies a description of what the article reports
- list the full names and institutional addresses for all authors
    - if a collaboration group should be listed as an author, please list the Group name as an author. If you would like the names of the individual members of the Group to be searchable through their individual PubMed records, please include this information in the "Acknowledgements" section in accordance with the instructions below
- indicate the corresponding author

Abstract

The Abstract should not exceed 350 words. Please minimize the use of abbreviations and do not cite references in the abstract. Reports of randomized controlled trials should follow the CONSORT extension for abstracts. The abstract must include the following separate sections:

- **Background:** the context and purpose of the study
- **Methods:** how the study was performed and statistical tests used
- **Results:** the main findings
- **Conclusions:** brief summary and potential implications
- **Trial registration:** If your article reports the results of a health care intervention on human participants, it must be registered in an appropriate registry and the registration number and date of registration should be in stated in this section. If it was not registered prospectively (before enrollment of the first participant), you should include the words 'retrospectively registered'. See our editorial policies for more information on trial registration

Keywords

Three to ten keywords representing the main content of the article.

Background

The Background section should explain the background to the study, its aims, a summary of the existing literature and why this study was necessary or its contribution to the field.

Methods

The methods section should include:

- the aim, design and setting of the study
- the characteristics of participants or description of materials
- a clear description of all processes, interventions and comparisons. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses
- the type of statistical analysis used, including a power calculation if appropriate

Results

This should include the findings of the study including, if appropriate, results of statistical analysis which must be included either in the text or as tables and figures.

Discussion

This section should discuss the implications of the findings in context of existing research and highlight limitations of the study.

Conclusions

This should state clearly the main conclusions and provide an explanation of the importance and relevance of the study reported.

List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations should be provided.

Declarations

All manuscripts must contain the following sections under the heading 'Declarations':

- Ethics approval and consent to participate
- Consent for publication
- Availability of data and materials
- Competing interests
- Funding
- Authors' contributions
- Acknowledgements
- Authors' information (optional)

Please see below for details on the information to be included in these sections.

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

Ethics approval and consent to participate

Manuscripts reporting studies involving human participants, human data or human tissue must:

- include a statement on ethics approval and consent (even where the need for approval was waived)
- include the name of the ethics committee that approved the study and the committee's reference number if appropriate

Studies involving animals must include a statement on ethics approval and for experimental studies involving client-owned animals, authors must also include a statement on informed consent from the client or owner.

See our editorial policies for more information.

If your manuscript does not report on or involve the use of any animal or human data or tissue, please state "Not applicable" in this section.

Consent for publication

If your manuscript contains any individual person's data in any form (including any individual details, images or videos), consent for publication must be obtained from that person, or in the case of children, their parent or legal guardian. All presentations of case reports must have consent for publication.

You can use your institutional consent form or our consent form if you prefer. You should not send the form to us on submission, but we may request to see a copy at any stage (including after publication).

See our editorial policies for more information on consent for publication.

If your manuscript does not contain data from any individual person, please state "Not applicable" in this section.

Availability of data and materials

All manuscripts must include an 'Availability of data and materials' statement. Data availability statements should include information on where data supporting the results reported in the article can be found including, where applicable, hyperlinks to publicly archived datasets analysed or generated during the study. By data we mean the minimal dataset that would be necessary to interpret, replicate and build upon the findings reported in the article. We recognise it is not always possible to share research data publicly, for instance when individual privacy could be compromised, and in such instances data availability should still be stated in the manuscript along with any conditions for access.

Data availability statements can take one of the following forms (or a combination of more than one if required for multiple datasets):

- The datasets generated and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS]
- The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.
- All data generated or analysed during this study are included in this published article [and its supplementary information files].

- The datasets generated and/or analysed during the current study are not publicly available due [REASON WHY DATA ARE NOT PUBLIC] but are available from the corresponding author on reasonable request.
- Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.
- The data that support the findings of this study are available from [third party name] but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of [third party name].
- Not applicable. If your manuscript does not contain any data, please state 'Not applicable' in this section.

More examples of template data availability statements, which include examples of openly available and restricted access datasets, are available here.

BioMed Central also requires that authors cite any publicly available data on which the conclusions of the paper rely in the manuscript. Data citations should include a persistent identifier (such as a DOI) and should ideally be included in the reference list. Citations of datasets, when they appear in the reference list, should include the minimum information recommended by DataCite and follow journal style. Dataset identifiers including DOIs should be expressed as full URLs. For example:

Hao Z, AghaKouchak A, Nakhjiri N, Farahmand A. Global integrated drought monitoring and prediction system (GIDMaPS) data sets. figshare. 2014. http://dx.doi.org/10.6084/m9.figshare.853801

With the corresponding text in the Availability of data and materials statement:

The datasets generated during and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS].[Reference number]

If you wish to co-submit a data note describing your data to be published in *BMC Research Notes*, you can do so by visiting our submission portal. Data notes support open data and help authors to comply with funder policies on data sharing. Co-published data notes will be linked to the research article the data support (example).

Competing interests

All financial and non-financial competing interests must be declared in this section.

See our editorial policies for a full explanation of competing interests. If you are unsure whether you or any of your co-authors have a competing interest please contact the editorial office.

Please use the authors initials to refer to each authors' competing interests in this section.

If you do not have any competing interests, please state "The authors declare that they have no competing interests" in this section.

Funding

All sources of funding for the research reported should be declared. The role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript should be declared.

Authors' contributions

The individual contributions of authors to the manuscript should be specified in this section. Guidance and criteria for authorship can be found in our editorial policies.

Please use initials to refer to each author's contribution in this section, for example: "FC analyzed and interpreted the patient data regarding the hematological disease and the transplant. RH performed the histological examination of the kidney, and was a major contributor in writing the manuscript. All authors read and approved the final manuscript."

Acknowledgements

Please acknowledge anyone who contributed towards the article who does not meet the criteria for authorship including anyone who provided professional writing services or materials.

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

See our editorial policies for a full explanation of acknowledgements and authorship criteria.

If you do not have anyone to acknowledge, please write "Not applicable" in this section.

Group authorship (for manuscripts involving a collaboration group): if you would like the names of the individual members of a collaboration Group to be searchable through their individual PubMed records, please ensure that the title of the collaboration Group is included on the title page and in the submission system and also include collaborating author names as the last paragraph of the "Acknowledgements" section. Please add authors in the format First Name, Middle initial(s) (optional), Last Name. You can add institution or country information for each author if you wish, but this should be consistent across all authors.

Please note that individual names may not be present in the PubMed record at the time a published article is initially included in PubMed as it takes PubMed additional time to code this information.

Authors' information

This section is optional.

You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials. Note this section should not be used to describe any competing interests.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

References

Examples of the Vancouver reference style are shown below.

See our editorial policies for author guidance on good citation practice

Web links and URLs: All web links and URLs, including links to the authors' own websites, should be given a reference number and included in the reference list rather than within the text of the manuscript. They should be provided in full, including both the title of the site and the URL, as well as the date the site was accessed, in the following format: The Mouse Tumor Biology Database. http://tumor.informatics.jax.org/mtbwi/index.do. Accessed 20 May 2013. If an author or group of authors can clearly be associated with a web link, such as for weblogs, then they should be included in the reference.

Appendix E: Participant Information Sheet

Maternity Support Workers' experiences of traumatic perinatal events and work-related stress.

You are being invited to participate in an anonymous survey. Before you decide whether to participate, it is important for you to understand why the research study is taking place and what it will involve. Please take the time to read the following information carefully and feel free to ask if you would like more information, or if there is anything that you do not understand. We would like to stress that you do not have to accept this invitation and should only take part if you want to.

Thank you for reading this.

What is the purpose of the study?
We know that childbirth can be experienced as traumatic for some women and midwifery staff. However, we know little about the experiences of maternity support workers. This study aims to learn about your experience of working as an MSW. We are interested in whether MSWs experience traumatic events at work, and if so any impacts on personal and professional life. This will also help know more about the best ways to support MSWs following any stressful/traumatic events if these are a part of their work life.

Who is undertaking this research?
Charlotte Smart will be undertaking this research as a requirement of her doctoral training in clinical psychology at the University of Liverpool. Charlotte will be supervised by Professor Pauline Slade, a clinical psychologist with a special interest in workplace trauma. The Royal College of Midwives have independently reviewed this study and agreed that it is suitable for RCM members to participate in. In order to maintain anonymity the RCM has sent the survey link to you directly but it is returned direct to the research team and the RCM will not have access to this.

Why have I been chosen to take part?
All support workers currently holding membership with the RCM are invited to take part.

Do I have to take part?
No. Participation is voluntary and you should only take part in the survey if you would like to.

What will happen if I take part?
You will be asked to complete a survey online (smartphone, computer or tablet) taking approximately 20-30 minutes. The survey will ask you some questions including demographic details, your experiences of working as a MSW, exposure to stressful and/or traumatic events, any impacts of these events and whether you think additional support would be useful and any ideas for what this may look like. As the survey asks about sensitive information it is up to you how much detail you want to provide. All information will be kept confidential and anonymous.

If you would like to be entered in a prize draw to win Amazon gift vouchers you can add your email details at the end. These details will only be used for the purpose of the prize draw and entering this is voluntary.

How will my data be used?
The University processes personal data as part of research and teaching activities, in accordance with the lawful basis of 'public task', and purpose of advancing education, learning and research for the public benefit. All data will be analysed to produce anonymous results which will then be published in an academic journal.

How will my data be stored?
Data will be collected using online Qualtrics software and will be stored securely and confidentially on a password protected database. This means that no names or identifiable information will be collected. Access to this database will be restricted to the research team only.

How will my data be destroyed?
Data will be stored and destroyed in accordance with the University's Research Data Management policy and will remain the responsibility of the principle investigator until completion of the doctoral program. Following this, the data custodian will be responsible for the data which may be stored for a minimum of 10 years and any queries regarding handling data can be sent to Professor Pauline Slade. Data will not be used in other research projects.

Are there any risks in taking part?
Some of the questions ask about difficult events and about how you feel. This may highlight existing distress for a short time. At the end of the study debrief information is available with contact details for national support.

Are there any benefits in taking part?
Taking part in the survey will give you an opportunity to share your perspectives about your job role. By taking part in this survey you are helping our understanding about the role and experiences of MSWs and what may be helpful to further support maternity staff in the future.

What will happen if I want to stop taking part?
You can withdraw from the survey at any point if you decide you no longer want to continue. <u>However, once you have submitted your survey it would be impossible for us to remove your data as</u> we will not be able to identify you and your responses.

What if I am unhappy or there is a problem?
Please let us know by contacting Professor Pauline Slade, and we will try to help. If you have a problem which you feel you cannot come to us with then you can contact the Research Ethics and Integrity Office at ethics@liv.ac.uk. Please provide details of the study e.g. the name/description of the study, researcher(s) involved, and the details of the complaint you wish to make. If you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to log a complaint with the Information Commissioner's Office by calling 0303 123 1113.

If you have further questions about this study, please contact the research team.

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Brownlow Hill
Liverpool
L69 3GB
charlotte.smart@liverpool.ac.uk

i) Please select ALL the statements to indicate consent

i) I confirm that I have read and have understood the information for the above study. I have had the opportunity to think about the information, ask questions if I want to and have had these answered satisfactorily.

ii) Please select ALL the statements to indicate consent

I understand that my participation is voluntary and that I am free to stop taking part at any point prior to completing and submitting the questionnaire.

iii) Please select ALL the statements to indicate consent

I understand that the information I provide will be anonymous and kept confidential.

iv) Please select ALL the statements to indicate consent

I understand that once submitted I cannot withdraw my questionnaire as the information submitted is anonymous and will be unidentifiable.

v) Please select ALL the statements to indicate consent

I agree to take part in the above study and by selecting this box I understand I am giving my consent to take part.

If you do not wish to take part in the survey and do not give consent please exit the page.
Thank you for your time.

Appendix F: Participant Debrief Information

Debrief - Maternity Support Workers' experiences of traumatic perinatal events and work-related stress

Thank-you for taking part in this study!

Your contribution to the research is greatly appreciated. We understand that some of the questions are associated with work related stress and/or trauma and so may have highlighted difficult emotions for you. If this is the case or you feel upon answering the questions that you are currently experiencing difficulties with your mental health please reach out for support. Your GP will be able to support you and sign post you to local support services. If you feel it is appropriate a list of national support and information available below for you to access. If completing this questionnaire has raised any practice issues for you please discuss these with your Royal College of Midwives representatives.

Royal College of Midwives (RCM)
Workplace representatives
Phone: 0300 303 0444.
Website: https://www.rcm.org.uk/supporting/getting-help/workplace-support/

MIND
A mental health charity that provides advice and support to anyone dealing with a mental health problem. They also campaign to improve services, promote awareness and understanding.
Website: www.mind.org.uk
Email: info@mind.org.uk
Infoline: on 0300 123 3393 (9am to 6pm, Monday to Friday)

The Samaritans
(24 hour helpline 0845 790 9090)

Health & Safety Executive
http://www.hse.gov.uk/violence/toolkit/postincident.htm The HSE's website includes information for employers and a comprehensive list of mental health support organisations.

Appendix G: Demographic and Descriptive Information

Please read each of the following questions through carefully and respond by selecting your answer. There are no right or wrong answers; we are interested in your experiences and the way you feel about them. Sometimes you may wish to give a small description in response; however, it is up to you how much detail you provide. In order to maintain anonymity please do not provide any information that could be identifiable to you or a service in your responses.

This survey is in two sections:
Section one asks for details about you, your work and any professional experiences of traumatic perinatal events and your personal experiences of traumatic events.

Section two includes a series of short questionnaires that measure responses and feelings associated with experiences of traumatic events and work-related stress.

Thank you for your participation.

Section One No

Yes, if yes please briefly describe how.

1. **What is your age?** .... years
2. **What is your gender (Please circle)** Female /Male/other
3. **What is your ethnicity?** ....
4. **What is your current marital status? (Please circle)**
   Single Married/Cohabiting Divorced/Separated Widowed

5. **For how many years have you been working as a MSW?** .... years........Months
6. **Who are you currently employed by? (Please circle)**
   NHS Self-Employed Unemployed
   Other (please specify): ....
7. **If you are currently employed by the NHS or a University, please indicate which NHS band you are currently working in or were in your previous role, by ticking the relevant box:**
   ☐NHS Band *(please circle)*: 2 3 4
   ☐Other: ....
8. **How would you describe your main current professional designation? If you are involved equally in multiple roles, please tick all that apply.**
   ☐Community MSW
   ☐Hospital based MSW
   ☐Other (Please specify):
   ....

9. **Which area(s) do you currently work in? (Please circle all that apply)**
   Antenatal Ward Labour Ward Community
   Postnatal Ward Special Care Baby Unit
   Other: ....

10. **As a direct result of COVID-19 has your job role been impacted?**
    a) Yes/no
    b) If yes please briefly describe how: ....

11. **Do you feel that COVID-19 has impacted your ability to do your job?**
    a) Yes/no
    b) If yes please briefly describe how: ....

12. **Have you ever consulted your GP about issues to do with your mental health, including problems with sleep or "nerves"? (Please circle)**
   Yes No

   - If **'Yes'**:

   a) Were you referred to any of the following? (Please circle)
   Psychologist Psychiatrist Mental Health Nurse
   Counsellor I wasn't referred to anyone
   I was referred to a different professional body (please describe):
   ....

   b) Please explain in a few words (i) your previous difficulties, and (ii) how long ago you were experiencing them:
   i) ....
   ii) ....

   C) Do you feel these difficulties were present before the Covid-19 outbreak?

   Yes No

13. **Are you *currently* receiving any input for issues to do with your mental health, including sleep and "nerves"? (Please circle):**Yes No
   - If **'Yes'**:

   a) To which professional group does the person you are seeing belong? (Please circle) Psychologist Psychiatrist Mental Health Nurse
   Counsellor Other:...

   b) Please explain in a few words your current difficulties:
   ....
   ....

   C) Do you feel these difficulties were present before the Covid-19 outbreak?

   Yes No

<u>Questions relating to experiences of traumatic perinatal events</u>

Questions 14-21 ask about traumatic experiences you may have had whilst working as a MSW.

- A **traumatic event** is an event that you *witnessed, know about or directly experienced* where you believed that you or mother and baby someone else could be in danger of serious injury or death, AND where you experienced a sense of *intense fear, helplessness or horror* in response to what was happening.
- We are interested in your experiences of traumatic **perinatal events**. This includes any event occurring during labour, birth, and within the first few hours/days after birth.
- We understand that it may be difficult to recall the exact number of events you may have experienced; where you are uncertain *please give your best estimate.*

<u>Being present at a traumatic event</u>

14. **This question asks about traumatic events where you were *physically present*. This means perinatal events that you *witnessed or attended*. *"I was there and I believed a mother or a baby to be in danger of serious injury or death"***

a. ***During your career*** **as a MSW have you experienced a traumatic perinatal event Yes /NO**
If No please go to 16

If Yes how many events .... (number)

b. **How many of these events occurred in the *last 5 years*?** ....(number)

c. How long ago was the most recent event?

…………years…………..months……………weeks (number)

13. **For how many of the events mentioned in question 15a did you experience a sense of the following emotions? You may feel one or more of the emotions on each occasion; please give an approximate number for the times you felt each emotion: *"I was there and I felt a sense of intense fear, helplessness, or horror."***

…………… …………… (number)

a. **In relation to the events mentioned in question 15a, *please describe* the most stressful event you have been physically present at whilst working as a MSW:**

…………………………………………………………………………………

…………………………………………………………………………………

b. **At the time of the event described above, how confident were you about your practice around supporting labour and birth? (please circle)**

Not Confident 0 1 2 3 4 5 **Very Confident**

<u>Hearing about traumatic events</u>

14. **This question asks about traumatic perinatal events you may have come to *know about*, through *listening to women in your care* who have experienced a traumatic childbirth. *"I wasn't there, but a woman in my care told me about something that had happened to her where either her or her baby's life was in danger of serious injury or death"***

a. ***During your career*** **as a MSW have you experienced hearing about a traumatic perinatal event Yes /NO If No please go to Q19**

b. **How many times *during your career* as a MSW have you come to know about a traumatic perinatal event by listening to a woman in your care?**

…………………… (number)

c. **How many of these events occurred in the *last 5 years*?**

……….................. (number) ………………………………………………………………………….

d. **How many times across the events mentioned in question 17a did you experience a sense of intense fear, helplessness, or horror? Please give an approximate number for how many times you felt each emotion. *"I wasn't there, but when the woman in my care told me about this event I felt a sense of intense fear, helplessness, or horror"***

15. …………… (number)

a. **In relation to the above events, *please describe the most stressful event for you*, that you have been told in detail about by a woman in your care whilst working as a MSW:**

…………………………………………………………………………………

…………………………………………………………………………………

16. **Have there been any *adverse or beneficial effects* for you, from experiencing or hearing about a traumatic perinatal event(s)? (For example, changes to the way you practise, the way you feel, your personal life). Please circle:** Yes No

If **'Yes'**, please describe these in the space below

Beneficial:………………………………………………………………

Adverse:…………………………………………………………………..
....

Work-related questions

12. **Have you ever taken time off or had a change of allocation because of traumatic events you have experienced or heard about whilst working? (Please circle)**
 Yes Considered No

13. **Have you ever seriously considered leaving your job role after experiencing or hearing about traumatic perinatal events? (Please circle)**
 Yes No

a) Do you feel these events were related to Covid-19?

Yes No

Questions relating to personal experiences of traumatic events

14. **Have you ever experienced an event (outside of work) where you believed yourself or someone else to have been in danger of serious injury or death? (Please circle)** Yes No

- If **'Yes'**, did you experience a sense of extreme fear, helplessness or horror in response to what happened? (Please circle)

Yes No

- If '**Yes'**, please **briefly describe** this event, including when it happened in the space below (if you have experienced multiple events, please describe one which you feel was most stressful):

……………………………………………………………………………........
……………………………………………………………………………........
……………………………………………………………………………........
……………………………………………………………………………........

Questions relating to your personal experiences of giving birth/being present for a partner giving birth

22. What is your personal experience of giving birth? (Please tick where relevant and circle the number of times)

☐ I have given birth	0	1	2	3	4+ times
☐ My partner has given birth	0	1	2	3	4+ times

No please go to section Two

23. Do you consider any of your personal birth experiences (above) to be traumatic? That is, *you believed yourself or your baby to be in danger of death or serious injury,* and, *you felt a sense of intense fear, helplessness or horror in response*. (Please circle)

Yes No

- If **'Yes'**, has this impacted on your subsequent work as a MSW in any way? (Please circle)

 Yes No

 If **'Yes'**, please briefly describe the way in which this has impacted on your work in the space below:

………………………………………………………………………………………..........
………………………………………………………………………………………..........
……………………………………………………………………………………........

<u>Section Two</u>

Section two is a **series of brief questionnaires** that ask about different responses that are associated with the experience of traumatic events and work-related stress. There are also some questions measuring empathy and whether and how you perceive your experiences to be affecting different areas of your life. Each set of questions has a small description and information on how to record your response. Please answer in terms of how you feel now.

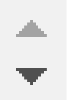
Appendix H: The Impact of Events Scale- Revised

The following questions show a list of difficulties people sometimes have after stressful life events. Please read each item, and indicate how distressing each difficulty has been for you *during the past seven days* with respect to any traumatic perinatal events you have experienced whilst working as a MSW. How much have you been distressed or bothered by these difficulties?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
Any reminder brought back feelings about it	○	○	○	○	○
I had trouble staying asleep	○	○	○	○	○
Other things kept making me think about it	○	○	○	○	○
I felt irritable and angry	○	○	○	○	○
I avoided letting myself get upset when I thought about it or was reminded about it	○	○	○	○	○
I thought about it when I didn't mean to	○	○	○	○	○
I felt as if it hadn't happened or wasn't real	○	○	○	○	○
I stayed away from reminders about it	○	○	○	○	○
Pictures about it popped into my mind	○	○	○	○	○
I was jumpy and easily startled	○	○	○	○	○
I tried not to think about it	○	○	○	○	○
I was aware that I still had a lot of feelings about it, but I didn't deal with them	○	○	○	○	○
My feelings about it were kind of numb	○	○	○	○	○
I found myself acting or feeling like I was back at that time	○	○	○	○	○
I had trouble falling asleep	○	○	○	○	○
I had waves of strong feelings about it	○	○	○	○	○
I tried to remove it from my memory	○	○	○	○	○
I had trouble concentrating	○	○	○	○	○
Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea or a pounding heart	○	○	○	○	○
I had dreams about it	○	○	○	○	○
I felt watchful and on guard	○	○	○	○	○
I tried not to talk about it	○	○	○	○	○

Appendix I: Sheehan Disability Scale

Please read the following statements and select the number to show the extent to which you agree with them by using the scale (1 = Not at all, 10 = Extremely)



"My experiences of work related traumatic perinatal events have disrupted my work"

"My experiences of work related traumatic perinatal events have disrupted my social life"

"My experiences of work related traumatic perinatal events have disrupted my family or home life"

Appendix J: The Maslach Burnout Inventory Human Sciences Survey

Q68

Below are 22 statements of job-related feelings. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, write the number "0" in the space before the statement. If you have had this feeling, indicate how often you feel it by writing the number (from 0-6) that describes how frequently you feel that way. The following statements refer to 'patients' please think about the women in your care.

Please use the following key:

0= Never
1= A few times a year or less
2= Once a month or less
3= A few times a month
4= Once a week
5= A few times a week
6= Every day

I feel emotionally drained from my work.
I feel used up at the end of the workday.
I feel fatigued when I get up in the morning and have to face another day on the job.
I can easily understand how my patients feel about things.
I feel I treat some patients as if they were impersonal objects.
Working with people all day is really a strain for me.
I deal very effectively with the problems of my patients.
I feel burned out from my work.
I feel I'm positively influencing other people's lives through my work.
I've become more callous toward people since I took this job.
I worry that this job is hardening me emotionally.
I feel very energetic.
I feel frustrated by my job.
I feel I'm working too hard on my job.
I don't really care what happens to some patients.
Working with people directly puts too much stress on me.
I can easily create a relaxed atmosphere with my patients.
I feel exhilarated after working closely with my patients.
I have accomplished many worthwhile things in this job.
I feel like I'm at the end of my rope.
In my work, I deal with emotional problems very calmly.
I feel patients blame me for some of their problems.

Appendix K: The Attitudes to Professional Role Scale

The following statements ask about your thoughts and feelings about your current job role. For each item, show how strongly you agree or disagree by choosing the appropriate number on the scale (1= strongly agree, 5= strongly disagree). Read each item carefully before responding. Answer as honestly and as accurately as you can.

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Generally speaking, I am satisfied with my current role as a maternity support worker	○	○	○	○	○
I am confident that I have the skills for my current role	○	○	○	○	○
I lack professional support from my managers	○	○	○	○	○
I have limited opportunities for development in my role	○	○	○	○	○
I have enough time to give my women the care they need	○	○	○	○	○
I get support in my role from my MSW colleagues	○	○	○	○	○
I feel I am in a rut	○	○	○	○	○
I have enough opportunities to make decisions about care	○	○	○	○	○
I have plenty of opportunities to access education and training related to my role	○	○	○	○	○
I get enough support from my other clinical colleagues (e.g. Midwives, GPs and obstetricians)	○	○	○	○	○
My current role is very stressful	○	○	○	○	○
I feel frustrated with my current role	○	○	○	○	○
I have few opportunities to develop my skills as a MSW	○	○	○	○	○
There is not enough time to do my job properly	○	○	○	○	○

Appendix L: Interpersonal Reactivity Index

EC

The following statements ask about your thoughts and feelings in a variety of situations. For each item, show how well it describes you by choosing the appropriate number on the scale (1= does not describe me well, 5= describes me very well).

Read each item carefully before responding. Answer as honestly and as accurately as you can.

	(1) Does not describe me well	(2)	(3)	(4)	(5) Describes me very well
I often have tender, concerned feelings for people less fortunate than me	○	○	○	○	○
Sometimes I don't feel very sorry for other people when they are having problems	○	○	○	○	○
When I see someone being taken advantage of, I feel kind of protective towards them	○	○	○	○	○
Other people's misfortunes do not usually disturb me a great deal	○	○	○	○	○
When I see someone being treated unfairly, I sometimes don't feel very much pity for them	○	○	○	○	○
I am often quite touched by things I see happen	○	○	○	○	○
I would describe myself as a pretty soft-hearted person	○	○	○	○	○

Appendix M: Example of Coding for Content Analysis Including Direct Quotes

Theme/Description *Subtheme*	**Example/Quote** **Physically present (n=68)**	**Example/Quote** **Heard about (n=77)** **3 Not disclosed information**
Exposure to severe unpredictable events and distress *Subthemes:* 1.1) nature and unpredictability of the event (20) 1.2) being first on the scene (3) 1.3) Women's story and extremity of their distress (1.3)	*2. "shoulder dystocia"* *3. "mother terminated baby, mother went septic. emergency section performed, baby was disintegrated, mother died after numerous cpr attempts failed."* *4" In theatre during a trial of instrumental, a baby had shoulder distocia, emergency bell was pulled theatre filled with people trying to position woman quickly to help baby come out, baby wasn't breathing when came out"* *5 "A maternal cardiac arrest"* *6. Postnatally, unwell babies and having to give resus.* *7. "I was supporting a mum who was 28 weeks antenatal came in with reduced feral movement and baby had passed away"* *8. "witnessing a newborn baby brought to labour ward being resuscitated by paramedics"* *10. "My first time ever in theatre, concluded with a neonatal death."* *12" When a baby had lost 18% weight, was dehydrated and mother burst in to tears thinking baby may end up starving and if she didn't get help from myself with breastfeeding and referring to hospital, god forbid baby could have starved to death.* *13. "patient bleeding out"* *14. "still birth"* *15. "Stillbirths are always a mix of emotions"* *16. "assisting with still birth c/s. Mother haemorrhage major whist in delivery room"* *17. "A baby stopped breathing whilst breastfeeding. I was supporting the mother and came back into the room to find that*	*2. suturing only with entonox* *3. Still birth* *4. mum and baby dying* *5. lady waking in intensive care, felt she had lost days.* *6. A mother and baby dying during a cs* *7. MOH [Major Obstetric Haemorrhage]* *8. Cat 1 section that led to a flat baby being born and dying* *13. "woman been with us prematurely, she delivered sooner then was expected and lost plenty blood"* *16. "A woman has not actually told me in detail of any traumatic event that has happened to her exactly. However I have heard from colleagues about neonatal deaths (stillbirths)"* *19. "A baby was born and the mum was breastfeeding straight after. Baby stopped breathing and then baby died"* *20. A NND* *21. baby dying and mum unhappy* *22. newborn death* *24. that's hard to say, any delivery that becomes medialised, I.e. forceps, shoulder dystocia, emcs is very traumatic to both parents. That sudden change of birthing plan has a huge affect on their mental wellbeing after delivery and during recovery* *25. "A baby death due to sids.* *26. The mother described waking up with the baby on the breast, blue, dead and with blood round his nose. "* *27. Inverted uterus. Pph 5 litres.*
/ *Description:* *Death (maternal or neonatal) [20]* *Medical emergency/complication* - *PPH/MOH(11)* - *Stillbirths(9)* - *Baby resus (7)* - *Shoulder dystocia[10]* - *Breech (5)* - *IUD (3)* - *Forceps (5)* - *Cardiac arrest (3)* - *Fit/seizure (3)* - *Additional needs/ care*	*she had allowed baby to slip and baby's nose was blocked and baby was going purple/blue."* *18. "Baby born by forceps. Born with bells pause and mother 2.5 litre pph"* *19 "Maternal and neonatal death in theatre"* *20 "An eclamptic seizure on the antenatal ward."* *23 "Being on a MLU and having a undiagnosed breech delivery and being the only other member of staff apart from the Midwife Delivering on hand. Phoning a code red and waiting for 5 minutes to realise the code red didn't get placed correctly. To having to put another code red out and waiting. For baby to then be worked on for 20minutes before declared born sleeping. The pitch of the patients cry will haunt me for the rest of my life."* *24 "Baby resus"* *25 " pre eclamptic fit"* *26 "Too many traction Neville Barnes forceps with horrific injuries to the baby's scalp, nose, lips and chin"* *27 "an undiagnosed breech on a stand alone birth centre"* *28 "a patient came in via ambulance following collapse at home, I was carrying scrub theatre bleep that shift, lady was pale on arrival unresponsive and was rushed to theatre. The baby sadly*	*She indicated that she had felt her membranes had ruptured and when the MSW pulled the sheet back she was having an APH and had lost 2 litres of blood.* *28. The patient lost so much blood and been pushing for long hours and the baby had to be resuscitate* *"P.P.H with result of patient feeling her wishes were not listened to."* *31. 40 week stillbirth* *32. PPH* *33. IUD* *35. Where it was a failed fcps in to c/s abs baby was stuck trying to be delivered via c/s. Mum and baby were very bruised and traumatised from delivery and it sounded very traumatic when giving pn care.* *36. Traumatic delivery, baby taken to SCBU* *37. undiagnosed breech delivery that should have gone to c/s and was dragged out for hours and then had a head entrapment of around 7 minutes which then required the baby to go off to cooling* *41. "Babies being born and rushed straight to the neonatal unit and mum still in theatre unable to go with them"* *42 "Traumatic birth stories and the feeling of loss experienced by the mother and subsequent PND"*

Appendix N: Demographic, Job Role Experience and Designation for Participants That Indicated no Exposure to Perinatal Traumatic Events.

		N=10	
		M (SD)	Range
Age		44 (10.39)	27-57
		N	%
Gender	Female	10	100
	Male	0	0
Ethnicity	White	8	80
	Black, Asian and minority ethnic	2	20
Marital Status	Married/Cohabiting	7	70
	Single/Divorced/Separated	3	30
Years worked as MSW	0-6	5	50
	6+	5	50
Job role	Community	2	20
	Hospital	8	80
NHS Band	2 & other	39	39.8
	3 & 4	59	60.2
Employed by	NHS	10	100
	Other	0	0
Job role changed due to covid19	Yes	5	50
	No	5	50
Covid-19 impacted ability to perform job	Yes	5	50
	No	5	50
Mental health difficulties present before COVID-19	Yes	4	40
	No	6	60
	No mental health difficulties		
History of GP Consultation for mental health difficulties	Yes	4	40
	No	6	60
Current mental health input	Yes	2	20
	No	8	80
Outcome of mental health input/GP consultation (referral)	I was not referred to anyone	1	10
	Referred for professional help	3	30
	No consultation or mental health input	6	60
Considered leaving job due to work related perinatal trauma	Yes	1	10
	No	9	90
Sick leave taken because of perinatal trauma	Yes	0	0
	No	10	100
	Considered it but did not	0	0
Experience of trauma outside of work	Yes	3	30
	No	7	70

		N	%
Personal Experience of giving birth (self/partner)	Yes	7	70
	No	3	30
How many times given birth (self or partner)	1time	1	10
	2times	4	40
	3times	2	20
	4+times	0	0
Consider personal experience of birth to be traumatic	No personal birth experience	3	30
	Yes	3	30
	No	7	70