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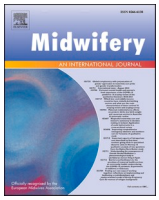

Maternity support workers' experiences of workplace trauma and post-traumatic stress symptoms

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ABSTRACT

Background: Maternity support workers (MSWs) are now a key part of the maternity workforce. They work in environments with potential exposure to traumatic events, but little is known about their rates of exposure or psychological responses.
Objectives: We aimed to identify the proportion of MSWs reporting exposure to a traumatic work event and consequential rates of post-traumatic stress disorder (PTSD). We also aimed to identify factors associated with PTSD and to describe levels of burnout, empathy, and functional impairment, and to explore their potential associations with PTSD symptoms.
Methods: MSWs were recruited via the Royal College of Midwives newsletter, which is sent to all MSW members, and via social media on the College MSW Facebook page. Participants completed an online survey. They provided information on demographic details, job role, and exposure to traumatic events, and completed questionnaires covering PTSD symptoms related to work events, related functional impairment, burnout, and empathy. Data were analysed via correlations and multiple regression.
Findings: Of 98 respondents, 88 had been exposed to a traumatic work event; 79 of these through being present and nine through hearing about traumatic events. Of those exposed, 14.8% ($n = 13$) participants had probable PTSD, while a further 5.7 % ($n = 5$) met the subclinical threshold. Over a third (35.2 %) of the sample showed high levels of emotional exhaustion, a key feature of burnout, and 27.3 % reported functional work impairment. PTSD symptoms were associated with younger age, higher empathic concern, and direct exposure to traumatic perinatal events.
Conclusions and clinical implications: MSWs are routinely exposed to traumatic events at work and are at risk of work-related PTSD. Younger and more empathic staff appear more at risk, although our methods could not distinguish cause and effect. It must also be noted that the survey took place during the COVID-19 pandemic, and findings could be influenced by this context. MSWs need to be routinely included in programmes to support staff in relation to trauma exposure at work.

Background

In the maternity setting, there is potential for adverse events whereby a mother or her baby is suddenly at risk of serious injury or death. Exposure to traumatic events and subsequent post-traumatic stress disorder (PTSD) amongst midwifery staff and obstetricians has been well documented (Sheen et al., 2016; Leinweber et al., 2017; Wahlberg et al., 2017) Prevalence rates of 14 % rising to 33 % for diagnostic-level post-traumatic stress disorder (PTSD) have been reported in midwives and 18 % in obstetricians in United-Kingdom samples (Slade et al., 2018; Slade et al., 2020).

PTSD can occur after 'exposure to an extremely threatening/horrific event or series of events', and symptoms are characterised by involuntary re-experiencing of events through flashbacks or nightmares, avoidance, and persistent perceptions of heightened threat (International Classification of Diseases Eleventh Revision, 2019-2021). In cases of complex PTSD, there can also be marked irritability or feeling emotionally numb, feelings of worthlessness, guilt, or shame, and difficulties sustaining relationships. Two approaches to PTSD are commonly used: (i) probable diagnosis so as when symptom scores meet

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caseness thresholds, and (ii) a continuum of PTSD symptoms. A measure of PTSD symptoms (which can range from very low to very high) is particularly important when associations with other psychological impacts, also measured on a continuous scale, are being assessed. In this study, both approaches were utilised, reflecting this difference as appropriate.

PTSD is important as it creates high levels of distress for the individual and is associated with negative impacts across work, home, and social aspects of lives. These dimensions can be measured as functional impairment across the different domains. In the work domain, suffering with PTSD or high levels of symptoms is linked with more defensive practice, stress-related sickness, and potential attrition from the profession (Sheen et al., 2016). Work-related trauma can be important not only solely for the person concerned, through affecting their own life, but there is also evidence that PTSD symptoms are linked to depersonalisation of care, which involves treating people more as objects and therefore providing less sensitive care (Sheen et al., 2016). This, in turn, can affect women's birth experience, increasing their risk of the birth feeling traumatic, with subsequent risks to their mental health and adverse implications for relationships with the infant (Andersen et al., 2012; Simpson and Catling, 2016; Garthus-Niegel et al., 2017).

Both burnout (which incorporates high levels of emotional exhaustion, depersonalisation, and low levels of job satisfaction) and reduced empathy have previously been found to be associated with PTSD symptoms in maternity staff (Sheen et al. 2015; Slade et al., 2020). They also merit investigation in their own right, Burnout levels in midwifery staff have been reported to be very high, with 64 % of midwives and MSWs reporting they felt 'burnt out or exhausted at the end of most or all of their working shifts' (Royal College of Midwives, National Health Service Staff Survey Results, 2022). Having an emotionally-exhausted staff group inevitably compromises care. Empathy, defined as 'the ability to understand and share the feelings of another', is central to all maternity roles where care is being provided for one of the most intimate life events and when women feel highly vulnerable.

Who are maternity support workers?

Maternity support workers (MSWs) are an integral part of the care team. They are employed by individual National Health Service (NHS) organisations, specifically to work in the maternity services, usually at Bands 2–4. Thus, they work at the lowest levels in the national pay structure, which covers all staff except doctors, and is referred to as Agenda for Change (AfC). MSWs work in close proximity to, and in the same environmental context as, midwives and obstetricians. Little is specifically known about their experiences of work-related trauma or its consequences. MSWs have no set requirements in terms of qualification. Entry requirements can vary across trusts from General Certificate of Secondary Education (GCSE) level, completed at school at 16 years of age, to college qualifications in health and social care qualifications or nursery nursing or childcare, although the Royal College of Midwives (RCM) has recently introduced an apprenticeship scheme (Royal College of Midwives, 2023). At present, MSWs receive NHS mandatory training, which includes safeguarding and basic life support. Trusts identify requirements for MSWs, which range from 'being 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'. The role is loosely defined as 'an unregistered employee providing support to a maternity team, mothers and their families' (Royal College of Midwives, 2019), aimed at making an important contribution towards the care of the childbearing woman, families, and maternity teams (Lindsay, 2018). The work of MSWs is therefore broad and includes administration and clerical tasks, housekeeping, and supporting midwives with health care delivery. They may work in community settings, providing care for mothers and babies throughout pregnancy, or in delivery suites to support midwives, including situations where neonatal or maternal emergencies may arise (Griffin et al., 2009).

There is growing evidence of the risks to maternity workers of exposure to severe perinatal events, including PTSD across different settings (Nieuwenhuijze et al., 2024). Although the education, roles, and responsibilities of midwives and obstetricians hold similarities across settings, the findings of this specific research relating to MSWs may be limited to the UK context. There are other workers whose role broadly includes *support* in maternity in other countries, but they may each be unique to specific settings, have different training, and encompass different responsibilities to those of the NHS maternity support worker.

In addition, within the literature, whilst different groups of untrained staff may be included in reports considering experiences of severe perinatal events, they are qualitative, not disaggregated in the data, and they typically do not address PTSD (Montero et al., 2011; Katsantoni et al., 2019).

According to the RCM, which represents both midwives and MSWs, the number of MSW posts is rising (Royal College of Midwives, 2023); this is perhaps unsurprising in the context of the midwifery staffing shortage (NHS Digital, 2021). MSWs support midwives to manage job role demands and deliver person-centred care in what is recognised as a stressful environment. Given the literature on the experiences of midwives, obstetricians, and gynaecologists that certain events are perceived as traumatic, it could be suggested that MSWs may experience similar exposure to workplace trauma. Little is known about whether MSWs are exposed to traumatic events in the workplace, or the impact of any such exposure. Similarly, levels of burnout which are known to be associated with PTSD also require investigation. As the role of the MSW in the NHS maternity services becomes more significant, it becomes increasingly important to understand more about their work experiences, including trauma exposure, PTSD, and levels of burnout and empathy. It is currently unclear whether their exposure or responses are similar or different to other groups of maternity staff or whether the lack of formal training, professional registration, or the differences in levels of responsibility are protective or place this group more at risk of psychological distress. Maintaining a healthy, stable, well-functioning workforce and understanding support needs across all groups is crucial in providing high-quality maternity care.

Objectives

1. To identify the proportion of MSWs who report being exposed to traumatic events at work.
2. To identify the proportion of MSWs who have been exposed to traumatic events at work suffering with probable PTSD, i.e., symptoms commensurate with diagnostic-level PTSD.
3. To compare those exposed to those who have not been exposed to traumatic events on demographic factors, job descriptors, and psychological measures.
4. Of staff exposed to traumatic events at work, to explore the factors (demographic, job descriptor, job satisfaction) associated with experiences of PTSD symptoms.
5. To describe levels of burnout, empathy, and functional impairment, and to explore potential associations with PTSD symptoms.

Method

Design

A cross-sectional study design was employed to address the research objectives. We collected quantitative data to be able to identify the proportion of MSWs exposed to traumatic events and to explore the factors (demographic, job descriptor, job satisfaction) associated with experiences of PTSD symptoms. An online survey was employed to reach MSWs working throughout the UK.

Participants

Inclusion criteria were (i) being currently employed as a MSW in the UK and (ii) having worked as a MSW for a minimum of 3 months.

Procedure

The study was granted ethical approval by the University of Liverpool Ethics Committee. Participants were recruited via the RCM. 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 MSW members. The link was available on the page and when clicked went directly to the study information sheet and consent form, followed by the survey itself. The advert and the link were sent out on a weekly basis from November 2020 to March 2021, and it is noted that this was during the COVID-19 pandemic. Members could also forward the link to MSW colleagues who were non-RCM members.

Participants were invited to take part in a study on MSWs' experiences of work-related traumatic perinatal events. They were asked to provide demographic information, job role information, information on exposure to traumatic events, short, brief, and unidentifiable descriptions of their experiences, and complete questionnaires covering any post-traumatic stress symptoms related to work events, related impairment, burnout, and empathy. At the end of the survey, participants were provided signposting to support and the option to enter a draw to win vouchers.

Sample size calculation

The sample size calculation for a multiple linear regression analysis (change in R^2) with (anticipated) four predictors was conducted in G*Power (setting alpha to 0.05 and power to 0.80) to detect a medium effect ($f^2 = 0.15$). The calculation yielded a required sample size of $N = 84$. In previous studies assessing work-related trauma in maternity staff, recruited using the RCM database, participant recruitment yielded a 16–18 % response rate of the total population (Sheen et al., 2015). Given the estimated number of MSW members in the RCM (approximately 1000), an adequate sample size was likely to be achieved.

Measures

Demographic and work-related information

Participants provided demographic information including age, gender, ethnicity, marital status, and childbearing history. They also provided work-related information, including number of years worked as a MSW, NHS pay band, designation and area of work, and any impact of the COVID-19 global pandemic on their role.

Mental health and exposure to traumatic events

Trauma exposure was assessed using *criterion A*, 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; American Psychiatric Association, 2013). This definition was provided in the survey. Participants were asked, "whether they had ever been physically present (direct exposure) during a perinatal traumatic event and/or had heard about a traumatic event (indirect exposure) whilst working as an MSW".

Participants were also asked to indicate if they had ever taken time off work or had a change of allocation, and whether they had seriously considered leaving the job role due to experiencing a traumatic perinatal event.

Post-traumatic stress symptoms. PTSD was measured using the Impact of Events Scale- Revised (IES-R; Weiss and Marmar, 1997). 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 maximum score of 88. Clinical cut-off scores suggest 33 or above to indicate a probable diagnosis of clinical PTSD. The scale can also be used as a continuum measuring PTSD symptoms. The measure had excellent internal consistency ($\alpha = 0.96$). Participants were asked to complete this measure specifically in relation to work-related events.

Burnout. Symptoms of burnout were measured using the Maslach Burnout Inventory (MBI; Maslach et al., 1986). The MBI measures three domains of burnout including emotional exhaustion, depersonalisation, and personal accomplishment. Elevated burnout is indicated by higher scores on the emotional exhaustion and depersonalisation subscales and lower scores on the personal accomplishment subscale. Good internal consistency has been indicated for each burnout domain (Maslach et al., 1986) and the internal consistency of the total score (22 items) was $\alpha = 0.79$ in the current sample.

Functional impairment. Perceived functional impairment was measured using the Sheehan Disability Scale (SDS; Sheehan, 1983). Functional impairment was assessed across three inter-related domains, namely work/school, social life, and family life. Respondents rated how much their symptoms had disrupted their regular activities over the past week in each of these areas using a rating scale for each item ranging from 0 (not at all) to 10 (extremely). A score of 5 or more on any individual subscale is indicative of significant impairment. The SDS demonstrated good internal consistency (3 items; $\alpha = 0.87$).

Empathic concern. Empathic concern was measured using the Empathic Concern (EC) subscale of the Interpersonal Reactivity Index (IRI; Davis, 1983) The EC subscale measures an individual's tendency to feel sympathy and compassion for those in need. There are seven items for this subscale, scored on a scale of 1 (does not describe me well) to 5 (describes me very well), producing scores with a potential range of 7–35. The IRI has demonstrated good internal consistency (Davis, 1983). The empathic concern scale was found to be just below acceptable internal consistency (7 items; $\alpha = 0.63$) in the present sample.

Final sample

One-hundred-and-fifty-three MSWs accessed the survey and provided consent, and of these, three participants failed to meet the inclusion criteria concerning employment and were excluded. Of those eligible, 98 (65.3 %) completed the full survey. Of these participants, $N = 88$ indicated exposure to at least one work-related traumatic event. As the number of participants without exposure to traumatic workplace events was too small ($N = 10$) to make meaningful comparisons, objective 3 could not be tested. Only participants with exposure to work-related traumatic events ($N = 88$) were included in the statistical analyses. Participants were all female and aged between 20–62 years old, with a mean age of 39.36 years ($SD = 10.29$). Participant characteristics are presented in Table 1.

Plan of analysis

We checked assumptions of normality and homogeneity of variance for the continuous data. Normality of the data was tested by examining skew, kurtosis, histograms, and running Kolmogorov-Smirnov tests. Non-parametric test equivalents (Mann–Whitney U tests) were used when comparing groups (e.g., for community- vs. hospital-based job role) for IES-R and SDS scores as both outcomes were positively skewed. Spearman's rank-order correlations assessed associations between bivariate data, and bootstrapping (1000 replications) was implemented for the simple and multiple linear regression analyses.

Table 1
Demographic, work-related and mental health information.

		M (SD)	Range
Age		39.36 (10.29)	20–62
		N	%
Gender	Female	88	100
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
	7+	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 COVID-19?	Yes	50	56.8
	No	38	43.2
COVID-19 impacted own 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	9.1
	No mental health difficulties	40	54.6
History of GP consultation for MH difficulties	Yes	48	54.5
	No	40	45.5
Current MH input	Yes	17	19.3
	No	71	80.7
Outcome of MH input/GP consultation (referral)	Was not referred to anyone	20	22.7
	Referred for professional help	28	31.8
	N/A	40	45.5
Considered leaving job due to work-related perinatal trauma?	Yes	25	28.4
	No	63	71.6
Sick leave taken because of work-related perinatal trauma?	Yes	6	6.8
	No	57	64.8
	Considered, but did not take	25	28.4

Descriptive statistics and analyses were conducted using Stata 16. Bivariate correlations were calculated to assess relationships between age, empathic concern, burnout, and the outcome measures.

Separately for the two outcomes (IES-R total score and SDS), Mann-Whitney U tests were computed to inspect initial effects of demographic and work-related variables on outcomes, including ethnicity, job role, and whether or not the job role changed due to COVID-19. Exposure to traumatic events had three levels (direct and indirect exposure, direct exposure only, indirect exposure only) and thus a bootstrapped simple linear regression analysis was carried out for each outcome with type of exposure (three levels) as the predictor variable. A χ^2 test was used to test the overall effect. Given multiple initial analyses were carried out, we applied the Benjamini–Hochberg procedure (false discovery rate set to 20 %, six tests, i.e., separately for each outcome) to reduce the risk of type-1 errors. Only effects which remained significant after this procedure were included in the multiple linear regression models, in which predictors were entered simultaneously to examine unique variance explained by each predictor as well as the overall variance explained by each model.

Results

Participant characteristics

Descriptive statistics are presented in Table 1. Seventy-seven of the sample were white (87.5 %), all 88 were female (100 %), 55 (62.5 %) were married or cohabiting and 87 (98.9 %) were employed by the NHS . Forty-six (52.3 %) had worked as a MSW for three months to six years, with 42 (47.7 %) having worked as a MSW for seven years or more.

Job role

Sixty-four (72.7 %) MSWs considered themselves primarily hospital-based, and 24 (27.3 %) worked within the community. With regards to pay, according to the Agenda-for-Change pay scale, 52 (59.1 %) were currently on pay band 3 or 4, with 35 (39.8 %) on pay band 2 or lower.

Mental health

Forty-eight (54.5 %) of MSWs had consulted GPs about their mental health, including problems with sleep and “nerves” in the past, and, of these, 40 (83.3 %) reported mental health difficulties were present prior to COVID-19, and 17 (19.3 %) of the total sample were receiving professional input for their mental health, sleep, or “nerves” at present.

Own birth experience

Sixty-four (72.7 %) of the sample had personal experience of giving birth (self or partner), and 25 of the 64 (39.1 %) who had personal experience considered this experience to have been traumatic. Twenty of the 64 (31.3 %) with birth experience reported that this had impacted their subsequent work as an MSW. Twenty of the 25 (80 %) of those who reported their own birth experience as traumatic reported that this had impacted their work as an MSW.

Impact of COVID-19 pandemic

Fifty (56.8 %) of participants stated their job roles had been affected as a direct result of the COVID-19 pandemic, with 34 (38.6 %) stating COVID-19 had negatively impacted their ability to do their jobs.

Perinatal trauma in the workplace

Of $N = 88$ reporting exposure, 68 (77.3 %) indicated direct exposure and 79 (89.8 %) indirect exposure. Fifty-nine participants (67.0 %) reported both direct and indirect exposure to events (both physically present and heard about events; see Table 2).

Of those 68 with direct exposure, 48 (70.6 %) of participants experienced 1–5 traumatic perinatal events. Forty-nine (72 %) indicated that the most recent direct traumatic perinatal event occurred within the last year (vs. more than one year ago) and 59 (86.8 %) experienced fear or hopelessness or horror at the time of the event.

Of those who had heard about traumatic perinatal events, 29 (36.7 %) reported hearing about 1–5 traumatic perinatal events and 52 (65.8 %) experienced a sense of fear or hopelessness or horror at the time of the traumatic event (see Table 2).

Impact on working practices

As a result of exposure to perinatal traumatic events, only 6 (6.8 %) actually took time out of work, but 25 (28.4 %) considered taking time off but did not do so. Interestingly, 25 (28.4 %) seriously considered leaving the job role following a perinatal traumatic event.

Table 2
Frequency of events experienced by participants with direct and indirect exposure.

Trauma exposure	***n* (%)**
Direct exposure only	9 (10.2)
Indirect exposure only	20 (22.7)
Both direct and indirect exposure	59 (67.0)
Number of events	
Direct exposure (physically present) ($n = 68$)	***n* (%)**
1–5 events	48 (70.6)
6–10 events	4 (5.9)
11+ events	7 (10.3)
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 (86.8)
Indirect exposure (heard about) ($n = 79$)	***n* (%)**
1–5 events	29 (36.7)
6–10 events	28 (35.4)
11+ events	16 (20.3)
Experienced fear/hopelessness/horror	52 (65.9)

PTSD and PTSD symptoms

The second aim of the study was to identify the proportion of those who had been exposed to traumatic events in the workplace who were suffering with significant levels of PTSD symptoms. Mean total scores were computed for the IES-R ($M = 14.72$, $SD = 16.59$) . Using the cut-off, $N = 13$ (14.8%) participants had probable PTSD while a further $N = 5$ (5.7%) met the subclinical threshold (see Table 3).

Burnout

Mean scores were indicative of a moderate level of emotional exhaustion, low level of depersonalisation, and a moderate level of personal accomplishment (see Table 3). Using the prescribed cut-off point for the Maslach Burnout Scale, 31 (35.2 %) of participants reported high levels of emotional exhaustion, 14 (15.9 %) high or moderate depersonalisation, and 39 (44.3 %) reported low levels of personal accomplishment.

Functional impairment

The Sheehan Disability Scale (SDS) was used to assess the impact of exposure to traumatic perinatal events on personal and professional life. SDS mean scores ($M = 8.39$, $SD = 6.53$) were not indicative of MSWs being highly impaired. However, 24 (27.3 %) scored within the high range of significant functional impairment at work, 22 (25.0 %) in family life, and 10 (11.4 %) in social life (see Table 3).

Empathic concern

Empathic concern was higher amongst MSWs than the average norm in the original standardisation of the scale ($M = 23.01$, $SD = 3.91$; compared to $M = 21.67$, $SD = 3.83$ in Davis, 1983).

Relationships between demographic and occupational variables, PTSD symptoms, and functional impairment

The fourth and fifth aims were to investigate which demographic variables, job descriptors, and psychological measures were associated with higher PTSD symptoms and functional impairment.

For PTSD symptoms, Mann-Whitney-U-tests (see Table 4) showed a

Table 3
Descriptive statistics for post-traumatic stress symptoms (IES-R), Maslach Burnout Inventory (MBI), and Sheehan Disability Scale in the total sample ($N = 88$).

		Mean (*SD*)	Range
IES-R	Intrusion	6.22 (6.75)	0–32
	Avoidance	5.15 (6.28)	0–32
	Hyperarousal	3.35 (4.92)	0–24
	Total	14.72 (16.59)	
		Total Frequency %	***n***
	No significant PTSD symptoms (<22)	79.5 %	70
	Partial PTSD (sub-clinical >=22)	5.7 %	5
	Probable PTSD (clinical >33)	14.8 %	13
		Mean (*SD*)	**Range**
MBI	Emotional exhaustion	21.65 (10.92)	0–54
	Depersonalisation	2.87 (3.70)	0–30
	Personal accomplishment	32.57 (6.18)	0–48
		Classification	***n* (%)**
	Emotional exhaustion	High %	31 (35.2)
		Moderate %	28 (31.8)
		Low %	29 (33.0)
	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)
		Mean (*SD*)	**Range**
SDS	Total 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)

Note. For IES-R, a score of 22+ indicates partial PTSD and clinical concern, scores of 33 (cut-off) and above indicate probable diagnosis of PTSD (Weiss and Marmar, 1997). For SDS subscales, a score of 5 or more on any individual subscale is indicative of high score (Sheehan, 1983).

Table 4
Tests for demographic and occupational variables, and post-traumatic stress symptoms (IES-R) and functional impairment (SDS).

			IES-R			SDS		
Index	Group	*n*	*z*	*p*	Cohen's *d*	*z*	*p*	Cohen's *d*
Ethnicity	White	77	0.297	0.772	0.07	2.157	0.028*	0.60
	BAME	11						
Job role	Hospital-based	64	2.114	0.034*	0.44	−0.245	0.808	−0.01
	Community-based	24						
Job role changed due to COVID-19?	Yes	50	−0.954	0.441	−0.04	2.889	0.004*	0.59
	No	38						

Type of exposure		Mean (*SE*)	*b*	*SE*	*Z*	*p*	95% CIs	χ^2 test overall effect
IES-R	Both direct and indirect	15.20 (2.09)						χ^2 (2) = 9.76, p = 0.008*
	Direct only	28.33 (8.04)	13.13	8.31	1.58	0.114	−3.16, 29.42	
	Indirect only	7.15 (2.57)	−8.05	3.33	−2.42	.016	−14.58, 1.52	
SDS	Both direct and indirect	9.41 (.89)						χ^2 (2) = 18.05, p = 0.0001*
	Direct only	9.33 (2.95)	−0.073	3.08	−0.02	0.918	−6.11, 5.96	
	Indirect only	4.95 (0.64)	−4.46	1.07	−4.15	<0.001	−6.56, −2.35	

Note. Starred *p* values indicate that effects significant after Benjamini–Hochberg procedure.

Table 5
Spearman's rank-order correlations (rho, *p*) of age, empathic concern (EC), emotional exhaustion (EE), depersonalisation (DEP), personal accomplishment (PA), post-traumatic stress symptoms (IES-R), and functional impairment (SDS).

	Age	EC	EE	DEP	PA	IES-R	SDS
Age	1						
EC	−0.04 (0.754[a])	1					
EE	−0.14	−0.09	1				
DEP	−0.13	−0.34 (0.001[a])	0.50 (<0.001[a])	1			
PA	0.05	0.26 (0.016[a])	−0.18	−0.27 (0.011[a])	1		
IES-R	−0.32 (0.002*)	0.22 (0.036*)	0.12	0.17	0.03	1	
SDS	0.01 (0.942)	0.06 (0.600)	0.38 (0.0003[a])	0.21 (0.045[a])	−0.06	0.37 (0.0004[a])	1

Note. Starred *p* values denote effects surviving Benjamini–Hochberg procedure.
[a] indicates correlation not included in Benjamini–Hochberg procedure as between predictors or outcome variables or descriptive variables only.

significant difference in IES-R scores between job roles, with hospital-based MSWs scoring significantly higher than community-based MSWs (Cohen's d = 0.44). Furthermore, age was significantly negatively correlated with PTSD symptoms, and empathic concern was significantly positively correlated with PTSD symptoms (see Table 5). Lastly, the simple linear regression analysis indicated a significant effect of type of exposure (see Table 4). Bonferroni-corrected pairwise comparisons showed that MSWs with indirect exposure had significantly lower IES-R scores than those with both direct and indirect exposure (p = 0.047) or direct exposure only (p = 0.037); there was no difference between both direct and indirect exposure and direct exposure only (p = 0.343).

For functional impairment, Mann–Whitney-U-tests (see Table 4) showed a significant difference in SDS scores between ethnicity (white vs. Black, Asian, and minority ethnic (BAME)), with white MSWs scoring significantly higher than BAME MSWs (Cohen's d = 0.60). Furthermore, people whose job role had changed due to COVID-19 had significantly higher functional impairment than those whose role had not changed (Cohen's d = *0.*59). Lastly, the simple linear regression analysis again indicated a significant effect of type of exposure (see Table 4); Bonferroni-corrected pairwise comparisons showed that people with indirect exposure only had significantly lower SDS scores than people with both direct and indirect exposure (p < 0.001); there were no differences between both direct and indirect exposure and direct exposure only (p = 0.999), or between indirect exposure only and direct exposure only (p = 0.443).

Examining unique and overall variance explained by factors associated with PTSD symptoms and functional impairment

PTSD symptoms

Age, empathic concern, job role, and type of exposure were entered into the multiple regression analysis. The predictors explained 21 % of the variance of IES-R total score, Wald $\chi^2(5)$ = 24.47, p = 0.0002, adjusted R^2 = 0.21, partial η^2 = 0.25. Age (b = −0.39, SE = 0.16, p = 0.016, CI 95 % [−0.71, −0.07], partial η^2 = 0.07), empathic concern (b = 1.03, SE = 0.44, p = 0.018, CI 95 % [0.18, 1.89], partial η^2 = 0.07), and type of exposure ($\chi^2(2)$ = 8.29, p = 0.016, partial η^2 = 0.11) were significant predictors. Current job role (whether hospital or community based) was non-significant (b = −2.21, SE = 3.75, p = 0.512, CI 95 % [−8.83, 4.40], partial η^2 = 0.004). As in the individual analyses, lower age was associated with higher PTSD symptoms, and higher empathic concern was related to higher PTSD symptoms. Furthermore, PTSD symptoms were highest in those with direct exposure only (M = 27.11, SE = 7.83), followed by those with both direct and indirect exposure (M = 15.23, SE = 1.84), and lowest in indirect exposure only (M = 7.62 SE = 2.81). Bonferroni-adjusted pairwise comparisons showed that the comparison between the direct-only and indirect-only groups was marginally significant (p = 0.055), but the other comparisons were non-significant (both direct and indirect exposure vs. direct only: p = 0.418; both direct and indirect exposure vs. indirect only: p = 0.076). Therefore, younger age, higher empathic concern, and direct exposure only to traumatic perinatal events (vs. indirect exposure only) were associated with higher PTSD symptoms.

Functional impairment

Ethnicity, job role changing due to COVID-19, and type of exposure were entered into the multiple regression analysis. The regression model explained 14 % of the variance of the SDS score, Wald $\chi^2(4)$ = 22–0.91, p = 0.0001, adjusted R^2 = 0.14, partial η^2 = 0.18, ethnicity (b = −3.08, SE = 1.53, p = 0.044, CI 95 % [−6.08, −0.09], partial η^2 = 0.03), job role changing (b = −3.78, SE = 1.39, p = 0.007, CI 95 % [−6.50, −1.05], partial η^2 = 0.09) and type of exposure ($\chi^2(2)$ = 10.85, p = 0.004, partial

$\eta^2 = 0.07$) were all significant predictors. As in the individual analyses, white MSWs reported greater functional impairment ($M = 8.77$, $SE = 0.73$) than BAME MSWs ($M = 5.69$, $SE = 1.37$). Furthermore, people whose job role had changed due to COVID-19 reported greater functional impairment ($M = 10.01$, $SE = 0.99$) than people whose role had not changed ($M = 6.24$, $SE = 0.91$). As for PTSD symptoms, functional impairment was highest in those with direct exposure only ($M = 10.94$, $SE = 2.66$), followed by those with both direct and indirect exposure ($M = 8.94$, $SE = 0.85$), and lowest in indirect exposure only ($M = 5.59$, $SE = 0.86$). Bonferroni-adjusted pairwise comparisons showed that the comparison between both direct and indirect exposure and indirect exposure only was significant ($p = 0.013$), but that both direct and indirect exposure did not differ from direct exposure only ($p = 0.999$) and direct only and indirect exposure only also did not differ from each other ($p = 0.149$). In summary, identifying as white, job role changing due to the COVID-19 pandemic, and reporting direct exposure only or both direct and indirect exposure to traumatic perinatal events (vs. indirect exposure only) were associated with greater functional impairment.

Discussion

Nearly all MSW participants (89.8 %) reported exposure to direct or indirect work-related traumatic events. Almost 15 % reported probable PTSD at clinical diagnostic levels with a further 5.7 % percent at subclinical levels. This indicates that one in five MSWs in this sample showed significant trauma-related distress. This rate is much higher than that of the general population, where approximately 4.4 % report PTSD (Fear et al., 2016). The current prevalence, though, echoes findings in the POPPY study, in which 14 % of 153 midwives enrolled in mandatory training, and therefore an unselected sample, experienced diagnostic-level PTSD (Slade et al., 2018). Similarly, a survey of 1095 trainee and consultant obstetricians indicated that 18 % showed PTSD symptoms related to work events (Slade et al., 2020). Whilst the current findings relate to a small sample size and survey methodology inevitably involves bias through self-selection, it appears that exposure to traumatic events in the workplace, both directly and indirectly, may be a typical aspect of the MSW role. It is of interest that staff without formal professional training or registration and who by definition hold less responsibility for outcomes than e.g., midwives, may be similarly at risk of trauma exposure and psychological distress.

The study also aimed to explore exposure to and correlates of PTSD symptoms. Our results indicate that factors such as being physically present at the event and younger age are associated with greater PTSD symptoms. The latter is in line with non-perinatal PTSD literature (Brewin et al., 2000). Interestingly, some factors that might be assumed to be associated with PTSD symptoms, such as duration in job role or number of traumatic events, were not associated in the present sample. Almost 30 percent of MSWs had considered leaving the job role or taking time out of work following a perinatal traumatic event. Even where this is not enacted, the fact that events lead to such consideration is an important finding considering that stress has become one of the main causes of sickness absence in maternity staff (Warwick, 2016).

Overall, moderate levels of emotional exhaustion and personal accomplishment and low levels of depersonalisation were found in the sample, but 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. It should be noted, though, that the percentage of MSWs showing moderate to high levels of depersonalisation was low in comparison to the midwifery literature (Sheen et al., 2015). Unlike findings in equivalent studies with midwives and obstetricians, there were no significant associations between emotional exhaustion, personal accomplishment and depersonalisation, and PTSD symptoms (Sheen et al., 2015; Slade et al., 2020).

In relation to work-related disability, almost 30 % of the sample scored within the significantly impaired range at work, and 25 % reported significant impairments in family life related to their trauma exposure. In summary, being white, job role changing due to the COVID-19 pandemic and reporting direct exposure only or both direct and indirect exposure to traumatic perinatal events (vs. indirect exposure only) were associated with greater functional impairment. There was also a significant positive relationship between functional impairment and PTSD symptoms. This could suggest the higher the 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, it is not possible to discriminate between these two explanations. Nevertheless, it is important to recognise that these links exist and are apparent not just in qualified staff (Slade et al., 2020) but also in staff without professional qualifications.

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 (Greenberg et al., 2018).

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 that impact the validity of the responses being representative for the MSW population. However, research into trauma amongst other groups of maternity professionals yielded similar response rates, and factors suggesting the reasons for the common response rate need to be considered. It is generally suggested that two opposing biases operate, with those feeling greater personal relevance participating, which would lead to an overestimation of PTSD, but it is also acknowledged that avoidance is a feature of PTSD and therefore may reduce participation by those most affected, thereby reducing the estimation of PTSD. It must be noted that, after consent, only 65.3 % of potential participants completed. The overall impact of these two opposing biases is unclear, but the response rate must be considered an important limitation of the study and may compromise external validity. Further, the recruitment method was specifically targeted at MSWs who were members of the RCM, although they could forward the link to non-member colleagues. Whilst it is unlikely that union membership influences exposure or psychological response, this could be considered another source of bias. In addition, those participating showed a high rate of consultation for mental health problems. However, this did not predict post-traumatic stress symptoms.

The context of this research also 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, and this itself was associated with functional impairment. COVID-19 also impacted their perceived ability to perform their role. Whether rates will mirror those before or indeed after the pandemic is unclear. Certainly, there are suggestions in the literature that working in a pandemic may increase rates of post-traumatic stress symptoms in healthcare staff (Carmassi et al., 2020). This type of survey would therefore benefit from replication in non-pandemic conditions.

There is a lack of diversity within the sample, being primarily white married/cohabiting women who were mainly in hospital-based roles. However, this is also reflective of workforce surveys as reported by the

RCM (Warwick, 2016).

The recruitment 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. However, recruitment also constituted an important strength as the work included MSWs across the full range of roles in hospital and community settings.

Finally, it is also important to highlight that Cronbach's alpha for the empathic concern scale was slightly below the accepted standard (<0.7), thus these findings should be approached with caution. Finally, as the study was cross-sectional, conclusions about causality cannot be drawn.

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. Implementing support structures within the workplace prior to and immediately after events alongside effective post-trauma psychological interventions may reduce the likelihood of PTSD. This work suggests that it is important that MSWs are routinely included in any prevention and intervention programmes for work-related trauma responses (Slade et al., 2018). This is important for their personal wellbeing, but also at an organisational level from a staffing perspective.

Conclusion

This small sample indicated that UK MSWs are exposed to traumatic events and nearly 15 % in this study suffered probable PTSD at similar rates to midwives. Those exposed in person and younger are more affected. This research highlights the importance of the routine inclusion of MSWs in prevention and intervention programmes for PTSD alongside other maternity staff.

Ethical approval

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CRediT authorship contribution statement

Pauline Slade: Writing – review & editing, Writing – original draft, Supervision, Methodology, Data curation, Conceptualization. **Charlotte Smart:** Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Charlotte Krahé:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Formal analysis, Data curation. **Helen Spiby:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Conceptualization.

Declaration of competing interest

The authors declare that they have no conflict of interest.

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