


# BMJ Open Which events are experienced as traumatic by obstetricians and gynaecologists, and why? A qualitative analysis from a cross-sectional survey and in-depth interviews

Kayleigh Sheen <sup>1</sup>, Laura Goodfellow,<sup>2</sup> Katie Balling,<sup>3</sup> Janice Rymer,<sup>4</sup> Andrew Weeks,<sup>2,5,6</sup> Helen Spiby,<sup>7</sup> Pauline Slade<sup>3</sup>

**To cite:** Sheen K, Goodfellow L, Balling K, *et al.* Which events are experienced as traumatic by obstetricians and gynaecologists, and why? A qualitative analysis from a cross-sectional survey and in-depth interviews. *BMJ Open* 2022;**12**:e061505. doi:10.1136/bmjopen-2022-061505

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2022-061505>).

Received 26 January 2022  
Accepted 09 October 2022



© Author(s) (or their employer(s)) 2022. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

For numbered affiliations see end of article.

## Correspondence to

Professor Pauline Slade;  
Pauline.Slade@liverpool.ac.uk

## ABSTRACT

**Objectives** To explore the events perceived as traumatic by obstetricians and gynaecologists (O&G), and to examine factors contributing to the perception of trauma.

**Design** Mixed methods: cross-sectional survey and in-depth interviews.

**Sample and setting** Fellows, members and trainees of the Royal College of Obstetricians and Gynaecologists (RCOG).

**Methods** An online survey was distributed to 6300 fellows (May–June 2017), members and trainees of RCOG; 1095 (17%) completed surveys were returned. Of these, 728 (66%) reported work-related trauma experience, with 525 providing a brief description of an event. Forty-three participants with trauma experience were purposively sampled and completed an in-depth interview (October 2017–March 2018), which were analysed using Template Analysis. Information regarding the scale and impact of trauma experience is presented elsewhere. The present analysis provides new information describing the events and perceptions of why events were traumatic.

**Primary outcome measures** The nature of traumatic events in this clinical setting, taken from survey descriptions of perceived traumatic events and information from the in-depth interviews.

**Results** Events perceived as traumatic by O&G were similar between consultants, trainees and other RCOG members no longer working in O&G. Maternal or neonatal death/stillbirth, haemorrhage and events involving a difficult delivery were most frequently reported. Sudden and unpredictable events, perceived preventability, acute sensory experiences and high emotionality contributed to trauma perception. Respondents' trauma was compounded by an absence of support, involvement in investigation procedures and pre-existing relationships with a recipient of care.

**Conclusions** Identification of events most likely to be perceived as traumatic, and wider circumstances contributing to the perception of trauma, provide a basis on which to focus preventative and supportive strategies for O&G. Training on the nature of traumatic events, self-help for early stress responses, processing support and rapid access to trauma-focused psychological input (where required) are needed.

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ A large number of obstetricians and gynaecologists provided descriptions of *which* events they had perceived as traumatic that fulfilled criterion A of the Diagnostic and Statistical Manual of Mental Disorders 4th Edition, Revision.
- ⇒ In-depth interviews enabled exploration of *why* specific events were traumatic providing a basis for evidence-informed preventative and supportive strategies.
- ⇒ The initial response rate to the survey (17%) is a limitation yet aligns with research conducted in this context.
- ⇒ Attrition from the survey may limit generalisability of findings.

## INTRODUCTION

Obstetricians and gynaecologists (O&G) commonly experience events while providing maternity care that they perceive as traumatic, and some will develop symptoms of post-traumatic stress disorder (PTSD).<sup>1–4</sup> In this context, traumatic events involve actual or perceived threat to the mother or her infant, and where the doctor experiences intense fear, helplessness or horror.<sup>5</sup> Perception of trauma is subjective, influenced by appraisals of an event and its consequences.<sup>6</sup> While it is an individual's appraisal that will determine if an event is experienced as traumatic, employers need to develop an understanding of the events that place their staff most at risk of psychological trauma and subsequent PTSD. This may enable potential mitigation of circumstances that can compound the perception of trauma. It could also form part of a package of care to increase awareness among teams regarding the experience and impact of trauma, and facilitate timely

identification of individuals who may benefit from additional support.

Identification of the types of events that are experienced as traumatic is limited and has not yet been explored in the UK. A qualitative investigation with obstetricians in Ireland identified that stillbirth was unsurprisingly experienced as a very difficult event.<sup>7</sup> In a survey of 683 Dutch obstetrician-gynaecologists, the most commonly reported adverse events included neonatal and maternal death, severe neonatal or maternal complications, patient aggression, medical errors and conflicts with colleagues.<sup>1</sup> An investigation with obstetricians and midwives involved in a severe obstetric event in Sweden reported that the pace of patient deterioration, organisational deficiencies in staffing or resources and an absence of support increased difficulty.<sup>8</sup>

Methods of measuring trauma experiences have varied. Some studies use the Diagnostic and Statistical Manual of Mental Disorders 4th Edition, Revision (DSM-IVR)

criterion A,<sup>5</sup> which takes into account appraisal (whether the obstetrician responded with fear, helplessness or horror *during* the event).<sup>1 3 4</sup> The appraisal criterion was removed from the subsequent revision of the DSM.<sup>9</sup> However, for contexts where exposure is virtually universal the appraisal element is clearly important. Indeed, it has been shown to be the strongest predictor of subsequent PTSD in the context of childbirth.<sup>10–12</sup> Other studies ask respondents whether they have experienced a severe event, or provide a list of predetermined events to select.<sup>8 13 14</sup> Provision of a predetermined list of events may limit the breadth of events reported, and will not necessarily capture events that have been appraised as traumatic.

The INDIGO study (Investigating experiences of traumatic work-related events in gynaecologists and obstetricians) examined the scale and impact of traumatic work-related events reported by O&G in the UK.<sup>4</sup> In collaboration with the Royal College of Obstetricians

**Table 1** Demographic (gender, marital status) and employment details split by level of responsibility (n=525)

	Trainee/Staff grade (n=208) N (%)	Consultant/Associate specialist (n=301) N (%)	RCOG members working outside of clinical O&G (n=16) N (%)	Overall (n=525) N (%)
Age*				
M (SD) range	34.92 (5.40) (27–58)	48.98 (8.09) (33–73)	49.19 (11.23) (34–72)	43.39 (10.00) (27–73)
Gender (n, %)				
Male	28 (13.5)	79 (26.2)	4 (25.0)	111 (21.1)
Female	179 (86.1)	219 (72.8)	12 (75.0)	410 (78.1)
Prefer not to say	1 (0.5)	3 (1.0)	0	4 (0.8)
Marital status (n, %)				
Single	40 (19.2)	25 (8.3)	2 (12.5)	67 (12.8)
Married/Cohabiting	161 (77.4)	252 (83.7)	13 (81.3)	426 (81.1)
Divorced/Separated	4 (1.9)	20 (6.6)	1 (6.3)	25 (4.8)
Widowed	0	4 (1.3)	0	4 (0.8)
Other	3 (1.4)	0	0	3 (0.6)
Ethnicity (n, %)				
White or white British	145 (69.7)	208 (69.1)	13 (81.3)	366 (69.7)
Mixed or multiple race	8 (3.8)	6 (2.0)	0	14 (2.7)
Asian/Asian British	31 (14.9)	59 (19.6)	3 (18.7)	93 (17.7)
Black/Black British	13 (6.3)	8 (2.7)	0	21 (4.0)
Other ethnic group	11 (5.3)	20 (6.6)	0	31 (5.9)
Current employment† (n, %)				
NHS	194 (93.3)	261 (86.7)	10 (62.5)	465 (88.6)
University	15 (7.2)	18 (6.0)	0	33 (6.3)
Other	10 (4.8)	34 (11.4)	6 (37.5)	
Current clinical practice‡ (n, %)				
Yes	196 (94.2)	295 (98.0)	9 (56.3)	500 (95.2)
No	12 (5.8)	6 (2.0)	7 (43.8)	25 (4.8)
Total n=525. *N=2 missing. †Not mutually exclusive. ‡Whether currently working clinically. Individuals not currently working clinically were still in their role but primarily on maternity/sick leave. O&G, Obstetricians and Gynaecologists; RCOG, Royal College of Obstetricians and Gynaecologists.				

and Gynaecologists (RCOG), 1095 fellows, members and trainees of RCOG completed an online survey about their experiences of work-related trauma. Telephone interviews were conducted to explore in-depth the nature of traumatic experiences and associated impacts. Paper 1 provided information on the prevalence and predictors of PTSD and associated impacts.<sup>4</sup> Two-thirds of respondents had experienced a work-related traumatic event, and of these 18% reported clinically significant PTSD symptoms. Furthermore, 91% of respondents felt that specific support in relation to trauma experiences was needed.

However, in order to develop a support system for PTSD it is crucial to understand what type of events are experienced as traumatic, and factors that influence this. The current paper focuses on *cause* rather than *impact* using information from INDIGO, not previously published, to identify both the *types* of events that are perceived as traumatic and wider elements contributing to the perception of trauma by UK practising O&G. This manuscript presents new information examining what events are experienced as traumatic, and why.

### Study objective

To explore the events perceived as traumatic by O&G and to examine factors contributing to the perception of trauma.

### METHODS

Data collection involved two stages: (1) a national survey of members and fellows and (2) in-depth interviews with a subsample of survey respondents.

### Patient and public involvement statement

As a staff-focussed project, INDIGO included from conception a study management group with consultant and trainee representatives and an elected RCOG representative; all shaped the design of the study, interpretation of results and dissemination of findings.

### Stage 1: national survey

A national survey (INDIGO) was conducted in collaboration with the RCOG, inviting fellows, members and trainees to provide information on the frequency and impact of traumatic work-related experiences. (Membership of the RCOG is awarded following successful completion of specialist training in obstetrics and gynaecology. Fellowship of the RCOG is an honorary position awarded following long distinguished service (typically in excess of 12 years).) The survey was emailed to all 6300 doctors (excluding retired members) on the RCOG membership database in May-June 2017 (online supplemental file 1). This included 4750 consultants/associate specialists, and 1550 trainees/ staff grade doctors.

Demographic and professional designation details were recorded. Work-related trauma experiences were defined using criterion A of the DSM-IV<sup>5</sup> for PTSD, including (1) events involving perceived or actual threat to the mother and/or infant and (2) where the doctor had experienced fear, helplessness or horror in response. In this context of almost universal exposure, it was deemed advantageous to record experiences that were both objectively severe (A1) and subjectively appraised as such (A2). This also aligns with the recently updated WHO International Classification of Diseases 11th revision definition of a traumatic

**Table 2** Overview of categorised events as reported by consultant, trainee and ‘other’ groups, presented by frequency within each professional group (total n=525)

Consultant (total n=301)	Trainee (total n=208)	Other (total n=16)
1. Patient death (105, 35%)	1. Patient death (59, 28%)	1. Haemorrhage (6, 38%)
2. Haemorrhage (71, 24%)	2. Haemorrhage (41, 20%)	2. Patient death (4, 25%)
3. Difficult delivery (30, 10%)	3. Difficult delivery (40, 19%)	3. Poor neonatal outcome (4, 25%)
4. Involvement in cardiac arrest/resuscitation (23, 8%)	4. Involvement in cardiac arrest/resuscitation (23, 11%)	4. Pre-eclampsia (3, 19%)
5. Intraoperative/Postoperative complications (18, 6%)	5. Poor neonatal outcome (20, 10%)	5. Sepsis (2, 13%)
6. Poor neonatal outcome (17, 6%)	6. Sepsis (11, 5%)	6. Intraoperative/Postoperative complications (1, 6%)
7. Venous thromboembolism (12, 4%)	7. Uterine rupture or inversion (9, 4%)	
8. Maternal/Fetal intrapartum complication (8, 3%)	8. Intraoperative/Postoperative complications (8, 4%)	
9. Sepsis (10, 3%)	9. Venous thromboembolism/Amniotic fluid embolism (6, 3%)	
10. Pre-eclampsia (3, 1%)	10. Pre-eclampsia (5, 2%)	
11. Uterine rupture or inversion (2, 1%)	11. Fetal anomalies in labour (2, 1%)	

Categories are not mutually exclusive. N=7 (consultant) and n=1 (trainee) descriptions not included in the analysis as they related to ‘general’ feelings or experiences in relation to work-related trauma. An additional 24 (consultant) and 15 (trainee) events were categorised as ‘miscellaneous’ and did not fall into any of the categories as identified across all descriptions. Death includes gynaecological patients, maternal, fetal and neonatal deaths. Percentages denote proportion of respondents within each professional group.

event.<sup>15</sup> Participants were asked to describe an event that they had experienced as traumatic. Where multiple events were reported, respondents described the event that they had found most difficult. Descriptions were analysed (KB, LG) using content analysis, focusing on the characteristic of the event that appeared to be traumatic.<sup>16</sup> For this analysis, doctors were split into three groups: those working in O&G as consultant or associate specialist; those working as trainee or staff grade and RCOG members working outside of clinical O&G.

PTSD symptoms were recorded using the Impact of Event Scale-Revised (IES-R).<sup>17</sup> Although not a diagnostic tool, a cut-off of 33 and above was used to indicate symptoms occurring at levels commensurate with a clinical diagnosis.<sup>18</sup> The extent of perceived impairment to work, social and family/home life (following a work-related traumatic event) was recorded using the Sheehan Disability Scale (SDS).<sup>19</sup> Details of survey measures and primary findings are presented by Slade *et al.*<sup>4</sup>

## Stage 2: qualitative interviews

Survey respondents were asked to indicate their willingness to be interviewed. Forty-three, 1:1 semi-structured telephone interviews were conducted (October 2017–March 2018) with purposefully sampled respondents forming two groups:

1. PTSD group (n=20): high symptoms of PTSD ( $\geq 33$  on IES-R) and a high score ( $\geq 5$ ) on the SDS for work-related impact.
2. No PTSD group (n=23): low or no significant symptoms of PTSD ( $< 22$  on IES-R) and no significant perceived impact on work ( $< 3$ ) on the work dimension of the SDS.

Telephone interviews were conducted by KB using an interview guide (online supplemental file 2), developed by the research team. After indicating willingness to participate in an interview, KB contacted respondents providing full information about participation and arranging a time to complete the interview. Written consent was obtained. Participants were aware that KB was a female clinical psychologist and research associate, and that the interview formed part of a research study. Interviews lasted approximately 45 min. No repeat interviews were carried out, and transcripts were not returned to participants for comment. On contact, all participants consented to participate.

All interviews were audio-recorded, transcribed and analysed using Template Analysis,<sup>20</sup> with each group analysed separately. An initial outline template structured the analysis of both groups while allowing shaping of the template with emergent subthemes throughout the analysis process. The outline template included: (1) what made the events traumatic, (2) what were the impacts, (3)

**Table 3** Overview of event categories with quotations as reported by consultant/SAS grade (C), trainee grade (T) and other RCOG member (O) respondents

Category	Illustrative quotations
Patient death	▶ <i>“An antenatal patient had a cardiac arrest while I was on call as a registrar, she had a perimortem section but died”. (C)</i>
Haemorrhaging	▶ <i>“Patient with vaginal delivery and PPH. There were extensive vaginal tears and vagina was friable and unable to control bleeding with suturing or packing”. (C)</i>
Poor neonatal outcome	▶ <i>“Unwell new-born who survived several months but had sequelae”. (O)</i>
Maternal/Fetal intrapartum complication	▶ <i>“CS at fully with a previous section as an ST3. I was assisted by an ST1 and deroofed the bladder. I saw the Catheter balloon drift into view and was mortified”. (T)</i>
Eclampsia/HELLP	▶ <i>“I was crash called to A&amp;E when she was having sustained seizures. She was deeply unconscious and her GCS was 3. There was no fetal heart beat on scanning and her blood results showed severe HELLP syndrome”. (C)</i>
Sepsis	▶ <i>“Labour ward triage, acutely unwell septic patient presented desaturating and hypotensive”. (T)</i>
Difficult delivery	▶ <i>“Emergency caesarean section with deeply impacted fetal head. Severe difficulty delivering baby”. (T)</i>
Peri-arrest/cardiac arrest	▶ <i>“Early pregnancy patient attending for TOP had cardiac arrest in outpatients department while I was only doctor present (secondary to massive PE). Needed CPR for over an hour and several weeks in ITU”. (T)</i>
Venous thromboembolism	▶ <i>“A patient had bilateral PEs after hysterectomy and was quite ill for a time but survived”. (C)</i>
Intraoperative/Postoperative complications	▶ <i>“injury of bowel at laparoscopy, laparotomy needed, bleeding and bowel damage needing repair”. (C)</i>
Uterine rupture/Inversion	▶ <i>“bled heavily and on examination had an inverted uterus which we were unable to reduce”. (T)</i>
Fetal anomalies in labour	▶ <i>“(The baby) had massive hydrocephalus and in order for its head to fit through the maternal pelvis it had to have fluid drained. This involved inserting a large needle directly through the mother’s abdominal wall/uterus and into the baby’s brain where I then had to remove as much fluid as possible with a syringe, which was attached to the needle”. (T)</i>

A&E, accident and emergency; CPR, cardiopulmonary resuscitation; CS, caesarean section; GCS, Glasgow Coma Scale; HELLP, Haemolysis, Elevated Liver enzymes and Low Platelets; ITU, intensive care unit; PE, pulmonary embolism; PPH, postpartum haemorrhage; TOP, termination of pregnancy.

**Table 4** Overview of themes and subthemes from stage 2: interviews—what made the event so distressing?

Theme	Subtheme
1. Maybe it was preventable	1.1. A busy (night) shift with competing demands (and less support)
	1.2. Lack of experience/new to the role or team
	1.3. Misjudgements/Potential errors by the doctor and the team
	1.4. A feeling of self-blame and a sense of responsibility (potentially due to a mistake)
2. Lack of support during and after the event	2.1. During the event: feeling alone with the responsibility (not knowing what to do next)
	2.2. After the event
	2.2.1. Poor or no support offered 2.2.2. Criticised, gossiped about and blamed by the team
3. The unpredictable nature of obstetrics and gynaecology	3.1. The event was unexpected (still do not understand what happened)
	3.2. A sudden emergency situation/rapid deterioration/having to move and think quickly
	3.3. Try and do everything right but sometimes drills/procedures and usual manoeuvres sometimes do not work
4. High emotion around the event	4.1. High emotion of the patient, family and team
	4.2. Doctor's empathy for the patient and their family
5. Investigation processes that compound the trauma	5.1. A long investigation process, sometimes without closure/feedback on the case
	5.2. Blaming and unfair investigation process
6. Pre-existing relationships with the woman/identification with the woman	
7. Sensory aspects of the event	

All themes and subthemes were reported by interviewees in the high and low/no PTSD groups.

in managing the impacts what helped, (4) what hindered and (5) what was wanted. Analysis of event impacts and perspectives on helpful strategies (2–5) were presented in a paper focused on need for and provision of care.<sup>4</sup> This paper presents an analysis from a complementary perspective by providing staff perceptions of the environmental context that triggers these responses in the key theme of *what made the events traumatic* (1), which was not previously reported.

The primary analysis was conducted by KB using Microsoft Word and checked throughout the process by the team (KS, LG, PS) to ensure appropriate identification, evidencing and labelling of themes with repeated comparison to data. Strong parallels in perspectives from participants were identified indicative of data saturation. Finally, the PTSD and no PTSD groups were compared for similarities and differences in emergent themes and subthemes.

## RESULTS

### Stage 1: survey—what are the characteristics of events perceived as traumatic?

A total of 525 respondents (of 728 reporting work-related trauma experience) provided a description of the most difficult traumatic event they had encountered. This included 301 consultants, 208 trainees and 16 RCOG members no longer working in O&G. Respondent details included in the analysis of events are presented in [table 1](#).

There were strong parallels in the characteristics of events perceived as traumatic across each of the staff

groups ([table 2](#)). The predominant features of events that were perceived as traumatic were poor patient outcome and sudden deterioration in the clinical situation, such as in difficult deliveries and venous thromboembolism. There was a high representation of events in which the doctor was involved in resuscitation or management of haemorrhage. Exemplar quotations are displayed in [table 3](#).

### Stage 2: interviews—what made the event so distressing?

Forty-three interviews were conducted (n=20 high symptoms, n=23 low symptoms). Of the high group, 11 were consultant/associate specialist grade, 7 were trainee/staff grade and 2 were other RCOG members. In the low group, 17 were consultant/associate specialist grade, 5 were trainee/staff grade and 1 was an RCOG member not currently working in O&G.

There were very close parallels between the high and low stress groups in all seven themes ([table 4](#)): (1) *maybe it was preventable*, (2) *lack of support during and after the event*, (3) *the complex and unpredictable nature of obstetrics and gynaecology*, (4) *high emotion around the event*, (5) *an investigation process which compounded the trauma*, (6) *pre-existing relationship with the patient/identified with the patient* and (7) *the sensory impact of the event*. Exemplar quotes from both groups are therefore intermingled.

#### 1. Maybe it was preventable

This theme highlights the systemic and human factors that might have contributed to a poor outcome and question whether the situation was potentially avoidable.

The systemic factors included: (1.1) *the busyness of the shift coupled with the competing demands of high-risk patients*. Human factors included: (1.2) *lack of experience/being new to the role or team*, (1.3) *misjudgements/potential errors by the doctor and/or the team* and (1.4) *a feeling of self-blame and a sense of responsibility for something having gone wrong*.

### 1.1 System factors: a busy (night) shift with competing demands (and less support)

Some experiences emphasised the stressful wider circumstances of the shift; a high number of births occurring at the same time, patients with complex medical needs or night shifts where support was less accessible.

And... the board was completely full with lots of high risk patients (L24)

### 1.2. Lack of experience/new to the role or team (human factors)

This subtheme highlighted how reduced familiarity (with a hospital, a role or a particular clinical situation) contributed to difficulty, especially in the context of the unusually severe events as highlighted in [table 3](#):

and you know, I was a year one registrar, never run a labour ward on my own before, and all these awful things were happening (H23)

### 1.3. Misjudgements/Potential errors by the doctor and the team (human factors)

These events involved situations where doctors attributed the weight of responsibility to a mistake they or their colleagues had made. Inherent within this was a sense that 'human error' led to the situation or outcome that occurred.

There was lots of human factors involved, lots of different people looking after her, lots of things that in retrospect she should have picked and then there's lots of disjointed care (L13)

### 1.4. A feeling of self-blame and a sense of responsibility (potentially due to a mistake) (human factors)

Although not attributed to a mistake or error, others reported self-blame either for not 'speaking up' to challenge decisions that were made, or where an alternative course of action could have prevented the event occurring held a lasting impact.

I still feel very ... sad when I think about that case, and I, and you know to my dying day I'll think 'oh my god I wish we'd just done a section' (H16)

## 2. Lack of support during and after the event

In this theme, difficulty during the event related to (2.1) feeling alone with the responsibility and not knowing what to do next. After the event, difficulty centred around (2.2.1) feeling unsupported (because poor support is offered/no support at all) and (2.2.2) feeling criticised, gossiped about or blamed by other members of the team.

### 2.1. During the event: feeling alone with the responsibility (not knowing what to do next)

Feelings of isolation were identified, sometimes from being the only doctor available at the time. On a broader sense, doctors reported that the responsibility attributed to their role contributed to a sense of loneliness. Underpinning these accounts was a sense of fear from not knowing what to do to improve a situation, and feeling alone.

as doctors you have these moments from time to time where you are solely responsible for that thing and nobody else can help you out, there's only you. And those moments can be pretty, pretty lonely... and pretty terrifying (L18)

### 2.2. After the event

#### 2.2.1. Poor or no support offered

An absence of support compounded difficulty, with some participants reporting that nobody had spoken to them about what had happened, despite this being 'normal' following an adverse event. Others felt that any discussion they did have was not supportive, or that in general there was no support available.

absolutely nothing ... yeah and to be honest with you, if the same situation happened again I don't think anything would be offered either... (H30)

#### 2.2.2. Criticised, gossiped about and blamed by the team

Vulnerability from external criticism, likened to gossip, contributed to a sense of being blamed or judged for the decisions that had been made. Some reported that this led to a need to defend themselves, for others this enhanced feelings of guilt.

you know when people start whispering about you, and you know, and start gossiping about you and then they form this opinion about you and then you, and then you, whatever you do, nothing's ever right... and that's basically what happened to me (H23)

## 3. The unpredictable nature of obstetrics and gynaecology

This theme included: (3.1) *the event was unexpected*, encapsulating the notion that routine/straightforward processes can be unpredictable and the unexpected change or outcome can have an impact, (3.2) *a sudden emergency situation/rapid deterioration/having to move and think quickly*, demonstrating the speed at which things can change (in obstetrics particularly) requiring the doctor to make rapid complex decisions and (3.3) *try and do everything right but sometimes drills/procedures and usual manoeuvres do not work* reflecting the helplessness when knowledge and skills are exceeded.

### 3.1. The event was unexpected (still do not understand what happened)

The unpredictability of events contributed to a sense of shock, especially where 'warning signs' were not apparent.

... this baby behaved, I mean it didn't look like it was in extremis or anything it looked, I mean it cried, I mean to the point that I didn't even notice there was anything wrong with it. (H38)

### 3.2. A sudden emergency situation/rapid deterioration/having to move and think quickly

Witnessing rapid deterioration requiring immediate action was also a feature of several reported events.

And it [the liquor] wasn't offensive or anything like that ... Just as we were about to go into theatre, we got her bloods back, and her white cell count was 30, so you're thinking, 'oh god ... get to theatre' (L11)

### 3.3. Try and do everything right but sometimes drills/procedures and usual manoeuvres sometimes do not work

Instances where usual procedures did not work contributed to feelings of helplessness where despite 'doing everything' that a doctor had been trained to do, the situation did not improve.

I think it was that it felt as though the baby was going to die in front of me, that I was powerless, I was doing my very best to rectify the situation but it was sort of that feeling that the baby is going to die right in front of my eyes, this baby is going to die and I can't seem to do anything about it[...]. (L18)

## 4. High emotion around the event

This theme includes high emotions expressed by anyone involved in the event including, the patient, the family and the team (4.1). It also includes the empathy for the patient and family at the time, or following the event (4.2).

### 4.1. High emotion of the patient, family and team

Bearing witness to the trauma and horror experienced by patients was a 'harrowing' experience. Other experiences involved witnessing other colleagues visibly upset.

it was just the patient herself was... I mean obviously understandably very traumatised but the difficult thing... the mother of the patient who just screamed and then ran through the hospital saying that we'd killed her baby. (L13)

### 4.2. Doctor's empathy for the patient and their family

For some doctors, recognition of the implications of a situation for the family contributed to difficulty.

and obviously it was ... a Daddy left with (number) children and no mother... (H20)

## 5. Investigation processes that compound the trauma

This theme concerned the investigation process that can often follow a traumatic work-related event, and how, when not managed well, can compound the impact; including (5.1) *the length of the investigation process coupled*

*with a lack of closure on the case and (5.2) a blaming and unfair investigation process.*

### 5.1. A long investigation process, sometimes without closure/feedback on the case

For some, difficulty attributed to involvement in an investigation was underpinned by the inability to obtain closure. Not being able to see the family afterwards, or know of the long-term outcome was reported. Others reported that not hearing the outcome of the case contributed to the long-term impact of their experience.

Yes, it does, and you know, particularly if you're a Junior. Patients are more litigious than they used to be and most of them there isn't a case but that destroys our lives for about 3 or 4 months you know. (H1)

### 5.2. Blaming and unfair investigation process

A sense of unfairness in the details presented as part of an investigation, where doctors felt undermined or information presented in a way so as to paint them in 'the worst possible light' prolonged the difficulty that had been experienced.

...I was being hung out to dry when I felt I'd failed in that the particular skill that I had... and you know I know that you have to stand up and be counted but I think there's a difference between you know being negligent and held to account and being struck off which is what they were trying to do. (L12)

## 6. Pre-existing relationship with the woman/identification with the woman

This theme highlights the impact of the pre-existing relationship with the patient, which involved both positive and more challenging relationships, and instances where the doctor identified with the patient; that is, the doctor was pregnant or had experienced a miscarriage.

I knew the lady because you do four nights in a row basically, so I had met her the night before and interestingly she had the same first name as me (laugh) it's funny how you remember those things (H20)

Having a pre-existing relationship led to a stronger personal impact for the doctor following an adverse event.

and because we'd built up a bit of a relationship you know, she said 'oh it would be really nice if you could deliver my baby' and all this stuff (L32)

## 7. Sensory aspects of the event

This theme includes the sensations around the event, including the touch of a baby that has died, the image of the amount of blood in the room, the colour of the baby as it was delivered; all of which compounded the impact.

yeah the baby did die in my arms, in my hands to be honest. (H31)



But I think the most...horrifying thing was like, I knew that, you know, there was something seriously wrong...when I actually went in and ... tried to deliver the baby, it was already dead, you know.[...]. But that feeling of like, delivering that dead baby it was like, really like, I don't know, I just felt like, really horrible like, why am I doing this job kind of thing (L5)

## DISCUSSION

The most frequently cited events described by all groups involved patient death (including maternal, gynaecological, fetal and neonatal), haemorrhage, difficult delivery and involvement in cardiac arrest and resuscitation attempts. The general similarity in event types across each of the professional groups highlights the commonality of perceptual experience regardless of level of training or responsibility. This holds utility for the development of support systems, especially in relation to raising awareness about specific events that are more likely to be perceived as traumatic. The consultants/associate specialists reported proportionally more intraoperative/postoperative complications; likely reflecting the level of seniority of the samples.

Despite being among the most frequently reported trauma events, maternal and neonatal mortality and stillbirth are rare in the UK.<sup>21</sup> It is likely that these events featured frequently as traumatic for respondents due to their finality. Another common feature in events that were perceived as traumatic was the doctor's involvement with clinical situations that were sudden, dramatic and visually horrific, such as massive haemorrhage and involvement in resuscitation attempts.

There were strong parallels between the high and low PTSD groups in the seven features influencing the perception of trauma. This further highlights commonalities in the events perceived as traumatic irrespective of psychological sequelae, and can provide a basis on which to inform systems of support. Many factors influencing the perception of trauma involved those around the event itself, that is, whether this was viewed as a result of unnecessary systemic or 'human factors'. Recognition of human factors underpinning patient safety are widely recognised.<sup>22 23</sup> In the context of the current manuscript, their role in the perception of an event and subsequent impact on practitioners is highlighted.

Where there were issues about busyness and competing demands these may relate to the concept of moral injury, where professionals cannot deliver a service according to their expected standards.<sup>24 25</sup> Specific investigation into the concept of moral injury in maternity care providers, especially in the context of trauma exposure, is limited.<sup>26</sup> However, the role of moral injury in predicting subsequent PTSD has been identified in contexts outside of maternity care.<sup>27</sup> This is a concept of particular relevance in the current COVID-19 pandemic.<sup>25</sup>

The suddenness and unpredictability of the event was also a factor. Clinicians who personally identified with the

patient or who had a pre-existing relationship with them reported that this increased difficulty. This is aligned with previous research exploring midwives' experiences of work-related trauma.<sup>28</sup> Emotional experiences during the event were important, with the sensory nature reported together with a feeling of responsibility aloneness and isolation. Following the event, a lack of support or indeed active criticism and gossip intensified difficulties. Other postevent factors concerned the slowness and lack of communication about any investigation. Some findings resonate with those from previous qualitative investigations and studies with midwives, particularly, feeling 'talked about' afterwards, blame and involvement in litigation procedures,<sup>28-31</sup> suggesting cultural issues within maternity settings play a key role.

## Strengths and limitations

A strength was the use of a definition for trauma that encompassed appraisal of the event. Use of in-depth interviews to examine *why* events were difficult enable identification of contextual factors. The initial survey response rate (17%) is a limitation, although not dissimilar from those reported in other professional contexts examining trauma exposure. There may be limitations in generalisability due to this, however the demographic and professional characteristics of respondents were similar to the wider specialty (as highlighted by Slade *et al*).<sup>4</sup> There is potential for bias in two directions; those without trauma experience may feel that the study is not relevant, and those with trauma experience may choose not to participate to avoid potential distress. Presence of PTSD symptoms at levels commensurate with clinical severity were inferred via a threshold score from a self-report questionnaire, and not formally diagnosed.

## Implications

O&G during their training and careers can expect to be exposed to events that they experience as potentially traumatic. The wider elements contributing to the perception of trauma as described by clinicians with and without high levels of PTSD symptoms are consistent with the concept that the cause of PTSD is not so much the nature of the event itself, but the personal and organisational procedures that follow. As previously reported,<sup>4</sup> key differences between the high and low PTSD groups included (for those in the low group) having time to process the event, finding a positive in a negative and using the experience to train other doctors. Contextual aspects that may intensify risk could be routinely addressed within organisations to meet employers' duty of care. These include adequate staffing, and integrated trauma prevention and intervention systems.<sup>32</sup>

Given the unpredictability and severity of events, this would allow staff to be well prepared rather than focussing only on postevent supportive care. Universal prevention workshops could prepare individuals for such exposure both in training and in qualified roles and facilitate trauma awareness (including awareness of the nature



of traumatic events, early responses), and training in self-help strategies to reduce translation of trauma exposure into PTSD. Such workshops have demonstrated encouraging impacts following feasibility testing for midwives.<sup>33</sup>

The availability of support for doctors around the time of experiencing a traumatic event was clearly important, together with movement towards a more compassionate staff culture, normalising the availability of and access to support and not tolerating what could be experienced as disrespectful and unprofessional ‘gossip’ postevent.<sup>4 34</sup> Appreciation for the subjective nature of trauma perception,<sup>6</sup> where the outcome of a situation does not necessarily predict or mitigate a trauma response, may further contribute to a culture of support among staff. Where needed, the ability for doctors to access appropriate psychological input, including trauma-focused cognitive behavioural therapy or eye movement desensitisation and reprocessing therapy is essential.<sup>35</sup>

Recognition of the impact of investigative procedures both at Trust level and those of the Healthcare Safety Investigation Branch is required, including clarity in processes and timeline and the availability of appropriate staff support throughout.<sup>32</sup> Modification or scrutiny of Trust guidance as indicated by Slade *et al*<sup>4</sup> is needed to ensure routine attention to staff needs and prevention of trauma escalation. Findings have informed the development of a new Good Practice Paper for maternity staff support, currently under review with the RCOG, with recommendations for PTSD prevention and treatment directly drawn from the INDIGO study and previous research specifically with UK midwives.<sup>4 28 31 33 36</sup>

## CONCLUSIONS

The nature of events perceived as traumatic by O&G were similar across roles and training. Themes identified about why events were traumatic were unaffected by whether or not the person was currently suffering with PTSD. Aspects that influenced the perception of trauma related to the event itself and how it occurred, the high level of emotionality and sensory experience of the event and personal identification with the patient. Also implicated was an absence of support during or after the event and length and lack of communication related to any investigation. The workplace circumstances triggering traumatic experiences in O&G are now clear and a systematic approach to preventing and intervening is urgently needed.

### Author affiliations

<sup>1</sup>School of Psychology, Faculty of Health, Liverpool John Moores University, Liverpool, UK

<sup>2</sup>Department of Women’s and Children’s Health, University of Liverpool, Liverpool, UK

<sup>3</sup>Department of Primary Care and Mental Health, Institute of Population Health, University of Liverpool, Liverpool, UK

<sup>4</sup>School of Medical Education, Faculty of Life Sciences and Medicine, King’s College London, London, UK

<sup>5</sup>Liverpool Women’s Hospital Foundation Trust, Liverpool, UK

<sup>6</sup>Liverpool Health Partners, Liverpool, UK

<sup>7</sup>School of Health Sciences, Faculty of Medicine and Health Sciences, University of Nottingham, Nottingham, UK

**Twitter** Kayleigh Sheen @kayleighsheen

**Contributors** KS contributed to the funded proposal, contributed to qualitative analysis and led the development of the paper. LG contributed to implementation, qualitative analysis, interpretation and drafts of the paper. KB implemented the survey, completed all qualitative interviews and analyses and contributed to the paper. HS was instrumental in design, obtaining the funding, implementation, interpretation and the paper. JR facilitated the running of the project via the Royal College of Obstetricians and Gynaecologists and contributed to interpretation and the paper. AW contributed to the design, obtaining the funding, interpretation and the paper. PS (guarantor) was responsible for design, led the bid for funding and oversaw all aspects of the project and paper.

**Funding** This work was funded by Grant RG1912 from Wellbeing of Women. The grant was awarded after external peer review for scientific quality. Wellbeing of Women had no role in the conduct of the research or writing of the paper.

**Competing interests** None declared.

**Patient and public involvement** Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the ‘Methods’ section for further details.

**Patient consent for publication** Not applicable.

**Ethics approval** Ethical approval for the study was obtained from the University of Liverpool Ethics Committee (UoLREC1171) on 2 March 2017 and all participants provided informed consent.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data availability statement** No data are available. No data are available. In the participant information sheet and therefore our ethical agreement, we have stated: ‘access to data from this study will be strictly limited to University members of the research team only’. Therefore, participants consented to their data being used for this project only.

**Supplemental material** This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

**Open access** This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

### ORCID iD

Kayleigh Sheen <http://orcid.org/0000-0003-1254-1763>

## REFERENCES

- 1 Baas MAM, Scheepstra KWF, Stramrood CAI, *et al*. Work-related adverse events leaving their mark: a cross-sectional study among Dutch gynecologists. *BMC Psychiatry* 2018;18:73.
- 2 Gold KJ, Kuznia AL, Hayward RA. How physicians cope with stillbirth or neonatal death: a national survey of obstetricians. *Obstet Gynecol* 2008;112:29–34.
- 3 Wahlberg Å, Andreen Sachs M, Johannesson K, *et al*. Post-traumatic stress symptoms in Swedish obstetricians and midwives after severe obstetric events: a cross-sectional retrospective survey. *BJOG* 2017;124:1264–71.
- 4 Slade P, Balling K, Sheen K, *et al*. Work-related post-traumatic stress symptoms in obstetricians and gynaecologists: findings from INDIGO, a mixed-methods study with a cross-sectional survey and in-depth interviews. *BJOG* 2020;127:600–8.
- 5 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. Washington DC: American Psychiatric Pub, 2010.



- 6 Ehlers A, Clark DM. A cognitive model of posttraumatic stress disorder. *Behav Res Ther* 2000;38:319–45.
- 7 Nuzum D, Meaney S, O'Donoghue K. The impact of stillbirth on consultant obstetrician gynaecologists: a qualitative study. *BJOG* 2014;121:1020–8.
- 8 Wahlberg Åsa, Högberg U, Emmelin M. Left alone with the emotional surge: a qualitative study of midwives' and obstetricians' experiences of severe events on the labour ward. *Sex Reprod Healthc* 2020;23:100483.
- 9 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (DSM-V)*. Washington DC: American Psychiatric Pub Andersson, 2013.
- 10 Devilly GJ, Gullo MJ, Alcorn KL, et al. Subjective appraisal of threat (criterion A2) as a predictor of distress in childbearing women. *J Nerv Ment Dis* 2014;202:877–82.
- 11 Andersen LB, Melvaer LB, Videbech P, et al. Risk factors for developing post-traumatic stress disorder following childbirth: a systematic review. *Acta Obstet Gynecol Scand* 2012;91:1261–72.
- 12 Ayers S, Bond R, Bertullies S, et al. The aetiology of post-traumatic stress following childbirth: a meta-analysis and theoretical framework. *Psychol Med* 2016;46:1121–34.
- 13 Schröder K, Larsen PV, Jørgensen JS, et al. Psychosocial health and well-being among obstetricians and midwives involved in traumatic childbirth. *Midwifery* 2016;41:45–53.
- 14 Wahlberg Åsa, Andreen Sachs M, Bergh Johannesson K, et al. Self-reported exposure to severe events on the labour ward among Swedish midwives and obstetricians: a cross-sectional retrospective study. *Int J Nurs Stud* 2017;65:8–16.
- 15 International Classification of Diseases, Eleventh Revision (ICD-11). World Health Organisation (WHO) 2019/2021. Available: <https://icd.who.int/browse11> [Accessed Jul 2022].
- 16 Krippendorff K. *Content analysis: an introduction to its methodology*. Los Angeles: SAGE Publications, 2018.
- 17 Marmar CR, Weiss DS. The impact of event scale–revised. In: *Assessing psychological trauma and PTSD*. New York: Guilford, 1997: 399–411.
- 18 Rash CJ, Coffey SF, Baschnagel JS, et al. Psychometric properties of the IES-R in traumatized substance dependent individuals with and without PTSD. *Addict Behav* 2008;33:1039–47.
- 19 Sheehan DV. *The anxiety disease*. New York: Scribner's, 1983.
- 20 King N, Symon G, Cassell C. Doing template analysis. In: *Qualitative organizational research: core methods and current challenges*. London: SAGE Publications, 2012: 450. 426.
- 21 Royal College of Obstetricians and Gynaecologists. Each baby counts 2015 full report. Royal College of obstetricians and gynaecologists, 2017. Available: <https://www.rcog.org.uk/globalassets/documents/guidelines/research--audit/each-baby-counts-2015-full-report.pdf> [Accessed 12 Nov 2021].
- 22 Hinshaw K. Human factors in obstetrics and gynaecology. *Obstet Gynaecol Reprod Med* 2016;26:368–70.
- 23 Oliver D. Moral distress in hospital doctors. *BMJ* 2018;360:k1333.
- 24 Litz BT, Stein N, Delaney E, et al. Moral injury and moral repair in war veterans: a preliminary model and intervention strategy. *Clin Psychol Rev* 2009;29:695–706.
- 25 Tracy DK, Tarn M, Eldridge R, et al. What should be done to support the mental health of healthcare staff treating COVID-19 patients? *Br J Psychiatry* 2020;217:537–9.
- 26 Kendall-Tackett K, Beck CT. Secondary traumatic stress and moral injury in maternity care providers: a narrative and exploratory review. *Front Glob Womens Health* 2022;3:835811.
- 27 Murray H, Ehlers A. Cognitive therapy for moral injury in post-traumatic stress disorder. *Cogn Behav Therap* 2021;14:e8.
- 28 Sheen K, Spiby H, Slade P. What are the characteristics of perinatal events perceived to be traumatic by midwives? *Midwifery* 2016;40:55–61.
- 29 Cauldwell M, Chappell LC, Murtagh G, et al. Learning about maternal death and grief in the profession: a pilot qualitative study. *Acta Obstet Gynecol Scand* 2015;94:1346–53.
- 30 Wahlberg Åsa, Högberg U, Emmelin M. The erratic pathway to regaining a professional self-image after an obstetric work-related trauma: a grounded theory study. *Int J Nurs Stud* 2019;89:53–61.
- 31 Sheen K, Spiby H, Slade P. The experience and impact of traumatic perinatal event experiences in midwives: a qualitative investigation. *Int J Nurs Stud* 2016;53:61–72.
- 32 Healthcare Safety Investigation Branch. National learning report support for staff following patient safety incidents, 2021. Available: [https://www.hsib.org.uk/documents/270/HSIB\\_Support\\_for\\_staff\\_following\\_patient\\_safety\\_incidents\\_Report\\_V03\\_003.pdf](https://www.hsib.org.uk/documents/270/HSIB_Support_for_staff_following_patient_safety_incidents_Report_V03_003.pdf) [Accessed 22 Jan 2022].
- 33 Slade P, Sheen K, Collinge S, et al. A programme for the prevention of post-traumatic stress disorder in midwifery (POPPY): indications of effectiveness from a feasibility study. *Eur J Psychotraumatol* 2018;9:1518069.
- 34 West M, Coia D. Caring for doctors caring for patients. How to transform UK healthcare environments to support doctors and medical students to care for patients, 2019. General Medical Council. Available: [https://www.gmc-uk.org/-/media/documents/caring-for-doctors-caring-for-patients\\_pdf-80706341.pdf](https://www.gmc-uk.org/-/media/documents/caring-for-doctors-caring-for-patients_pdf-80706341.pdf) [Accessed 22 Jan 2022].
- 35 National Institute for Health and Care Excellence. Post-traumatic stress disorder [NG116], 2018. Available: <https://www.nice.org.uk/guidance/ng116/chapter/Recommendations> [Accessed 20 Sep 2022].
- 36 Sheen K, Spiby H, Slade P. Exposure to traumatic perinatal experiences and posttraumatic stress symptoms in midwives: prevalence and association with burnout. *Int J Nurs Stud* 2015;52:578–87.