



## The BLOSSoM study: Burnout after perinatal LOSS in Midwifery. Results of a nation-wide investigation in Italy

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### ABSTRACT

**Background:** Respectful care of bereaved parents after stillbirth plays a pivotal role in enabling the grieving process and reducing the traumatic impact of this life-changing event. Unfortunately, professionals and midwives, in particular, are often emotionally unprepared and frequently left alone when dealing with these stressful events.

**Aim:** The BLOSSoM (Burnout after perinatal LOSS in Midwifery) study aims to address the levels of professional burnout in Italian midwives and evaluate the psychological impact of bereavement care on professionals.

**Methods:** Web-based cross-sectional study, including socio-demographic questionnaire, survey on the knowledge of guidelines for stillbirth management and two psychometric tests: Maslach Burnout Inventory (MBI) and Impact of Event Scale - Revised (IES-R).

**Findings:** Of 445 female midwives, mean age 35.1 (SD 9.9), working years 11.2 (SD 10.2), 149 (33.4%) reported specific training on stillbirth and 420 (94.6%) highlighted the need for further training and support. Medium to high levels of burnout (Emotional Exhaustion) were present in 65 midwives (15.9%) with a high prevalence of Reduced Personal Accomplishment (292, 64.2%). 'Communicating the diagnosis of death' was considered the hardest task, followed by 'assisting the meeting with the baby'; 109 midwives (24.5%) reported high IES-R scores (>30), suggesting symptoms of PTSD related to stillbirth events; a good level of knowledge of guidelines favoured Personal Accomplishment (OR 0.3 [0.1 – 0.6]). The number of stillbirths assisted by midwives was not associated with burnout levels.

**Conclusion:** Midwives are particularly at risk of developing professional burnout, as early as after five years of work, with a significant association with the psychological impact exerted by stressful events (stillbirth).

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### Statement of Significance

#### Problem or Issue

Respectful and thoughtful care of bereaved parents after perinatal loss plays a pivotal role in enabling the grieving

process and reducing the traumatic impact of this life-changing event. Unfortunately, professionals are very often emotionally unprepared or not properly trained for supporting grieving parents and midwives. In particular, they are frequently left alone without any qualified support.

#### What is Already Known

For many bereaved parents, midwives provide significant support for families after the death of their baby. The role of midwives has been reported as central from the moment of the bad news up to the labour and childbirth, in the post-partum period and subsequent pregnancies. Their pivotal role has been widely assessed, as well as their need for

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appropriate training and support since caring for parents of stillborn babies is extremely challenging and stressful.

### What this Paper Adds

Many midwives in Italy have not received appropriate training on bereavement care nor have they received any qualified support from staff. Midwives are particularly at risk of developing professional burnout after just five years of work, with significant correlation with the psychological impact of the events. A good knowledge base of guidelines decreased the risk of low personal accomplishment.

## Introduction

The loss of a baby during pregnancy or after childbirth is a tragic event which every year involves millions of families all over the world. In particular, as highlighted by The Lancet 2011 Stillbirth Series [1] and 2016 Ending Preventable Stillbirth Series [2], stillbirth remains a largely invisible and neglected issue in policies and programmes, underfinanced and in urgent need of attention in low, middle- and high-income countries. The lack of interest is widespread also on a social level, because stillbirth happens inside the mother's body, making it invisible, and her sense of grief may be disenfranchised (i.e. not publicly recognized) [3].

The death of a baby has a huge impact on women's mental health and on parents' wellbeing and it has many psychosocial consequences for families. The loss of a baby fulfils criteria for a severe traumatic event, and it requires proper support and intervention in order to reduce the risk of negative psychological consequences [4].

After a traumatic event, people need to be supported and encouraged to take care of themselves and their health. The very first days after the event are crucial for determining the impact of trauma on parents and families. It is important that caregivers work with mothers of stillborn babies in order to reduce the traumatic impact of the event and to enhance post-traumatic recovery. During this process, caregivers play a pivotal role in creating a "safe space" in which parents feel free to express their emotions, their thoughts and take part in a shared decision-making process related to childbirth, baby, post-mortem exams, and burial. Creating a "safe space", both from a physical and emotional point of view, is one of the roles of caregivers involved in the care of bereaved parents [5].

Among perinatal caregivers, midwives often have the deepest relationship with parents, due to their pivotal role in labour, childbirth and puerperium. Midwives carry out very special tasks after the death of a baby: they stay with parents, they support women during decision-making processes and during labour; at childbirth they are the very first to meet the baby and the very first person to take the baby's body in their hands; they are in charge when it is time to "say hello and goodbye"; they represent very often a sort of privileged witness for enabling bereaved parents to tell their story. These tasks are difficult, also because they involve not only professional skills but also personal ones [6].

In general, experiencing traumatic perinatal events as a caregiver contributes to developing high levels of burnout, feelings of helplessness, inadequacy, emotional exhaustion in health care providers, and deep psychological distress. Post-Traumatic Stress Disorder (PTSD) symptoms have been associated with increased levels of burnout in several studies on midwives' reactions: after a traumatic perinatal event more than a third of midwives had seriously considered leaving the midwifery profession [7]. Moreover, midwives involved in bereavement care are more likely

to suffer from secondary traumatic stress ("the event experienced by one person becomes a traumatizing event for the second person") [8,9].

If stillbirth and perinatal loss remain neglected issues in many cultures, as they currently are, secondary traumatic stress and burnout in the midwifery profession remain, consequently, poorly investigated in scientific research. The impact of these events on midwives' wellbeing has not yet been quantified, and midwives are not adequately supported in managing stress and coping with loss. In fact, healthcare professionals (HCPs) developing burnout show short-temper, disengagement, decreased empathy, and medication mistakes [7].

In a previous study we showed that the majority of Italian HCPs (75%) has never received specific training on bereavement care after stillbirth, not at University nor post-graduation [6]. A systematic review showed that one-third of midwives believe their preparation to be inadequate and find perinatal loss care stressful and emotionally difficult [10].

International guidelines for perinatal loss highlight that staff should have the opportunity to receive specific training and to develop skills on bereavement care. Also HCPs should have access to peer-to-peer and professional support to avoid burnout [11].

In this frame, the BLOSSoM (Burnout after perinatal LOSS in Midwifery) study was developed in order to address levels of professional burnout in Italian midwives and to evaluate the psychological impact of bereavement care on them. The study has both a quantitative and a qualitative perspective. We report here results of the quantitative investigation on the impact of stillbirth experiences on midwives, with particular regard to the effects of stressful professional experiences in the development of a burnout syndrome.

## Methods

A cross-sectional study design was used. The BLOSSoM questionnaire was developed by CR and AV and uploaded as an online survey using the SurveyMonkey platform ([www.surveymonkey.com](http://www.surveymonkey.com)). The survey was distributed by CiaoLapo Foundation, an Italian charity for perinatal loss support, in collaboration with several Italian hospitals. All participating hospital authorities approved the protocol and authorized the study. All data were collected and analysed anonymously.

Participants were considered eligible to complete the survey if working as midwives, whether in the hospital or in other settings, such as community-based care, maternity clinics or private practice. Although no gender criterion was applied, all respondents were female. Consent was provided at the beginning of the survey once participants had read participant information and met eligibility criteria.

Each subject was asked to complete the Impact of Event Scale Revised (IES-R) with their stillbirth caring experiences in mind, the Maslach Burn-Out Inventory (MBI) to assess the level of professional burnout and the Lucina Questionnaire [6] to assess their knowledge, opinions and feelings towards stillbirth and perinatal death management. Socio-demographic data were also recorded.

The survey consisted of questions across several key areas including: (1) Sociodemographic information; (2) Section A - Lucina questionnaire; (3) Section B - Maslach Burnout Inventory; (4) Section C - Impact of Event Scale Revised.

The Lucina questionnaire was developed by authors in order to explore knowledge and beliefs of professionals on the most difficult aspects of midwifery practice, with particular focus on the care of women experiencing stillbirth and perinatal loss. The specific aim of the questionnaire was to investigate behaviours and practices of HCPs during both the acute phase of loss and the grieving process. More details on the questionnaire were previously published [6].

The Maslach Burnout Inventory – Human Services Survey for Medical Personnel (MBI-HSS MP) [12] is a 22-item survey that covers three areas: Emotional Exhaustion (EE), Depersonalisation (DP), and low sense of Personal Accomplishment (PA). Each subscale includes multiple questions with frequency rating choices from Never to Every day (Likert-type scale from 0 to 6). The Italian version of MBI-HSS MP was licensed by Mind Garden INC to CR for the realisation of this study.

The Impact of Event Scale Revised (IES-R) [13] is a 22-item self-report measure to assess subjective distress caused by traumatic events. Respondents were asked to indicate how much they were distressed or bothered by each item listed with reference to events of stillbirths they had taken care of, on a Likert-type scale ranging from 0 (Not at all) to 4 (Extremely). The IES-R was originally designed to be used in recent traumatic events, nevertheless over the years it has been widely used to address PTSD symptoms of remote events [14]. For the purposes of this research, we used IES-R to evaluate symptoms of PTSD, not as a diagnostic tool. The questionnaire comprises three main post-traumatic symptoms subscales (intrusion, avoidance, and hyperarousal). The outcome of each subscale was analysed as a continuous measure (mean value). The total score was calculated as a continuous measure (sum) which ranged from 0 to 88; higher scores indicated more PTSD symptoms. Using quartiles distribution, IES-R was also classified as very low (<10), low (10–20), moderate (21–30) and high (>30). Although not diagnostic, high IES-R values suggest the presence of clinically relevant PTSD symptoms. The IES-R version used in this study is in the public domain.

Statistical analysis and data presentation

Survey responses were downloaded and extracted from the online survey tool SurveyMonkey and imported into Excel for data management. Data were cleaned and checked. Quantitative data were imported into Stata/IC 16.1 (StataCorp) for statistical analysis. Descriptive statistics were used to analyse quantitative data. Categorical data were reported as frequencies and percentages and compared using the chi-squared test, whereas continuous data were reported as mean values with standard deviations (SD) or as median [quartiles] and compared using *t*-test or Kruskal Wallis and Mann Witney test. All results were considered to be statistically significant at  $p < 0.05$ .

A linear regression was performed between the scores of the IES and MBI scales and a multivariate analysis (ordered logistic regression) was performed to correct for covariates (age, years of work, availability of a pregnancy loss service, training on perinatal loss, number of assisted events, emotions at loss, reactions at loss, search for debriefing, knowledge of guidelines) and identify independent factors predictive of high MBI and IES scores.

Statistics were performed with Stata/IC 16.1 (StataCorp) whereas the map of respondents across Italy (Fig. 1) and box-and-whisker graphs (Fig. 2) were plotted using Tableau Desktop 2020.3 (Tableau Software, LLC); scatterplots (Fig. 3) and forest plots (Fig. 4) were done with Stata/IC 16.1 (commands ‘twoway scatter’ and ‘coefplot’).

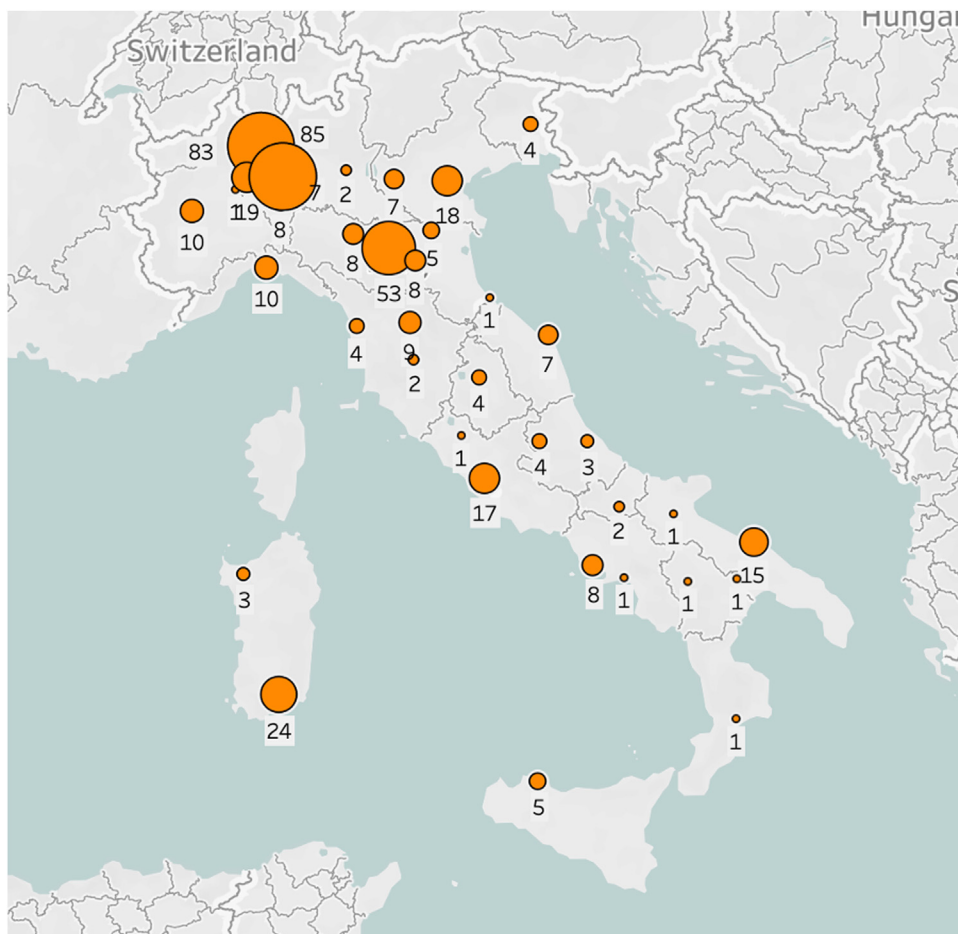
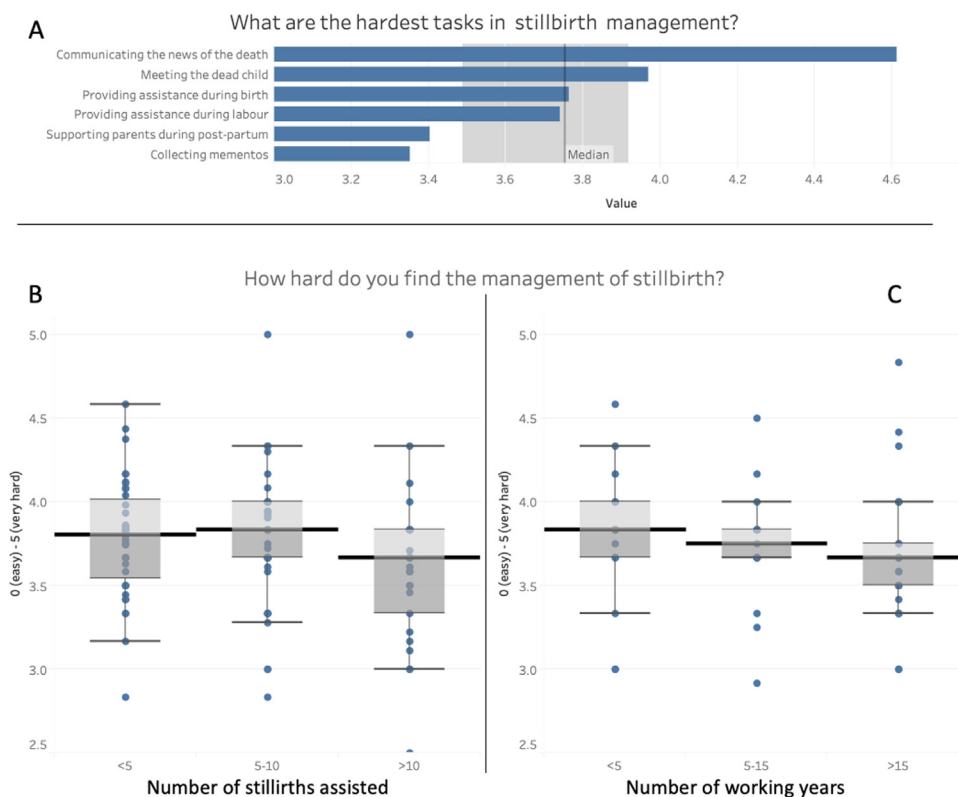
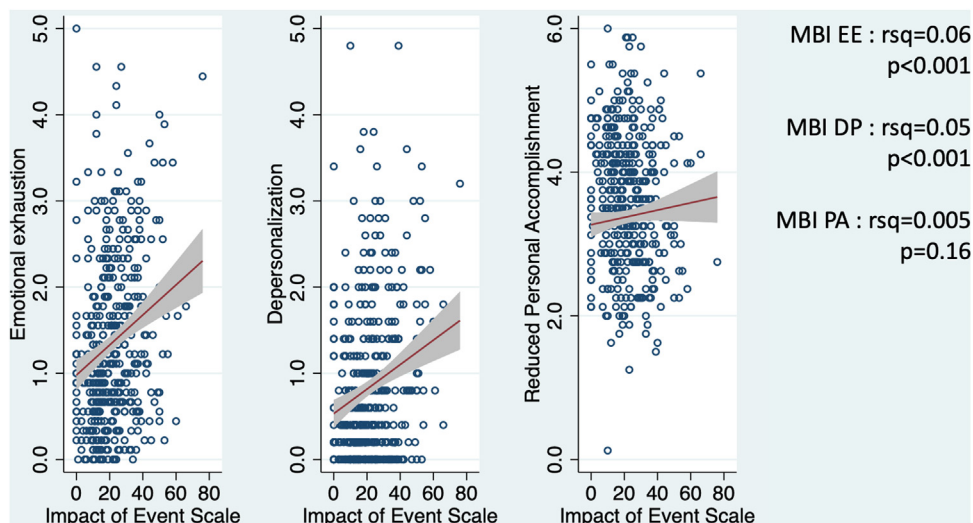


Fig. 1. Geographical distribution of respondents across Italy.



**Fig. 2.** Hardest tasks in stillbirth management (panel A; vertical line represent median and shaded area represents quartiles). Grading of the impact of stillbirth management on a Likert scale from 0 to 5, according to number of stillbirths assisted (panel B) and to number of working years (panel C).



**Fig. 3.** Correlation analysis of IES-R and MBI domains.

**Results**

The final sample consisted of 445 female midwives, mean age 35.1 (SD 9.9), mean working years 11.2 (SD 10.2). Distribution of age and working years in tertiles and number of stillbirths assisted are reported in Table 1. The type of professional settings where participants were currently working at the time of the interview is reported in Table 2 (multiple answers allowed) and show that midwives working in birthing rooms assisted significantly more stillbirths than the others, while those working in private practices

assisted fewer events. Fig. 1 shows geographical distribution of the sample: participants answered from all Italian regions, although the vast majority of respondents (375, 82.4%) were working in hospitals located in the regions of Lombardy, Piedmont, Veneto, Emilia Romagna, Sardinia and Puglia. Only 152 midwives (34.2 %) reported that in their setting a specific protocol for the management of perinatal loss was available, and only 149 (33.4%) reported having attended specific training on perinatal loss in the past. With regard to stillbirth management, Table 3 presents emotions (a), attitudes (b) and behaviours (c) of midwives according to years of

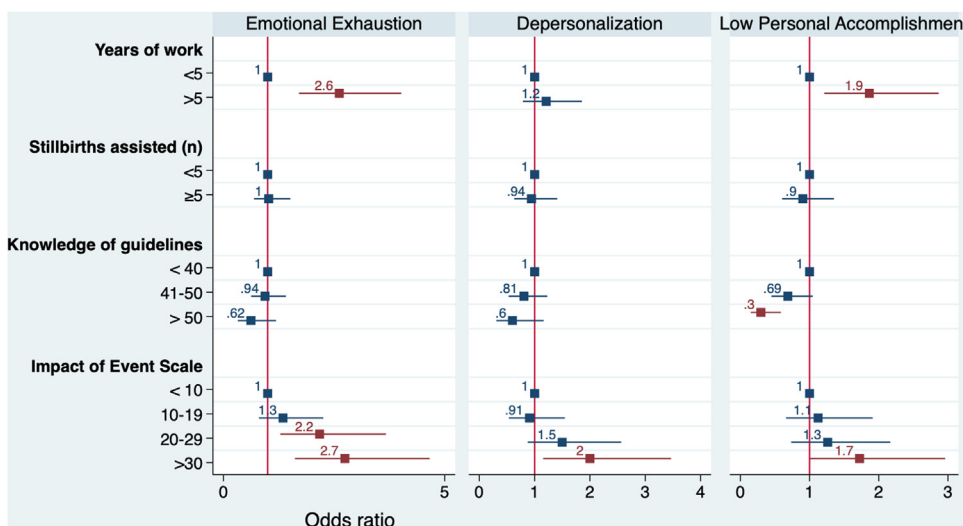


Fig. 4. Forest plot of the multivariate analysis for MBI domains (numbers represent OR, in red  $p < 0.05$ ).

Table 1  
Main characteristics of the sample.

	No.	%
Age groups		
<30	165	37.1%
30–37	156	35.1%
>37	124	27.9%
Years since graduation		
< 8	171	38.4%
8–15	147	33.0%
>15	127	28.5%
Years of work		
<5	161	36.2%
5–15	151	33.9%
>15	133	29.9%
Perinatal losses assisted (n)		
0	21	4.7%
<5	244	54.8%
5–10	117	26.3%
>10	63	14.2%

Table 2  
Place of work according to number of stillbirths assisted; \* significant differences between midwives who assisted fewer or more than 5 stillbirths.

	Stillbirths assisted (n)				Tot.	$\chi^2$	p
	<5		≥5				
	No.	%	No.	%			
Birthing room							
No	99	72.8%	37	27.2%	136	<b>14.261</b>	<b>&lt;0.001*</b>
Yes	166	53.7%	143	46.3%	309		
Maternity ward							
No	117	60.3%	77	39.7%	194	0.082	0.774
Yes	148	59.0%	103	41.0%	251		
Obstetrics inpatient clinic							
No	197	59.9%	132	40.1%	329	0.056	0.812
Yes	68	58.6%	48	41.4%	116		
Obstetrics outpatient clinic							
No	220	61.3%	139	38.7%	359	2.310	0.129
Yes	45	52.3%	41	47.7%	86		
Community-based care							
No	246	59.0%	171	41.0%	417	0.856	0.355
Yes	19	67.9%	9	32.1%	28		
Private practice							
No	244	58.0%	177	42.0%	421	<b>8.227</b>	<b>0.004*</b>
Yes	21	87.5%	3	12.5%	24		

work. 384 midwives (86.3%) reported talking with someone about loss events they had to manage, in particular with other midwives (373, 83.8%), obstetricians (173, 38.9%), or their own relatives (268, 60.2%). Many midwives reported the need to receive training and support for the management of stillbirth: midwives working for less than five years referred more need for periodic debriefing meetings and were less likely to have attended specific courses on perinatal loss management (Table 4). Participants were also asked to complete a questionnaire assessing their knowledge of 78 recommended interventions in case of stillbirth, extracted from several international guidelines with the same procedure described in Ravaldi et al. 2018 [6]. According to their answers (reported in Supplementary Table), each subject was graded in three classes of knowledge, divided low (correct answer to <40 items), medium (41–50 items), and high (>50 items). Results reported in Table 5 show that knowledge of guidelines tends to increase (although not at a significant level) with working years and after having assisted more events, while it is significantly higher in participants who attended specific training courses on perinatal loss management. Midwives who reported having

**Table 3**

Emotions (a), attitudes (b) and behaviours (c) of Italian midwives with regard to stillbirth care, according to years of work; \* significant differences between midwives working for less or more than 5 years.

a. What are your emotions when assisting a woman after stillbirth?	Years of work						$\chi^2$	p
	<5		>5		Total			
	n	%	n	%	n	%		
Embarrassment								
Yes	56	44.1%	109	36.2%	165	38.6%	2.342	0.310
No	64	50.4%	173	57.5%	237	55.4%		
Don't know	7	5.5%	19	6.3%	26	6.1%		
Emotional involvement								
Yes	116	92.1%	292	95.7%	408	94.7%	2.486	0.288
No	6	4.8%	7	2.3%	13	3.0%		
Don't know	4	3.2%	6	2.0%	10	2.3%		
Pain								
Yes	120	94.5%	282	92.5%	402	93.1%	0.598	0.742
No	4	3.1%	14	4.6%	18	4.2%		
Don't know	3	2.4%	9	3.0%	12	2.8%		
Emotional distance								
Yes	24	18.9%	47	15.7%	71	16.7%	5.824	0.054
No	87	68.5%	233	77.9%	320	75.1%		
Don't know	16	12.6%	19	6.4%	35	8.2%		
Anger								
Yes	45	35.4%	101	33.8%	146	34.3%	2.029	0.363
No	62	48.8%	164	54.8%	226	53.1%		
Don't know	20	15.7%	34	11.4%	54	12.7%		
Freezing								
Yes	27	21.3%	38	12.8%	65	15.3%	4.911	0.086
No	83	65.4%	215	72.4%	298	70.3%		
Don't know	17	13.4%	44	14.8%	61	14.4%		
b. What are your attitudes toward the mothers of stillborn babies?	Years of work						$\chi^2$	p
	<5		>5		Total			
	n	%	n	%	n	%		
Silence								
Yes	88	69.3%	180	60.2%	268	62.9%	3.750	0.153
No	34	26.8%	109	36.5%	143	33.6%		
Don't know	5	3.9%	10	3.3%	15	3.5%		
Empathy								
Yes	117	92.1%	274	91.3%	391	91.6%	0.498	0.780
No	1	0.8%	5	1.7%	6	1.4%		
Don't know	9	7.1%	21	7.0%	30	7.0%		
Sitting near the mother								
Yes	104	81.9%	273	90.7%	377	88.1%	<b>8.318</b>	<b>0.016*</b>
No	19	15.0%	19	6.3%	38	8.9%		
Don't know	4	3.1%	9	3.0%	13	3.0%		
Saying 'I'm sorry'								
Yes	58	45.7%	167	55.5%	225	52.6%	4.556	0.103
No	56	44.1%	116	38.5%	172	40.2%		
Don't know	13	10.2%	18	6.0%	31	7.2%		
Staying in the same room								
Yes	102	81.0%	254	83.8%	356	83.0%	1.455	0.483
No	20	15.9%	36	11.9%	56	13.1%		
Don't know	4	3.2%	13	4.3%	17	4.0%		
Listening								
Yes	126	99.2%	291	96.0%	417	97.0%	3.184	0.204
No	0	0.0%	3	1.0%	3	0.7%		
Don't know	1	0.8%	9	3.0%	10	2.3%		
Showing interest and attention								
Yes	126	99.2%	284	94.7%	410	96.0%	5.140	0.077
No	0	0.0%	9	3.0%	9	2.1%		
Don't know	1	0.8%	7	2.3%	8	1.9%		
Being available for talking								
Yes	114	89.8%	279	92.4%	393	91.6%	0.852	0.653
No	5	3.9%	8	2.6%	13	3.0%		
Don't know	8	6.3%	15	5.0%	23	5.4%		
Staying close								
Yes	121	95.3%	291	95.7%	412	95.6%	0.068	0.967
No	3	2.4%	7	2.3%	10	2.3%		
Don't know	3	2.4%	6	2.0%	9	2.1%		

	Years of work						$\chi^2$	p
	<5		>5		Total			
	n	%	n	%	n	%		
<b>c. What are the most important behaviours?</b>								
Listening empathetically								
Yes	140	100.0%	295	97.0%	435	98.0%	4.230	0.121
No	0	0.0%	2	0.7%	2	0.5%		
Don't know	0	0.0%	7	2.3%	7	1.6%		
Giving emotional support								
Yes	139	99.3%	302	99.0%	441	99.1%	3.556	0.169
No	1	0.7%	0	0.0%	1	0.2%		
Don't know	0	0.0%	3	1.0%	3	0.7%		
Allowing the presence of the partner								
Yes	137	97.9%	290	95.7%	427	96.4%	1.269	0.260
No	0	0.0%	0	0.0%	0	0.0%		
Don't know	3	2.1%	13	4.3%	16	3.6%		
Allowing the presence of relatives								
Yes	42	30.0%	113	37.8%	155	35.3%	<b>14.168</b>	<b>&lt;0.001*</b>
No	55	39.3%	66	22.1%	121	27.6%		
Don't know	43	30.7%	120	40.1%	163	37.1%		
Creating a peaceful environment								
Yes	139	99.3%	303	99.3%	442	99.3%	3.097	0.213
No	1	0.7%	0	0.0%	1	0.2%		
Don't know	0	0.0%	2	0.7%	2	0.4%		
Giving proper information on what is happening								
Yes	126	90.0%	297	97.7%	423	95.3%	<b>12.739</b>	<b>0.002*</b>
No	3	2.1%	2	0.7%	5	1.1%		
Don't know	11	7.9%	5	1.6%	16	3.6%		

**Table 4**

Need for support and professional updating according to years of work. In bold, significant differences between midwives working for less or more than 5 years.

	Years of work						$\chi^2$	p
	<5		>5		Total			
	No.	%	No.	%	No.	%		
I need clinical audits								
Yes	137	97.9%	254	83.8%	391	88.3%	<b>18.405</b>	<b>&lt;0.001*</b>
No	0	0.0%	11	3.6%	11	2.5%		
Don't know	3	2.1%	38	12.5%	41	9.3%		
I attended a course on perinatal bereavement care								
Yes	36	25.7%	113	37.0%	149	33.5%	<b>7.270</b>	<b>0.026*</b>
No	104	74.3%	189	62.0%	293	65.8%		
Don't know	0	0.0%	3	1.0%	3	0.7%		
I am interested in attending courses on perinatal death								
Yes	134	95.7%	286	94.1%	420	94.6%	1.788	0.409
No	1	0.7%	8	2.6%	9	2.0%		
Don't know	5	3.6%	10	3.3%	15	3.4%		
I am interested in attending meetings of self-help groups								
Yes	102	72.9%	197	65.0%	299	67.5%	2.950	0.229
No	8	5.7%	27	8.9%	35	7.9%		
Don't know	30	21.4%	79	26.1%	109	24.6%		

attended specific training courses on stillbirth in the past scored significantly higher in the guidelines test ( $61.7 \pm 6.2$  vs  $58.4 \pm 6.0$ ;  $p < 0.01$ ). Midwives were also asked to rate on a Likert scale, from 0 (easy) to 5 (very hard), how difficult it is to perform some of the tasks needed when assisting women during stillbirth (Fig. 2, panel A). The hardest task was “communicating the diagnosis of death” ( $4.6 \pm 0.7$ ;  $p < 0.01$ ), followed by “presence during the meeting with the baby” ( $3.9 \pm 0.9$ ;  $p < 0.01$ ). “Collecting mementos” was considered the least difficult task ( $3.3 \pm 1.0$ ;  $p < 0.01$ ). Caring for the stillborn baby was considered significantly less hard by midwives working for more than 15 years ( $3.8 \pm 0.6$  vs  $3.7 \pm 0.6$  vs  $3.6 \pm 0.6$ ,  $p < 0.05$ ; Fig. 2 panel B) and by those who had assisted more than 10 bereaved mothers ( $3.8 \pm 0.6$  vs  $3.8 \pm 0.5$  vs  $3.5 \pm 0.6$ ,  $p < 0.01$ ; Fig. 2 panel C). Results of psychometric tests are reported in Tables 6 (MBI) and 7 (IES-R): 109 midwives (24.5%) reported high IES-R scores, suggesting significant symptoms of PTSD related to stillbirth events; with reference to professional burnout, high levels of emotional exhaustion, depersonalisation and reduced

personal accomplishment MBI subscales were scored, respectively, by 12 (2.9%), 24 (5.9%) and 155 (37.9%) respondents. Emotional exhaustion and reduced personal accomplishment were significantly higher in midwives working for more than five years. Scores for emotional exhaustion and depersonalisation subscales of MBI significantly correlated with those of IES-R, while this was not true for reduced personal accomplishment subscale (Fig. 3). When addressing which factors were able to independently predict high levels of burnout in a multivariate analysis, we found that working for more than five years increased the risk of emotional exhaustion (OR 2.6, CI 1.7–4.0) and reduced personal accomplishment (OR 1.8, CI 1.2–2.8), and a good level of knowledge of guidelines reduced the risk of having low personal accomplishment (OR 0.3, CI 0.1–0.6). In addition, high IES-R scores significantly predicted high levels of all burnout domains: emotional exhaustion (OR 2.7, CI 1.6–4.7), depersonalisation (OR 2.0, CI 1.2–3.5), and reduced personal accomplishment (OR 1.7, CI 1.0–3.0). With exclusive regard to the subscale emotional exhaustion, also subclinical

**Table 5**

Knowledge of guidelines (number of items from 0 to 78) according to years of work, number of stillbirths assisted or attendance of courses on perinatal loss; \* significant differences versus midwives who never attended courses on perinatal loss.

Knowledge of guidelines	Years of work						$\chi^2$	p
	<5		>5		Total			
	No.	%	No.	%	No.	%		
< 40	34	24.3%	87	28.5%	121	27.2%	1.364	0.506
41-50	93	66.4%	185	60.7%	278	62.5%		
> 50	13	9.3%	33	10.8%	46	10.3%		

Knowledge of guidelines	Stillbirths assisted (n)						$\chi^2$	p
	<5		≥5		Total			
	No.	%	No.	%	No.	%		
< 40	78	29.4%	43	23.9%	121	27.2%	1.917	0.383
41-50	162	61.1%	116	64.4%	278	62.5%		
> 50	25	9.4%	21	11.7%	46	10.3%		

Knowledge of guidelines	Attended a course on perinatal loss						$\chi^2$	p
	No		Yes		Total			
	No.	%	No.	%	No.	%		
< 40	99	33.4%	22	14.8%	121	27.2%	<b>21.524</b>	<b>&lt;0.001*</b>
41-50	175	59.1%	103	69.1%	278	62.5%		
> 50	22	7.4%	24	16.1%	46	10.3%		

**Table 6**

Results of psychometric evaluation – Maslach Burnout Inventory according to years of work; \* significant differences between midwives working since less or more than 5 years.

	Years of work						$\chi^2$	p
	<5		>5		Total			
	No.	%	No.	%	No.	%		
Emotional exhaustion								
Low	117	91.4%	227	80.8%	344	84.1%	<b>7.425</b>	<b>0.024</b>
Medium	9	7.0%	44	15.7%	53	13.0%		
High	2	1.6%	10	3.6%	12	2.9%		
Depersonalisation								
Low	96	75.0%	207	73.7%	303	74.1%	1.344	0.511
Medium	27	21.1%	55	19.6%	82	20.0%		
High	5	3.9%	19	6.8%	24	5.9%		
Reduced personal accomplishment								
Low	45	35.2%	72	25.6%	117	28.6%	<b>6.261</b>	<b>0.044</b>
Medium	45	35.2%	92	32.7%	137	33.5%		
High	38	29.7%	117	41.6%	155	37.9%		

scores of IES-R were significantly and independently associated with higher levels of burnout (OR 2.2, CI 1.3–3.7). The number of stillbirths assisted was instead not associated with burnout levels. A forest plot graphically showing results of the multivariate analysis is reported in Fig. 4. Finally, several emotions reported during stillbirth care were independently associated with high levels of IES subscales in a multivariate analysis (Table 8).

## Discussion

Midwives are vulnerable to secondary traumatic stress and psychological/emotional trauma since they often encounter traumatic perinatal events and adverse pregnancy outcomes [15]. A national postal survey of 421 UK midwives concluded that midwives generally encounter some traumatic events during their professional practice [7].

The present study confirms that more than 40% of Italian midwives, working for a mean of 11 years, encounter bereaved parents and stillborn babies more than five times during their career (14% of respondents more than 10 times). Midwives can develop important burnout symptoms (both personal burnout and

work-related burnout) and PTSD more frequently than other HCPs [15,16]. Italian HCPs (and midwives in particular) find it very hard to deal with stillbirth, bereaved parents and stillborn babies: in a previous study we found that the lack of proper training<sup>6</sup> was perceived by HCPs as the greatest obstacle for the assistance in these cases. In the present study, conducted two years later in a different sample of midwives, we confirm that some tasks are considered particularly hard to perform (most of all informing parents of the death of their baby and helping them meet the dead child). The absence of training and the presence of tasks that are very difficult to perform without a proper debriefing process may increase the risk of traumatic stress; 24.5% of midwives reported a high score in the IES-R, suggesting the development of PTSD symptoms specifically related to their experience in supporting bereaved parents after stillbirth. This result is in agreement with other research. In particular, a descriptive, cross-sectional online survey of Dutch midwives found that 17% of those who experienced traumatic events showed clinically relevant symptoms of traumatic stress [17].

PTSD may become a significant lifelong problem for practising midwives: high scores in the IES-R significantly predicted high



**Table 7**

Results of psychometric evaluation – Impact of Event Scale according to years of work; \* significant differences between midwives working since less or more than 5 years.

	Years of work						$\chi^2$	p
	<5		>5		Total			
	No.	%	No.	%	No.	%		
Impact of event scale								
< 10	43	30.7%	76	24.9%	119	26.7%	4.435	0.218
10-19	36	25.7%	78	25.6%	114	25.6%		
20-29	35	25.0%	68	22.3%	103	23.1%		
>30	26	18.6%	83	27.2%	109	24.5%		
Intrusion								
Low	47	40.2%	93	34.1%	140	35.9%	1.756	0.416
Medium	41	35.0%	97	35.5%	138	35.4%		
High	29	24.8%	83	30.4%	112	28.7%		
Avoidance								
Low	42	35.9%	109	39.9%	151	38.7%	0.918	0.632
Medium	36	30.8%	72	26.4%	108	27.7%		
High	39	33.3%	92	33.7%	131	33.6%		
Hyperarousal								
Low	43	36.8%	104	38.1%	147	37.7%	1.141	0.565
Medium	46	39.3%	93	34.1%	139	35.6%		
High	28	23.9%	76	27.8%	104	26.7%		

levels of all burnout domains, influencing in particular emotional exhaustion ( $rsq=0.06$ ;  $p<0.001$ ) and depersonalisation ( $rsq=0.05$ ;  $p<0.001$ ) subscales, with reduced personal accomplishment subscale being the highest scored burnout domain. Interestingly, although it scored the highest, this domain was not influenced by IES-R levels ( $rsq=0.005$ ;  $p=0.16$ ), while it was particularly influenced by the number of years worked (over five years almost doubled the risk; OR 1.8, CI 1.2–2.8) and the knowledge of guidelines for stillbirth management (knowing more than 50 items decreased the risk to one-third; OR 0.3, CI 0.1 – 0.6).

The reason why midwives often develop post traumatic symptoms may be related to the very nature of their work which is mainly based on deep relationships with women, in order to provide them the best support and care during their whole life. Supporting women empathetically during pregnancy and childbirth has been defined “the very essence of midwifery care”. Therefore, during labour and childbirth of a stillborn baby, midwives may be more likely to develop an empathetic relationship with mothers than obstetricians, who are often involved only for a short time [18]. We would like to underline that empathy is a learned construct, and the lack of specific training in bereavement care may hamper midwives’ capabilities of providing meaningful support to parents [6]. For example, in this study only half of respondents routinely said “I am sorry” to parents of stillborn babies after the diagnosis, while this would be a widely appreciated approach by parents [19]. Some other empathic approaches were also not universally practiced in our sample, such as sitting by the mother (88.1%), staying in the same room (83.0%), or allowing contact with relatives other than the partner (35.3%), although all these practices significantly increased in frequency with more working years.

It is reported in literature that burnout, anxiety, depression and stress are more common in younger midwives (<40 years old) and

in those with less work experience (<10 years), since probably more experienced midwives develop personal coping mechanisms [15,17,20,21]. Our findings indicate that emotional exhaustion and reduced personal accomplishment were instead significantly higher in midwives working for more than five years (while impact of event scale did not change with time). Consistently, we found that the number of working years (more than 15) and the number of stillbirth cases assisted (more than 10) decreased the perception of difficulty in dealing with bereaved parents, although the levels of burnout were actually increased. Interestingly, we found that burnout appears earlier than expected in midwives’ professional life, since working for more than five years was the single most important independent factor in increasing the risk of emotional exhaustion (2.6 times increase) and reduced personal accomplishment (1.9 times increase). As stated, proper training (i.e. knowledge of >50 guidelines items) independently decreased the risk of developing a low personal accomplishment. It may be therefore inferred that, at least in Italy, midwives feel a gap between “expectations and reality” about their profession and we can speculate that what midwives learn in theory during their university years (i.e. their central role in women’s health and their importance for respectful care and improving outcomes in mothers’ and babies’ general wellbeing) is not the actual reality of many childbirth centres in which such a role is not fully recognized. What is known is that continuity of care and the autonomy of midwife’s work helps to develop a strong emotional link between mother and midwife, reducing burnout levels. In fact, a single-institution observational study performed in The George Washington University Hospital reported that if midwives were free to put in practice what they have learnt, it would constitute a protective factor for burnout syndrome [21].

Early identification of risk factors and the consequent reorganisation of care seem to be the key to prevent burnout [17]. The midwives in our study affirmed that the greatest emotional challenges during assistance to bereaved parents (on a scale from 0 to 5) are communicating the news of the death (mean 4.3 SD 1.5), encountering the dead child (mean 2.9 SD 2.2), and providing assistance during birth (mean 2.5 SD 2.2) and labour (mean 2.4 SD 2.2), while supporting parents during postpartum (mean 1.7 SD 2.1) and taking mementos of the baby (mean 1.7 SD 2.1) are considered less stressful situations. Nevertheless, it is worth noting that about 30% of respondents are still unaware of the importance of collecting mementoes (Supplementary table).

Feelings like emotional involvement, pain, embarrassment, inadequacy to face the critical situation, and failure to provide support to the family were often reported by respondents. It is very important to notice that some of these reactions were significantly and independently associated with high levels of PTSD symptoms. In particular, feelings of emotional involvement (OR 3.4, CI 1.4–8.1), emotional distance (OR 2.4, CI 1.4–3.9), and anger (OR 2.1, CI 1.4–3.1) greatly increased the risk of developing stress symptoms; embarrassment (OR 1.5, CI 1.1–2.4), emotional distance (OR 2.3, CI 1.3–4.2), and the reaction of freezing (OR 2.2, CI 1.2–3.8) greatly increased the risk of developing avoidant behaviours. Moreover, an excessive reaction of emotional involvement greatly increased (up to 10 times more, OR 10.7, CI 2.5–45.1) the risk of presenting

**Table 8**

Items significantly associated with high levels of Impact of Event Scale total score and subscales.

	IES - total	IES - Intrusion	IES - Avoidance	IES - Hyperarousal
Embarrassment			OR 1.5 [1.1–2.4]	
Emotional involvement	OR 3.4 [1.4–8.1]	OR 10.7 [2.5–45.1]		OR 3.3 [1.2–9.5]
Emotional distance	OR 2.4 [1.4–3.9]	OR 2.5 [1.4–4.5]	OR 2.3 [1.3–4.2]	
Anger	OR 2.1 [1.4–3.1]	OR 2.0 [1.3–3.1]		OR 2.2 [1.5–3.4]
Freezing			OR 2.2 [1.2–3.8]	

intrusive thoughts related to the event. Anger, fear, sadness, and shame are well known common reactions to trauma; it is also known that traumatic stress can evoke two emotional extremes: feeling too much (overwhelmed) or too little (numb). Both are initial responses, related to different ways to cope with trauma and to different risks of developing PTSD [22].

Burnout can have consequences on HCPs' own health and quality of life. It has been verified that adverse psychological problems such as depression, insomnia, chronic fatigue and psychosomatic disorders are associated with burnout. It is therefore not surprising that after caring for a perinatal loss, midwives often suffer from anxiety and depression and report the need for support from peers and psychologists [17,21]. With regard to the number of events assisted, a national postal survey of UK midwives showed that midwives who experienced a higher number of traumatic perinatal events had an increased risk of developing important symptoms of stress, and symptoms of PTSD are associated with elevated symptoms of burnout [7]. Nevertheless, it is still not clear if a greater number of traumatic events experienced is associated with higher symptoms of burnout. In particular, in the present study the number of stillbirths assisted was not associated with burnout levels. This is in agreement with a cross-sectional study published in 2020 concluding that there is no significant relationship between burnout and the frequency of distressing events [16].

It seems, therefore, that the most important factor in inducing professional burnout may not be the number of stressful events managed, but the psychological impact of these events on the midwife. In our opinion, this is an interesting working hypothesis since the number of stressful events that midwives are going to face in their professional life is largely independent from their will, while the psychological impact of those events can be properly managed with specific strategies (such as training courses and debriefing sessions).

Unfortunately, stillbirth remains an area in which most obstetricians and midwives receive little or no training and, as we have previously shown, many of those who received training said it was inadequate [6]. This is confirmed by the present research, since having attended training courses in the past was not a protective factor towards the risk of developing stress symptoms and burnout, while verified knowledge of guidelines increased personal accomplishment. It seems, therefore, that some training courses were not properly designed to prepare midwives for stillbirth management since those who attended courses scored just slightly higher than the others (mean of known items 61.7 vs 58.4).

A lack of support and of appropriate training on the emotional and practical management of traumatic events may be the main reason why midwives find caring for bereaved families stressful, emotionally challenging, and report many difficulties in this area of practice. It is our strong belief that ensuring specific support and good quality training should be the key theme to guide and improve midwifery and medical care. For example, a Cochrane review aimed at assessing the effects of audit and feedback on the practice of HCPs and patient outcomes showed that audit and feedback are effective methods to provide important improvements in professional practice [22]. Furthermore, the results from a pre-post intervention study showed that a structured education program, such as a half-day workshop, significantly improved knowledge about stillbirth as well as the intention to revise practice in maternity care providers [23].

It is likely that if midwives developed greater psychological well-being, they would be better able to support parents, as they would become professionally more confident, competent and empathetic. In particular, burnout in midwives is a great challenge because it reduces the quality of perceived support both among

professionals and families: good quality perceived support has been related to a reduction of distress, anxiety, and short- and long-term pain in bereaved parents, when compared with low quality support [3]. Finally, good support can be linked to job satisfaction which is achieved when midwives have a positive interaction with women and their work makes a difference to them [24], and job satisfaction is key to preventing burnout.

## Limitations

Although addressing an area rarely explored before, and for the first time in Italy, the present research suffers from several limitations.

First of all, we have no information on midwives who decided not to participate in the study, nor can we define a proper response rate since recruitment was offered by participating hospitals and institutions to everyone on their list of midwives, therefore we cannot estimate how many were actually contacted.

Second, although we received answers from all Italian regions, most responders lived and worked in northern/central Italy (where partner institutions in BLOSSoM study were located), we cannot be sure that results are fully generalizable to the entire Italian population of midwives.

Finally, the study was cross-sectional: participants self-selected and therefore no control group was present. The associations we found regarding knowledge of guidelines and frequency of training courses may be biased by some confounding factor that we could not assess. Further research is required to clarify if a higher level of clinical knowledge statistically improves relational skills (i.e. assessing empathetic skills and psychological measures before and after training interventions), reducing psychological impact and in turn preventing the development of burnout.

## Conclusion

Results from the BLOSSoM study suggest that midwives are at risk of developing professional burnout, with particular reference to reduced personal accomplishment at work. In Italy, this happens quite early (after only five years of work) and it is not significantly correlated with the number of stressful events assisted (i.e. stillbirths in the present study), but with the psychological impact exerted by those events. Conversely, midwives with more than 15 years of work experience and those who had assisted more than 10 bereaved mothers find it less difficult to cope with stressful events, probably since they manage to develop coping strategies during their professional career. Nevertheless, their burnout is not decreased (indeed it is higher). Although we are aware that several other factors (not investigated here) can contribute to the development of professional burnout, we have shown that a very important protective role is played by professional training. We suggest that appropriate management (i.e. debriefing sessions, counselling, psychological support, etc.) of the psychological trauma of midwives attending perinatal loss events could be particularly useful in reducing the incidence of PTSD symptoms (especially avoidance behaviours and intrusive thoughts), and in turn protecting them from developing burnout syndromes. Nevertheless, further studies are needed to address the feasibility and actual effectiveness of such interventions.

## Authors contribution

CR & AV led this research including proposal write up and designed the instrument. CR, AV, EC, AF, ST, EC, FF collected the data; AV, GC, NL, RB, AB analysed the data; CR, AV, EC, AF, LM, FF discussed data and wrote the manuscript. All authors read and approved the final manuscript.

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## Ethical statement

The survey was voluntary and anonymous, no personal data were recorded, in no way it was possible to identify the single respondents. Informed consent was obtained from all participants. Data were acquired in compliance with GDPR regulation (General Data Protection Regulation, European Union 2016/679). The research proposal was approved and authorized by all participating hospital authorities.

## Conflicts of interest

None declared.

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## Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.wombi.2021.01.003>.

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