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Exposure to traumatic events at work, posttraumatic symptoms and professional quality of life among midwives

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ABSTRACT

Objective: in their line of duty, midwives are often exposed to traumatic births that may lead to symptoms of compassion fatigue (CF), which includes burnout (BO) and secondary traumatic stress (STS).Conversely, midwives derive pleasure and great satisfaction in seeing the positive effect they have on their clients. This experience is known as compassion satisfaction (CS). Together, CS and CF comprise the professional quality of life (ProQOL). The aim of this paper was to study midwives' professional quality of life and traumatic experiences. The highly stressful environment of midwives may also include primary exposure to traumatic experiences and therefore PTSD levels were also assessed.

Method: the participants (N=93) were professional midwives from four medical centers in Israel. The participants answered selfreport questionnaires that assessed their ProQOL and PTSD symptoms.

Findings: results indicated relatively high levels of CS which may mitigate, at least to some degree, the negative aspects of CF. PTSD levels significantly and positively correlated with STS and BO. Sixteen per cent presented with PTSD symptoms of clinical significance. Also, seniority was significantly and positively correlated with BO and PTSD symptoms.

Conclusions: high ProQOL was found amongst the participants, with more than 74% scoring on the high range of CS. Nevertheless, we recommend further research and implementing strategies to maintain or further enhance CS and decrease CF levels. Finally, a more comprehensive understanding of the development of PTSD amongst midwives is vital in order to minimize its occurrence in the future.

Introduction

Health care workers who are exposed to traumatic events may be at an increased risk for compassion fatigue (CF) (Hinderer et al., 2014). According to Stamm (Stamm, 2012), the concept of compassion fatigue is comprised of burnout (BO) and secondary traumatic stress (STS). In contrast, compassion satisfaction (CS) measures the positive aspects helpers feel about their role (Stamm, 2012; Jacobson et al., 2013). Together, these concepts comprise Stamm's *professional quality of life* (ProQOL) concept and measure, which reflects the positive and negative aspects helpers feel towards their role (Stamm, 2012). Much knowledge has emerged regarding the ProQOL of health care workers, especially amongst nurses (Lauvrud et al., 2009; Hooper et al., 2010; Kim and Choi, 2012; Lee and Yom, 2013). Yet, to the best of our knowledge, research on ProQOL of nurse-midwives is scarce. Although midwives share some commonalities with other health-care professions, they have a very distinctive relationship with their patients (Rice and Warland, 2013). This close relationship with 'the woman' may act as a double edged sword. On the one hand, midwives enjoy a very close emotional relationship with their patients, a source of satisfaction for them, and on the other, they often bear witness to traumatic births and other potentially traumatic related events. Thus, midwives are a group with unique characteristics which demand a further investigation. Therefore, we set to help fill in the knowledge gap and provide a description of the ProQOL of midwives.

In the current study, we first explore on the concept of ProQOL.

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Second, we survey recent literature regarding midwifery care and midwives' professional quality of life from previous studies employing different measurements. Additionally, as post-traumatic stress disorder (PTSD) might be linked to the experience of CF(Stamm, 2012; Hinderer et al., 2014) it was also considered and reviewed in the current study.

Professional quality of life

The concepts STS and CF are often used interchangeably in the literature (Dominguez-Gomez and Rutledge, 2009). However, for the purpose of this article, STS, similarly to BO, is described as a component of CF.

Secondary traumatic stress (STS)

STS was initially defined by Figley (1995) as stress 'resulting from knowledge about a traumatizing event experienced by a significant other' (p. 10) and 'from helping or wanting to help' (p. 10) that other. Figley (1995) has stressed that in STS the exposure is secondary and not primary, he writes 'the event experienced by one person becomes a traumatizing event for the second person' (p. 11). Therefore, health-care professionals, such as nurses and other health care workers who provide care for trauma patients, may develop STS. Symptoms of STS are typically rapid in onset and associated with a particular event; they may include fears, sleep difficulties, intrusive images of the upsetting event or avoiding triggers of certain events (Stamm, 2012). Symptoms of STS may also include a sense of helplessness and confusion and feeling isolated from supporters.

Burnout (BO)

Similar to STS, BO is seen as a process, not an event, and is often seem as composed of three dimensions: emotional exhaustion, depersonalization and lack of professional efficacy (Bianchi et al., 2015). Burnout may result from prolonged distress at work caused by an ongoing incongruence between the job requirements and the worker's resources (Maslach et al., 2001). BO includes physiological responses such as exhaustion, headaches, and hypertension, as well as emotional responses such as emotional exhaustion, depression, and anxiety (Maslach et al., 2001). Additional responses include impaired job performance, reduced self-confidence and self-efficacy, increased addictions or dependencies and interpersonal difficulties (Taris, 2006; Schaufeli, 2007). There can also be a sense of reduced personal accomplishment and purpose, feelings of helplessness and hopelessness (Maslach, 1982).

Exposure factors such as seniority (years in profession), long work hours or length of assignment and caseloads with high percentages of trauma patients have been associated with increased levels of CF (Boscarino et al., 2004; Creamer and Liddle, 2005; Lauvrud et al., 2009).

It is important to note that CF is not a diagnosis, it differs from post-traumatic stress disorder and other mental disorders; according to Stamm 'people can experience negative effects of secondary exposure without developing a psychological disorder such as PTSD' (Stamm, 2012, p.1), and people may suffer from post-traumatic stress disorder (PTSD) or some other disorder, such as depression, that is linked to their experience of CF. A similar distinction has been made in this study, and the association between CF and PTSD was examined.

Compassion satisfaction (CS)

CS denotes positive feelings helpers feel towards their work, which some suggest might mitigate and serve as a protective factor against CF (Stamm, 2012). Falk's (2014) review suggests that CS positively correlates with self-care, training, education and peer support; mixed results were found regarding seniority, negative correlations were found for social-work students, while positive correlations were found amongst social work professionals.

Nurse-Midwives

In recent decades, there has been a re-orientation in midwifery care. 'Being with the woman', 'woman-centered' care and 'partnership with women' are emerging terms associated with midwifery care (Carolan and Hodnett, 2007). There is a wealth of evidence for advantageous outcomes for the childbearing mother when care is provided in and through a close relationship with a midwife (Hodnett, 2002; Sandall et al., 2015). Midwives consider their relationship with the childbearing woman as a major source of job motivation and satisfaction (Kirkham et al., 2006), and argue that this relationship is the very essence of midwifery care and defines its distinctive nature (Leinweber and Rowe, 2010).

However, this close relationship may take a toll; midwives may become secondary witnesses to trauma while listening to patients tell their history of sexual assault, domestic violence, alcohol and drug abuse and memories of childhood trauma (Mollart et al., 2009). Midwives describe the impact of repeated exposure to women's disclosure of trauma and the emotional impact of this repeated exposure on their ability to manage their own emotions (Mollart et al., 2009). A midwife's duty involves listening, supporting and validating the woman who is expressing her feelings and sharing her experiences. These midwives reported being profoundly affected by hearing women recount their traumatic experiences supporting women who suffered various forms of victimization, and who suffer from chronic despair, and witnessing women's inability to improve their difficult life circumstances (Gould, 2005; Mollart et al., 2009). Midwives identified feelings of frustration and stress as a result of repeated disclosures and reported intrusive thoughts that impacted their personal and family lives (Mollart et al., 2009). They also reported feeling helpless and overwhelmed in coping with their patients' complex family situations. As a result, some midwives even reported experiencing difficulties in their interpersonal relationships and sleep problems that may indicate compassion fatigue or burnout (Gould, 2005; Mollart et al., 2009).

Compassion fatigue studies

Previous studies of midwives compassion fatigue, i.e. secondary traumatic stress and burnout reveal troubling results. Specifically, recent studies of burnout, which have employed the Copenhagen burnout inventory, a rating scale that distinguishes between work-related, client-related and personal burnout and focuses on exhaustion as a key characteristic of burnout, have shown that in Sweden (Hildingsson et al., 2013), 39.5% out of 475 midwives scored high on the personal burnout, and 15% scored high on work and client related burnout subscales; and in Australia (Sidebotham et al., 2015), a study of 1037 midwives found high personal and work related burnout scores. Furthermore, in a UK study (Sheen et al., 2015), which have employed the known Maslach burnout inventory, out of a sample of 421 midwives, 68%, 77% and 40.4% reported on moderate to high levels of burnout on the different subscales of emotional exhaustion, depersonalization and personal accomplishment, respectively.

Additionally, recent studies of STS, which have employed the secondary traumatic stress scale, a rating scale that measures STS related symptoms in health care workers who are in contact with traumatized populations, have shown for example, that in a sample of 453 labor and delivery nurses, 35% reported on moderate to severe levels of STS (Beck and Gable, 2012); And in a later study, in a sample of 473 certified nurse-midwives of the American midwifery certification board, 42% reported on moderate to severe levels of STS (Beck et al., 2015).

Compassion satisfaction studies

Although many studies have measured the components of CF amongst midwives, only a few have considered, alongside it, the influence of compassion satisfaction. Mizuno and her colleagues (Mizuno et al., 2013) have studied the relationship between ProQOL, emotional labor and stress factors. In a cross-sectional survey they have sampled 255 nurses, 86 of them were midwives, from 341 different Japanese hospitals. Midwives reported slightly higher CS, CF and BO rates in comparison to other nurses. However, no significant differences were found. Overall, according to Stamm' scoring manual (Stamm, 2010), midwives' CF scores were lower than average and CS and BO were average. The average scores presented in Stamm's scoring manual are based on multiple studies with more than 1000 participants. Furthermore, the authors have found that midwives who were involved in a higher number of first-trimester abortion cases during the previous year had a higher risk of CF and burnout, while they also had a lower degree of CS. Thus, they recommended decreasing the distress related to abortion care as a priority in supporting professionals who provide abortion services.

ProQOL studies

Many previous studies have employed the ProQOL (Stamm, 2010), however, as mentioned above, most of them didn't follow up on midwives. Thus, in order to compare the current sample to results of previous studies we suggest using the following studies on nursing staff - one at a forensic psychiatric security unit (Lauvrud et al., 2009), second on nurses in an emergency unit (Kim and Choi, 2012) and a third on midwives (Mizuno et al., 2013) presenting a CS average of 32.85, 32.12 and 34.6, a BO average of 17.3, 28.7 and 22.1, and an STS average of 5.8, 28.2 and 27.0, respectively. The first two reflect the potentially traumatic workplace of midwives but do not necessarily reflect the CS midwives might enjoy, and the last one is, to the best of our knowledge, one of the only studies using ProQOL with a sample that includes midwives.

PTSD occurrence in midwives

In a study by Mealer et al., (2007), 71 out of 351 (20.2%) nurses fulfilled the diagnostic criteria for PTSD. Considering this together with the review of midwives' potential traumatic experiences, nurse-midwives may be at risk for suffering PTSD symptoms and even developing PTSD. Indeed, according to a recent literature review of 421 UK midwives, 33% experienced PTSD symptoms at a clinical level following exposure to traumatic perinatal events (Sheen et al., 2014). Accordingly, the present study assessed the link between post-traumatic stress disorder (PTSD) symptoms and ProQOL amongst midwives.

ProQOL's STS is essentially identical to PTSD with regard to symptoms (Bride et al., 2007), nevertheless, there are several important differences. First, according to the fifth edition of the *Diagnostic and Statistical manual of mental disorders* (DSM-V;American Psychiatric Organisation, 2013) PTSD criteria includes both direct and indirect exposure to an event, as opposed to STS that refers only to indirect experience of a traumatic event. Second, the ProQOL questionnaire is aimed at experiences specifically related to the work place as opposed to PTSD that may include any traumatic event, work or non-work related. Third, STS as measured by the ProQOL questionnaire, is limited to only a few items that tap into the criteria for PTSD, as opposed to measures of PTSD that are more comprehensive. Hence, measuring STS may give us an indication of work-related trauma, whereas measuring PTSD can tell us more about the total traumatic experience in our sample population of midwives.

Current study

The current study measured CS and CF using the ProQOL (Stamm, 2012), and examined the prevalence of PTSD symptoms amongst midwives; further elaborating on midwives' potentially traumatic experiences and their consequences. Additionally, ProQOL scores were compared with three previous studies of similar populations.

Method

Research design

This quantitative study, of correlational nature, was designed to explore and widen our knowledge regarding the professional quality of life of midwives. In addition to the quantitative data, we have collected brief descriptions, from the participants, of traumatic events that have occurred during and at their work. These brief descriptions were later grouped together according to recurring themes.

Sample

The study was conducted at four medical centers in Israel. Informed consent was obtained from all of the participants. 203 midwives were approached but only 93 agreed to participate in the current study, a response rate of 45.8%. Our sample consisted of 93 clinically working midwives aged 30 to 61 years (M=43.7, SD=8.4). On the basis of the valid data, 97.8% were Jewish (the others were Muslim and Christian); Most (68.8%) were secular, while 19.4% were traditional and 11.8% were Hasidic. 54.5% had an undergraduate degree, 15.9% had a graduate degree and 29.6% had none; As for marital status, 73.1% were married, 11.8% were single, 10.7% were divorced and one (1.1%) was a widow; Average seniority was 12.97 years (SD = 9.61) and ranged from 1 to 36. Employment percentage average was 78.32 (SD = 17.05) and ranged from 36% to 100%.

Recruitment and data collection

Before data collection, representative midwives from the medical centers assessed in the present study participated in an introductory meeting with the research team. The midwives were instructed on the procedures to attain their medical center ethical committee approval for data collection in their departments, fill all relevant forms and distribute all questionnaires to the other midwives. After approval of the ethical committee, representative midwives approached their department and distributed the questionnaires during shift exchange. They followed up with the midwives and sent reminders during the following 3 weeks. The data was collected via pencil and paper questionnaires filled out by the participants. The completed questionnaires were returned to the representatives and were sent back to the research team.

Instruments

Demographics and work related questions

In order to describe our sample, several representative demographic questions were posited, including age (in years), family status (single, married, divorced or widowed), number of children, religiosity (secular, traditional, religious or Hasidic), religion (Jewish, Christian, Muslim or other), years of education and level of education (without an academic degree, undergraduate, graduate or PhD). Questions associated with work description included: Seniority (years in professions) and employment percentage (part to full time job in percentages).

Exposure to potentially traumatic events

Previous potentially traumatic events, not including traumatic births at work, were measured by summing binary (yes/no) reports

of exposure to seven categories, based on the Posttraumatic Stress Diagnostic Scale (PDS) (Foa and Meadows, 1997): serious accident, fire, or explosion; natural disaster; assault by a relative or someone familiar; assault by a stranger; battle or war zone; life threatening disease; and/or other traumatic event.

Exposure to traumatic births

Participants were asked to report if they were exposed to traumatic births during their job, and if so, to estimate how many times. The first report was measured in a binary (yes/no) form, and the latter was categorical (1–5 events, 6–10 events, 11–20, 21–30 events, 31 events).

Reactions to a traumatic event at work

Participants were asked to think about a single traumatic event they had experienced at work and describe it using a 6-item binary (yes/no) scale. Reactions included injury to oneself, injury to others, perceived life threat, perceived threat to the life of others, feelings of helplessness, terror, and exposure to horrifying images.

In addition, participants were asked to write about a potentially traumatic event they had experienced at work. These experiences were later subjected to content analysis. The analysis yielded five main domains: 1-death of baby/mother; 2-medical complications; 3- aggression and violence towards the nurse-midwife; 4-job accidents and inexperienced medical staff; 5-emergency deliveries, life-endangering situations and 6-other, which included experiences that could not be categorized into any of the above classes.

PTSD symptom scale – self report (PSS-SR)

The PSS-SR consists of 17 items about PTSD symptoms (Foa et al., 1993). Items are scored on a 4-point Likert scale, ranging from 0 (not at all) to 3 (five or more times a week – almost always). Higher scores indicate more severe symptoms, with a maximum possible score of 51. The cutoffs for symptom severity ratings are 0 - no rating, 1–10 – mild PTSD, 11–20 – moderate PTSD, 21–35 moderate to severe PTSD and > 36 severe PTSD. In this study, the PTSD probability threshold was set at 14, in accordance with previous research (Coffey et al., 2006; Lahad and Leykin, 2010; van Dam et al., 2012). The PSS-SR has been found to be a good tool with high validity and reliability (Foa et al., 1993; McCarthy, 2008), with Cronbach's alpha of .92 in the current sample.

The Professional Quality of Life scale (ProQOL)

Commonly used to measure the negative and positive effects of health amongst medical service personnel that treat clients suffering from trauma (Stamm, 2002; Todaro-Franceschi, 2013). It is composed of three sub-scales: compassion satisfaction (CS), burnout (BO) and compassion fatigue/secondary trauma symptoms (STS). The ProQOL is a 30-item self-report scale, and responders use a 5-point Likert scale (1—rarely/never to 5—very often) to describe their attitudes regarding various facets pertaining to their professional quality of life. Three separate scores are calculated by adding relevant subscale items together. Score for each subscale ranges from 0–50, and cut-offs rates are low = 22 or less, average = 23–41 and high = 42 or more, according to Stamm (2002).

There is a good construct validity and inter-scale correlations between CF and CS which suggest 2% shared variance and 5% shared variance with BO, respectively. BO and STS are also distinct structures, but share a higher variance of 34% (Stamm, 2010). The three subscales showed acceptable internal consistency, with the following Cronbach's alpha scores: .87, .72 and .80, for CS, BO and STS, respectively (Stamm, 2005). Cronbach's alpha scores in the current study were .85, .50 and .80, for CS, BO and STS, respectively. Due to the low score for BO, the least inter-correlated items were removed, these were 29 ('I'm a very caring person'), 15 ('I have beliefs that sustain me') and 4 ('I feel connected to others'). Final alpha score of .68 was achieved.

Table 1
Pearson and spearman correlations between PSS-SR, ProQOL and Seniority.

	PSS-SR	CS	BO	STS	Seniority (years)
PSS-SR		−.06	.25*	.36**	.34**
CS			−.40**	−.44**	−.10
BO				.68**	.21*
STS					.01
Seniority					
Mean	5.86	43.14	13.23	12.66	13
SD	7.5	7.57	4.85	6.66	9.6
Range	0–31	19–50	2–27	0–34	1–36

Note. Seniority and PSS-SR scores were positively skewed and not normally distributed, as assessed by Shapiro-Wilk's test ($p > .001$) and therefore Spearman's rho test was used to test correlations between these variables and ProQOL variables. Correlations between ProQOL variables represent Pearson's r scores.
Note: PSS-SR = PTSD Symptom Scale, Self-Report; CS = Compassion Satisfaction; BO = Burnout; STS = Secondary Traumatic Stress
* $p < .05$
** $p < .01$.

Data analysis

Cronbach's alpha was used to determine the reliability of the PSS-SR and ProQOL measures in the current study sample. Pearson (r) and Spearman (r_s) correlations were used to study the connections between the study variables with normal and non-normal distributions, respectively. Single sample t-tests were calculated to determine whether the CS, BO and STS scores in the recruited subjects differed from those found in the literature. All were calculated using SPSS 20.0 (IBM, 2013).

Findings

We first consider the significant findings from an overview of the relationship between the main study variables, and then continue to describe our quantitative analysis. Finally, we end this section with additional trauma-related descriptive statistics.

For an overview of the relationships between the main study quantitative variables initial correlations and descriptive statistics were examined (see Table 1). A positive correlation was found between PSS-SR and STS (r_s=.37, $p < .001$), between seniority (r_s =.34, $p < .01$) and BO (r_s=.24, $p < .05$). A negative correlation was found between CS and BO (r=-.40, $p < .01$) as well as between CS and STS (r=-.44, $p < .001$). Also, a positive correlation was found between BO and STS (r=.68, $p < .01$) as well as between burnout and seniority (r=.21, $p < .05$).

Professional quality of life

CS, BO and STS scores were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$) and there were no outliers in the data, as assessed by examination of a boxplot. On the compassion satisfaction scale, 1.1% scored in the low range, 25.8% scored in the mid-range and 74.1% scored in the high range. On the burnout scale, 97.8% scored in the low range, while 2.2% scored in the mid-range. On the STS scale, 92.4% scored in the low range and 7.6% scored in the mid-range. Table 1 provides means and standard deviation scores.

Finally, an unpaired t-test was conducted to determine whether the CS, BO and STS scores in the recruited subjects differed from those previously found in the literature (Lauvrud et al., 2009; Kim and Choi, 2012; Mizuno et al., 2013) (see Table 2 for results). CS scores in the current study were significantly higher than all three previous studies ($p < .001$). BO scores significantly lower than all three previous studies ($p < .001$). STS scores were significantly lower than two out of three studies (Kim and Choi, 2012; Mizuno et al., 2013) ($p < .001$) and higher than one (Lauvrud et al., 2009) ($p < .001$).

Table 2
ProQOL scores comparison with previous studies.

	CS			BO			STS		
	M	SD	*t*-test	M	SD	*t*-test	M	SD	*t*-test
Current study (*N*=93)	43.1	6.0		13.23	4.85		12.6	6.6	
Nursing staff at a forensic psychiatric security unit (*N*=70) (Lauvrud et al., 2009)	32	6.5	11.28*	17.3	4.4	5.52*	5.8	3.6	7.78*
Emergency Nurses (*N*=178)(Kim and Choi, 2012)	32.12	5.45	15.20*	28.27	4.28	26.14*	28.2	5.07	21.6*
Midwives (N = 86) (Mizuno et al., 2013)	34.6	6.4	9.17*	27.0	4.9	18.88*	22.1	5.2	10.64*

* $p < .001$.

PTSD symptom scale – self report (PSS-SR)

PSS-SR scores were positively skewed and not normally distributed, as assessed by Shapiro-Wilk's test ($p > .001$). The total PSS-SR score amongst the 94 participants who completed the questionnaire ranged from 0 to 31 (M = 5.86, SD =7.57). Sixteen per cent of the midwives fulfilled the PTSD probability threshold, and the severity ratings were as follows: 46 (49.5%) - mild PTSD; 16 (17.2%) - moderate PTSD; 5 (5.4%) reported moderate to severe symptoms of PTSD; 26 (27.9%) had a score of 0. 15 (16.1%) met the cutoff for a diagnosis of PTSD.

Exposure to potentially traumatic events

Descriptive statistics (N=93) demonstrated that 20 (21.5%) of the midwives reported no exposure to potentially traumatic events, 38 (40.8%) reported exposure to one potentially traumatic event and 36 reported previous exposure to two or more potentially traumatic events. The most common past traumatic event was a 'life threatening disease' (37%), followed by a 'serious accident, fire, or explosion' (32%) and 'other traumatic event' (26%), while the least frequent category was a 'natural disaster' (5%). The average number of reported events was 1.38 (SD =1.14).

Exposure to traumatic events at work

Descriptive statistics (N=93) demonstrated that only 5 (5.4%) did not experience any traumatic births at work, 70 (75.2%) experienced 1–30 traumatic births at work, and 13 (13.9%) reported over 30 traumatic births at work; 6 were missing from the analysis. Eighty-six out of 93 midwives provided brief descriptions of a traumatic event at work; 45.2% experienced faults, complications and massive bleeding, 21% experienced death of the baby or mother, 11.6% experienced aggressive behavior from the mother or her family, 8.2% experienced emergency deliveries and 8.2% experienced job accidents or lack of professionalism of the medical staff. Five (5.8%) additional descriptions did not fit any of the categories or lacked information, and were thus classified as 'other'. Examples for each category are provided in Table 3.

The number of exposures to traumatic births was positively and significantly correlated with BO (r=.22, $p < .05$) and seniority (r=.42, $p < .001$). The average number of exposures to traumatic births was 2.22 (SD=1.48).

Discussion

The current study measured the professional quality of life, traumatic experiences and the prevalence of PTSD symptoms amongst midwives. It is known that midwives will likely witness traumatic births (Rice and Warland, 2013), accordingly, in our study, most midwives (94.3%) have experienced a traumatic birth at the workplace. Our results suggest that the amount of exposure to these events might enhance the experience of BO. Additionally, descriptions of traumatic events at work have revealed that most of the events have to do with faults, complications and massive bleeding; followed by death of the baby or mother. Occurrence of traumatic events outside the workplace was less common. However, most of our participants (78.7%) did experience at least one.

ProQOL

Next, the results indicated significant negative correlations between CS and BO, between CS and STS, and a significant positive correlation between CF and BO, corroborating previous studies (Alkema et al., 2008; Slocum-Gori et al., 2013). Notably, average CS scores were very high, compared to previous studies (Lauvrud et al., 2009; Kim and Choi, 2012; Mizuno et al., 2013). In comparison to the studies of nurses by Kim and Choi (2012) and Lauvrud et al., (2009), these results are not surprising as CS is about the pleasure a helper derives from the experience of helping others (Stamm, 2012); and is thought to be related to seeing clients benefit from the positive effect the helper has on them (Radey and Figley, 2007). Sullivan et al. (2011) suggest that the main source of job satisfaction amongst midwives is feeling that one makes a difference to women. Furthermore, midwives rated 'positive outlook' and 'enjoyment' as their main reasons for remaining in the profession - factors that are known to enhance CS (Radey and Figley, 2007). Interestingly, CS scores were also higher than ones found by Mizuno et al. (2013). This outcome suggest that our sample enjoyed higher CS levels. A recent study of Japanese midwives reported on high levels of occupational stress experienced by midwives alongside high rates of depression (Sato and Adachi, 2013); this in turn, might hinder

Table 3
Brief descriptions of traumatic events at work (n=86).

Category	Prevalence (%)	Example
Faults, complications and massive bleeding	45.2	The woman suffered from massive bleeding and eventually was in need of resuscitation.
Death of the baby or mother	21.0	A patient was not feeling well and was rushed into the delivery room. Surgery was performed to save the baby, but the mother had died.
Aggressive behavior from the mother or her family	11.6	The woman was verbally abusive.
Emergency deliveries	8.2	The woman was rushed to the delivery room due to a rupture of her uterus. She was in distress until general anesthesia
Job accidents or lack of professionalism of the medical staff	8.2	The woman suffered from pre-eclampsia and the medical stuff lacked experience.
Other	5.8	The woman was devastated because she couldn't go through natural birth as she hoped.

feelings of CS (Ray et al., 2013) and corroborate our results.

Average BO scores were significantly lower in comparison to previous studies (Lauvrud et al., 2009; Kim and Choi, 2012; Mizuno et al., 2013). It is challenging to explain these results due to lack of data regarding stress at the work place and other predictors of BO (Adriaenssens et al., 2015). Furthermore, interpretation of these results should be done with caution, as internal consistency scores were questionable (George and Mallery, 2003). Nevertheless, BO and CS are commonly negatively correlated (Stamm, 2010); therefore, it is possible that at least part of the explanation for the low BO scores can be attributed to this relationship. Studying the factors contributing to both structures, such as the work, client and/or person environment (Stamm, 2010) might shed more light on the subject. Further investigation is required.

Average STS scores were also relatively low, higher only than Lauvrud et al. (2009) scores, with 92.4% in the lower range of the spectrum. Together with the low BO and high CS, this is the most positive result we can hope for. According to Stamm (2010) it represents workers who perceive their workplace as constructive and encouraging, feel efficacious in their work and are probably liked by their patients.

PTSD

Stamm (2012) suggests that people who suffer from PTSD are likely to also experience CF. Moreover, these two concepts have been shown to overlap and further discussion had come about (Meadors et al., 2010). Therefore, it is not surprising that a positive correlation was found between STS and PTSD in the current study as well. As for prevalence, Sixteen per cent of our sample met the cutoff for a diagnosis of PTSD. According to a review by Robertson and Perry (2010), studies of healthcare staff including nurses and doctors have reported on PTSD rates ranging from 0% to 29% during routine health care work. It is important to note that these studies have employed different measures of PTSD, which in turn may lead to different outcomes (Sumpter and McMillan, 2006; Mealer et al., 2009; Einsle et al., 2012).

PTSD was also significantly and positively correlated with BO. PTSD and BO share a symptomatic resemblance (Meadors et al., 2010), therefore, this result is not surprising and has been previously mentioned in a study of nurses (Mealer et al., 2009) and in studies of other populations as well(Melunsky, 2016; Wapperom, 2016).

Interestingly, the number of previous traumatic events, whether work-related or non-work-related, did not significantly correlate with PTSD symptoms. Hence, it seems that the number of events did not reflect a stronger impact or increased traumatization. Perhaps, it is the severity of the event that can significantly increase the harshness and prevalence of PTSD symptoms. For example, a previous study (Ullman and Filipas, 2001) has shown that greater perceived life threat was a predictor of PTSD symptom severity.

Finally, a significant positive correlation was found between seniority and PTSD symptoms. Even though years in the profession may increase one's sense of competence and correlate with personality hardiness (Sciacchitano et al., 2001; Mollart et al., 2013), it most likely indicates increased exposure to potentially traumatic events (Sheen et al., 2014). Increased exposure does not necessarily mean that it is the total number of events one is exposed to that effects the severity of PTSD symptoms; indeed, it is only logical to assume that one is more likely to eventually encounter an event that is subjectively more traumatic for him or her. Similarly, Seniority was significantly associated with BO, corroborating previous results (Adriaenssens et al., 2015).

In conclusion, traumatic events are to be expected in the work environment of midwives - including stillbirth, death of the mother and other complications - and despite the overall positive finding of increased CS, the occupational hazards and prevalence of PTSD of nurse-midwives still suggest the importance of promoting self-care strategies, to further enhance CS and decrease BO and STS. Alkema, Linton and Davies (2008) provide suggestions for such strategies.

Limitations

The main limitation of the current study is its correlative nature, which does not enable to infer causation. However, the study does report on data related to previous possible trauma. Another methodological limitation is the use of only one tool to measure PTSD symptoms. As there are considerable differences between the different measurement tools, the use of varied tools may have had a significant impact on the research conclusions. To enhance the reliability and validity of the results, future studies should use more than one tool to measure PTSD symptoms.

Additionally, the concept of 'traumatic birth' was not defined in the survey, and this may affect the validity of the question and its impact on the results. The time since the traumatic birth was also not assessed. Since most people recover from harsh events with time(Bonanno, 2004), it is possible that low levels of PTSD/STS may be related to a long period of time since the occurrence of the event.

Another major limitation is a low response rate of 45.8%. Nevertheless, previous studies of midwives have also encountered low response rates ranging from 5–54% (Cantrill et al., 2003; Heazell et al., 2008; Mollart et al., 2013; Beck et al., 2015; Wahlberg et al., 2017). These low rates limit our possibility to generalize. Finally, according to a recent report (Ministry of Health, 2015) by the Israeli Ministry of Health, there are 1826 certified midwives (below the age of 65). Our sample then, represents only 5% of the total midwives populations. This low representation also limits our ability generalize these results. In addition, to the best of our knowledge, and based on an inquiry with the Israel Midwives Association, there are no additional national demographic statistics available, in order to determine the degree of representativeness of our sample.

Implications

Recent literature emphasizes the therapeutic benefits of compassion and self-compassion (Leaviss and Uttley, 2015); according to Gilbert (2009) compassion can be thought of as a skill, thus one can train in it. Our study, together with previous literature (Hunter and Deery, 2005), suggests that compassion is critical for midwives, and as such should be practiced and improved. Compassion training should be integrated in the ongoing education of midwives and of medical staff. Interventions to reduce and manage stress that may lead to CF are also advised(McDonald et al., 2012); Such interventions may include developing resilience, the ability to respond effectively in the face of adversity(Hunter and Warren, 2013). And, in order to tailor such interventions it is important to further study the coping mechanisms commonly used by midwives.

Also, human resources practices should include regular assessments of ProQOL to evaluate the need for compassion interventions and to maintain elevated CS levels. Our results, with more than 73% of midwives scoring on the high range of CS, can help provide a CS threshold and/or a high standard for such evaluations and for future studies.

Finally, future research on effective ways for preparing and caring for midwives following traumatic perinatal events is essential, including increased understanding of the development of PTSD amongst midwives.

Conflict of interest

The authors have no conflicts of interest to disclose.

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