

The Effect of Secondary Traumatic Stress Level on Psychological Resilience of Midwives

Dönüş Yalçın¹ , Fadime Bayrı Bingöl² 

¹Marmara University, Research And Education Hospital, Pendik, Istanbul, Türkiye

²Marmara University, Health Sciences Faculty, Midwifery Department, Istanbul, Türkiye

Dönüş YALÇIN

Fadime BAYRI BİNGÖL

Correspondence: Fadime Bayrı Bingöl
Marmara University, Health Sciences Faculty,
Midwifery Department, Istanbul, Türkiye
Phone: +902167775700
E-mail: fadimebayri@gmail.com

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ABSTRACT

Purpose: Case load in working setting, excessive working hours, encountering with traumatic incidents frequently, concern of being sued might increase the level of stress for midwives and affect their psychological resilience negatively. The present study was conducted to identify the effect of secondary traumatic stress level of midwives on psychological resilience.

Methods: The present study was a descriptive one carried out between the dates of June 2019- June 2020. The sample of the study consisted of midwives working in the delivery rooms of all Public Hospitals in Istanbul. The data were collected through face to face interviews with 213 midwives. The data were collected using Information Form, Secondary Traumatic Stress Scale and Psychological Resilience Scale for Adults. The statistical analysis of the data were realized by SPSS programme.

Results: Every one out of three midwives was identified to meet all the criteria regarding Post-Traumatic Stress Disorder. It was also identified that those midwives who are single (41.05±12.12), experiencing dissatisfaction in their profession (51.14±14.04), having more working shifts monthly (40.60±12.08) had higher secondary traumatic stress scores (p<0.05). Psychological resilience of those midwives working at clinics with higher numbers of delivery (135.62±10.82) was determined to have higher level of psychological resilience (p<0.05). It was also stated that as the secondary traumatic stress level scores of midwives increased, their psychological resilience scores decreased accordingly.

Conclusion: Every one out of three midwives meets the criteria for Post Traumatic Stress Disorder. Midwives, in the risky group in terms of traumatic stress and psychological resilience, should be followed closely and supported in advance.

Keywords: Midwifery, compassion fatigue; psychological resilience

Ebelerde İkincil Travmatik Stres Düzeyinin Psikolojik Dayanıklılığa Etkisi

ÖZET

Amaç: Çalışma ortamında vaka yükü, yoğun çalışma saatleri, travmatik olaylarla sık karşılaşma, yetersiz yönetim desteği, dava edilme kaygısı gibi nedenler ebelerin stres düzeyini artırabilmekte ve psikolojik dayanıklılığını olumsuz etkileyebilmektedir. Bu çalışma ebelerde ikincil travmatik stres düzeyinin psikolojik dayanıklılığa etkisini belirlemek amacıyla yürütülmüştür.

Yöntem: Bu araştırma, Haziran 2019- Haziran 2020 tarihleri arasında İstanbul'da Kamu Hastanelerinde Doğumhane Kliniği'nde görev yapan ebelerle yürütülen, tanımlayıcı bir araştırmadır. Veriler, Genel Bilgi Formu, İkincil Travmatik Stres Ölçeği ve Yetişkinler İçin Psikolojik Dayanıklılık Ölçeği ile toplanmıştır. Veriler SPSS programında analiz edilmiştir.

Bulgular: Her üç ebeden birinin Travma Sonrası Stres Bozukluğu açısından tüm travma kriterlerini karşıladığı belirlendi. Genç yaş, bekar olmak, ebe olmaktan memnuniyetsizlik, aylık çalışma saati ve nöbet sayısı fazla olan ebelerin ikincil travmatik stres puanlarının daha yüksek olduğu belirlendi (p<0,05). Doğum sayısı ve ebe sayısı yüksek olan kliniklerde görev yapan ebelerin psikolojik dayanıklılıklarının da arttığı saptandı (p<0,05). Ebelerin ikincil travmatik stres puanları arttıkça psikolojik dayanıklılık puanlarının azaldığı belirlendi.

Sonuç: Her üç ebeden birinin Travma Sonrası Stres Bozukluğu açısından tüm travma kriterlerini karşılıyor olması yüksek bir orandır. Travmatik stres ve psikolojik dayanıklılık açısından riskli grupta yer alan ebeler daha yakından izlenmeli, sorunlar ilerlemeden desteklenmelidir.

Anahtar Sözcükler: Ebe, ikincil travmatik stres, Psikolojik dayanıklılık

Even though giving birth evokes positive emotions, it is a subjective experience for each of the women and hard and stressful time as well (1). Perception of giving birth differs from woman to woman even in each delivery for the same woman. Many factors such as not coping with birth pain, feeling of loss of control and various complications may turn the delivery process into a stressful and traumatic experience (2). A traumatic event is defined as one that poses a threat of serious injury or death to oneself or others, and elicits feelings of intense fear, helplessness, or horror. Traumatic birth experience is the woman's perception of the birth as a serious threat of death or injury for the baby or for herself and her defining the moment of delivery as fear, desperate and horror. Traumatic birth experience affects not only the woman, the baby and the family negatively but also the midwives providing the closest and permanent care to the women in delivery process that causes secondary traumatic stress for them (3,4).

Secondary trauma is defined as indirect exposure to trauma through a firsthand account or narrative of a traumatic event (3). The symptoms of secondary traumatic stress are as well as Post Traumatic Stress Disorder (PTSD) symptoms, excessive agitation, loss of concentration, insomnia, fatigue, nightmares, startle response, feeling *deja vu* and avoidance behaviours (4). The most significant risk factors are empathy and exposure due to sharing of emotional burden of the trauma. Resulting for frequent exposure to women experiencing traumatic stress, traumatic stress poses an occupational hazard for midwives providing permanent care to them (2). It affects mental health and care providing skills of midwives negatively. Midwives experience emotional burnout, desensitisation, reluctant to providing care as well as reducing performance and resilience, problems in focusing and decision making processes (5).

Secondary traumatic stress is affected from case load, experience in profession, competence in profession, age and gender characteristics of health care provider, former trauma history, setting of a healthy empathy, Professional supervision support together with organizational support, long shifts without adequate intervals, medical complications, mistakes, anxiety of being sued and climate of fear (6). It was stated that various direct or indirect risk factors such as midwives' competencies in profession, skills of using emotions and support from colleagues or health care team being insufficient; not having positive expectations for the future or emotional readiness required by the profession might affect their physical and

psychological well being negatively that leads to burnout, psychological problems, reducing professional satisfaction even to resigning or intent to resign (7). Psychological resilience, defined as standing robust in certain conditions impacts people's biopsychosocial health negatively, is a crucial factor ensuring the coping with undesired conditions, reducing the impacts of the stress and adjusting to new conditions. It was pointed out that psychological resilience is rather significant to avoid secondary stress in work settings. Psychological resilience is a dynamic process by which a biopsychosocial system returns to the previous level of functioning, following a perturbation caused by a stressor. The individual realizes such a condition with social support, using efficient coping strategies, optimism and restructuring the positive thoughts (8).

Since midwives are at the forefront of health service delivery in the health system, they are faced with many occupational problems and dangers that pave the way for physical and psychological stress every day. Difficult events such as the death of the mother or baby and irreversible complications may predispose midwives to psycho-emotional disorders such as burnout, fatigue, and secondary traumatic stress (2-4). This situation may negatively affect the psychological resilience of midwives. In line with this information, this study was conducted to determine whether secondary traumatic stress has an effect on the psychological resilience of midwives.

METHODS

Aims

The aim of the study was to determine the state of midwives in terms of protecting and developing their health and to identify the effect of secondary traumatic stress on psychological resilience for midwives in order to contribute for the finding of necessary solutions.

Design and Study Setting

The present study was a descriptive one carried out with midwives assigned at delivery rooms of 7 State hospitals (Zeynep Kamil Gynecology and Pediatrics Training and Research Hospital, Kartal Dr. Lütfi Kırdar City Hospital, Ümraniye Training and Research Hospital, Goztepe Prof. Dr. Süleyman Yalçın City Hospital, Tuzla State Hospital, Marmara University Pendik Training and Research Hospital, Sancaktepe Prof. Dr. İlhan Varank Training and Research Hospital) in Anatolian side of Istanbul province between the dates of June 2019- June 2020.

Sample

The sample of the research is G*Power.3.1.9. Calculated using the program (G*Power; university; Düsseldorf; Germany). Type-1 error amount in the study $\alpha=0.05$; When the targeted power of the test was calculated as $1-\beta=0.95$, it was determined that at least 176 midwives should be included in the study. The sample of the study consisted of midwives working in the delivery rooms of all Public Hospitals in Istanbul. All midwives who met the inclusion criteria and agreed to participate in the study were included in the study without selecting a sample. All volunteer midwives who have been working in the delivery room for at least 6 months were invited to the study. Midwives with a history of post-traumatic stress disorder or another psychiatric illness were excluded from the study. The data were collected through face to face interviews with 213 midwives. 13 participants who submitted data collection forms incompletely excluded from the study. The study was completed with 200 midwives.

Data Collection: The required data were collected using General Information Request Form, Secondary Traumatic Stress Scale and Psychological Resilience Scale for Adults.

General Information Request Form: The Information Request form utilized in the study was prepared in line with the literature (2,4,6). From consisted of 12 items related with participants' socio-demographic characteristics (age, education, income), working conditions, professional characteristics, trauma history and occupational trauma history.

Secondary Traumatic Stress Scale (STSS): The scale was developed by Bride et al. (2004). The Turkish validity and reliability study of the scale was conducted by Yildirim, Kidak, & Yurdabakan, (2018). The main purpose of the scale is to assess stress symptoms of health care providers within last seven days at post secondary trauma process. This five-point Likert type scale includes 17 items and has three sub-dimensions as emotional negligence, avoidance and alertness. The responses "Never" and "Rarely" do not mean the presence of post traumatic stress symptoms however, the responses "sometimes", "often" and "very often" do mean the presence of post traumatic stress symptoms. Furthermore; in order to mention about the presence of PTSD diagnosis indications, at least one of the items measuring the emotional negligence; at least three of the items measuring avoidance symptoms and at least two of the items measuring alertness are needed to be pointed as "sometimes" or higher stress symptoms. Those three measurements being together mean the risk of PTSD diagnosis. The score obtained from the scale ranged

between 17 and 85 and higher scores indicate higher level of impact. Cronbach's alpha value for the scale was determined as .89.

Resilience Scale for Adults (RSA): The scale was developed by Friborg et al. (2003). The scale's Turkish validity and reliability study was carried out by Basım and Çetin (2011). This five-point-Likert type scale consisted of 33 items and its "structural style" and "future perception" had 4 items for each; "family harmony", "perception of self" and "social competence" had 6 items for each and "social resources" had 7 items. The assessment of items of the scale was set free as in the original scale. Five point Likert type format was utilized for responses in the scale in order to avoid acquaintance prejudice by placing positive and negative characteristics to different sides. When the higher scores were desired to mean higher higher level of psychological resilience, responses should be pointed as 1,2,3,4,5 from left to right. Cronbach's alpha reliability value was identified as .88 at present study.

Data Analyses: The statistical analysis of the data were realized by SPSS programme. Continuous variables were expressed with average, Standard deviation and median and categorical variables were expressed by numbers and percentages as well. In order to identify the fitness to the normal distribution Shapiro-Wilk and KolmogorovSmirnov tests were used. In the comparison of independent groups differences; Independent T-test for dual-group assessments and One-WayAnovaTest for multiple group more than two comparisons were benefited. The differences between categorical variables was examined with Chi-square analysis. In order to identify whether the relation between Psychological resilience scale and its sub-groups and Secondart traumatic Stress Scale and its sub-groups significant or not, Pearson's Correlation analysis was used. The levels of significance used were $p<0.05$.

RESULTS

The mean age of the participants was 30.08 ± 6.71 . 27% ($n=54$) of the midwives stated that their expenses exceeded to their income. The mean duration in their profession was 2.68 ± 1.13 years and the mean duration of their working in delivery clinics was 2.20 ± 1.01 years. The mean monthly work-hour of the midwives 180.20 ± 18.13 and the mean number of night-shifts 7.77 ± 3.56 monthly and it was identified that 62% ($n=124$) of them had 6-10 night shifts monthly. The mean number of full-term of the participants was 203.23 ± 174.30 and the mean number of caesarean in the clinic was determined as 125.74 ± 93.95 monthly. The number of midwives assigned in the clinic was 17.80 ± 7.43 (Table 1).

Table 1. Descriptive Characteristics and Clinical Practice Experiences of Midwives (n=200)

Characteristics		n	%
Marital status	Married	95	47.5
	Unmarried	105	52.5
Education	Vocational high School	8	4.0
	Associate Degree	8	4.0
	Bachelors degree	168	84.0
	MSc	16	8.0
Monthly working hours	150-175	82	41.0
	176-200	100	50.0
	201-250	18	9.0
Satisfaction with being a midwife	Yes	179	89.5
	No	21	10.5
Trauma History	No	178	89.0
	Yes	22	11.0
History of domestic violence against oneself	No	178	89.0
	Yes	22	11.0
Psychiatric diagnosis history	No	186	93.0
	Yes	14	7.0
Frequency of encountering traumatic birth	Very often	32	16.0
	Often	53	26.5
	Sometimes	93	46.5
	Rarely	22	11.0

As the ages of the midwives reduced ($r=-.192, p=.006$), the secondary traumatic stress level was identified to increased. Moreover, it was indicated that those midwives who were single, had 6-10 night shifts, experienced dissatisfaction in their profession, encountered traumatic deliveries frequently had higher level of secondary traumatic stress. In addition, it was put forth that increasing working hours led to higher level of secondary traumatic stress ($r=.149, p=.035$). At present study also it was found out that 48.8% of the midwives were affected by various reasons emerging from delivery room setting including the characteristics of care-related trauma (Table 2). It was also specified that increase in full-term delivery ($r=.201, p=.004$), caesarean delivery ($r=.161, p=.023$) and the number of midwives in the clinic ($r=.207, p=.003$) led to increase in the level of psychological resilience (Table 3). Other characteristics of the midwives were determined not to affect scores obtained from the scales.

Table 2. Comparison of the Secondary Traumatic Stress Scale and Some Characteristics of the Participants (n=200)

Characteristics		n (%)	Mean±SD	p (test value)
Marital status	Married	95(47.5)	35.78±11.49	p=0.002 *t=-3.140
	Unmarried	105(52.5)	41.05±12.12	
Number of night shifts per month	0	15(7.5)	35.07±11.13	p=0.016 **F=3.531
	1-5	31(15.5)	33.97±12.04	
	6-10***	124(62.0)	40.60±12.08	
	11-15	30(15.0)	36.47±10.85	
Satisfaction with being a midwife	Yes	179(89.5)	37.06±10.92	p=0.000 t=-5.415
	No	21(10.5)	51.14±14.04	
Frequency of encountering traumatic birth	Very often	32 (16.0)	43.09±13.33	p=0.003 **F=4.903
	Often	53(26.5)	41.42±10.82	
	Sometimes	93(46.5)	36.47±11.72	
	Rarely***	22(11.0)	33.68±11.27	

***one way ANOVA test; *** Group that made the difference (based on LSD, Tukey test result); number; percent; mean standard deviation*

Table 3. Comparison of the Resilience Scale for Adults and Some Characteristics of the Participants (n=200)

Characteristics		n (%)	Mean±SD	p (test value)
Number of normal births in the clinic	1-200 **	130(65.0)	124.64±19.64	p=0.006 *F=5.205
	201-400	41(20.5)	130.90±17.42	
	401-700	29(14.5)	135.62±10.82	
Number of midwives in the clinic	2-10	56(28.0)	122.21±18.33	p=0.015 *F=4.283
	11-20	71(35.5)	127.39±19.91	
	21-30**	73(36.5)	131.71±16.47	

**one way ANOVA test; ** Group that made the difference (based on LSD, Tukey test result); number; percent; mean standard deviation*

The mean STSS score of the midwives was 38.54±12.05. When the secondary traumatic stress scores of them were examined, avoidance and fatigue scores were detected as higher. Thus; the midwives were observed to experience emotional negligence and alertness symptoms more than avoidance and fatigue. The mean RSA score of the midwives was 127.52±18.57. The midwives obtained the highest score from "social resources" in Psychological Resilience Scale. Then the "family harmony" and "perception of self" scores as lower and the lowest score was obtained from "structural style" sub-dimension. The rate of meeting all the PTSD criteria was founded as 32% (n=64) that meant every one out of three midwives met all the criteria for PTSD. The midwives' included in the study psychological resilience affected negatively as their traumatic stress scores increased ($p=0.001$) (Table 4).

Table 4. Comparison of Resilience Scale for Adults Scores of those who met all trauma criteria in terms of PTSD (n=200)

Scale	Resilience Scale for Adults		
	n (%)	Mean±SD	Statistics
Met all the trauma criteria for posttraumatic stress disorder according to the Secondary Traumatic Stress Scale	Yes	64 (32)	121.21±20.15
	No	136 (68)	130.48±17.06
Emotional intrusion	Yes	124 (62)	125.22±18.69
	No	76 (38)	131.26±17.87
Avoidance	Yes	97 (48.5)	123.27±19.79
	No	103 (51.5)	131.51±16.46
Arousal	Yes	12 (6)	123.74±19.09
	No	80 (40)	133.18±16.28

*Student t test

DISCUSSION

When a traumatic delivery occurred, particularly the midwife accompanying the woman, her husband, gynaecologist and students were affected indirectly and that causes to their experience PTSD symptoms. At present study, it was indicated that every one out of three midwives met all the criteria for PTSD. According to Toohill et al (2019), 93.6% of the midwives exposed to secondary trauma. Similarly, Beck and Gable (2012) reported mild and severe secondary trauma in 35% of the midwives. Cohen et al (2017) on the other hand reported the rate as 94.3% by stating that midwives might possibly be traumatised by improper interventions and delivery complications. Nightingale et al. (2018), Favrod et al. (2018) and Beck et al. (2015) also reported similar results with the rates of 20%, 26,9% and 36% respectively. Sheen et al. (2015), Leinweber et al. (2017) and Cohen et al. (2017) on the other hand reported lower rates contrary to our study as 5%, 17% and 16% respectively. In a study carried out by Wahlberg et al. (2017) with a sample group including midwives and gynaecologists, it was reported that following a perineal traumatic incident, 15% of both of the professions showed signs addressing to PTSD and 7% of the gynaecologists and 5% of the midwives met the all the diagnosis criteria of PTSD. Following serious traumatic events occurring at a delivery clinic in Sweden, 15% of the midwives were reported symptoms addressing to PTSD and 55 of them met all the criteria of PTSD. The same study indicated that midwives' feeling of guilt and insufficient support from their friends increased the risk of PTSD for them (18). Roberson and Perry (2010) in their systematic review of health care providers determined a rate ranged between 0% and 29%. These differences in rates might be affected by health care services of the countries, characteristics of maternal care units as well as working conditions of midwives.

Schroder et al. (2016) set forth many midwives and gynaecologists experience stress symptoms and Toohill et al (2019) emphasised that 8% of the midwives experience high level fear during delivery management process. Leinweber et al (2017) stated that the possibility of showing fear during delivery is four times higher for midwives when they encounter with people uttering disrespectful words or swearing. It was also reported that such fear besides leading improper interventions, might impact attributes of midwives in the working setting that cause loss of motivation and decreasing of quality of care by reducing the feeling of affection accordingly (4). Thus, noticing of secondary traumatic stress experienced by midwives is rather crucial in terms of preventing their psychological resilience which is needed to cope with negative effects of stress exposed by themselves. Potential risk factors regarding secondary traumatic were determined as frequency of exposure to traumatic events, traumatic experiences stories, setting empathy with traumatised patients, heavy work-load, increasing interaction with patients and long working hours (21). Similarly, in our study a significant relation was detected between monthly working hours, having 6-10 night shifts and rarely experiencing traumatic delivery.

At present study it was identified that as the age of midwives reduced, secondary traumatic stress scores increased accordingly. Similarly in other study it was emphasised that being single and young was related with high level of burnout (22). At present study it was determined that as the number of midwives in clinics increased complied with case load, psychological resilience of them increased as well. When the relevant literature examined, it was obvious that using a midwifery model providing service in compliance with case load provides lower level of burnout compared with traditional models (22).

The main reason for that was stated as autonomy, continuity of the care, flexibility of the working Schedule (23). In their study conducted in Australia Paterson et al. (2010) reported the mean working hours of the midwives as 28.7 hours weekly. Wiegers et al., (2014) remarked in their study that the mean working hours for midwives, assigned at primary healthcare services, in Netherland was 32.6 hours weekly. In the same study the monthly working hours of midwives was identified as 180.20 ± 18.13 hours and as the monthly working hours of the midwives increased, their secondary traumatic stress scores increased as well. Since we have the minimum 40 hours of working as a developing country and having higher birth rates, the risk for secondary traumatic stress gets higher for midwives in our country.

In current study secondary traumatic stress scores of midwives being dissatisfied with their profession was detected higher. Similarly, in a study carried out with midwifery students by Bayri Bingöl et al., (2021), it was deduced that the secondary traumatic stress of those being dissatisfied with midwifery education were higher than others. Midwives are accepted to experience profession-related psychological problems (2, 16). Exposure to high level of emphatic relation characterised with midwife-woman relation poses a certain risk for secondary traumatic stress development (26). In our study it was revealed that when the women perceived their delivery experience as a trauma, it increased the stress level of healthcare providers. In a qualitative study on the issue suggested that midwifery students internalized the disappointment experienced by the women and those emotions led to stress, insufficiency and feeling of failure afterwards (27).

At present study, it was found out that 48.8% of the midwives were affected by various reasons emerging from delivery room setting including the characteristics of care-related trauma. Other studies on the issue emphasised that more than two-third (67.2%) of the midwives might experience secondary traumatic stress and PTSD due to managing of traumatic deliveries and perineal incidents regularly (16, 17). Contrary to our study, more than 95% of the midwives reported that they never experienced a traumatic incident directly or indirectly at hospitals (16). In their study Dahlen and Caplice (2014) indicated that the main source of fears of midwives emerge from the death of the mother/infant, an emergency condition and undesired delivery experience. Thus, encountering a traumatic delivery or a perineatal incident even if rarely, poses a risk for secondary traumatic stress.

Literature suggested that social support was an important factor increasing psychological resilience (29). Social support has also a positive impact on the psychological resilience of the family (30). Presence of a social support programme might contribute to the psychological resilience.

CONCLUSION

All the midwives included in the study were identified to every one out of three of them met the criteria regarding PTSD. The midwives who are not satisfied with their profession, young and with little experience were determined as the risk group in terms of traumatic stress. As the number of shifts and monthly working hours of midwives increase, their traumatic stress scores increase accordingly. As the number of births and midwives increase in the clinic, the level of psychological resilience also increases. Increasing age and professional experience decreased traumatic stress and increased psychological resilience. It was determined that as the level of traumatic stress increased, psychological resilience decreased. In order to reduce the traumatic stress of midwives and increase their psychological resilience, especially young and less experienced midwives in the risk group should be more supported by the management, psychosocial support groups should be established when they need it, and adequate support should be provided.

DECLARATIONS

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Conflicts of Interest

No conflict of interest was declared by the authors.

Ethical Considerations

Marmara University Health Sciences Institute Ethical Committee (10.09.2018; 180) approval and required permission from Directorate of Health of Istanbul province (16867222-604.01.01/21/05/2019). Midwives, accepting to participate in the study voluntarily, working as a midwife, having a delivery clinic experience for at least 6 months, were included in the study.

Data Availability Statement

Data are available on request from the authors.

Authorship Statement

The two authors meet the authorship criteria and that all authors are in agreement with the final version of the manuscript.

The corresponding author confirms that authors meet the authorship criteria and are in agreement with the content of the manuscript. Both authors designed the study, analysed data, and drafted and revised the final version for manuscript. D.Y. collected the data and approached the participants.

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