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Secondary Traumatic Stress: How Resilient are Midwives? What are the Influencing Factors?

İkincil Travmatik Stres: Ebeler Ne Kadar Dayanıklı? Etkileyen Faktörler Nelerdir?

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ÖZET

Amaç: Bu çalışmada, ebelerin ikincil travmatik stres deneyimlerinin belirlenmesi, psikolojik dayanıklılık düzeyleri ve diğer bazı faktörlerle ilişkisinin ortaya konulması amaçlanmıştır.

Yöntem: Kesitsel ve tanımlayıcı özellikte bir çalışmadır. Çalışma grubu 502 ebeden oluşmuştur. Verileri toplamak için Kişisel Bilgi Formu, İkincil Travmatik Stres Ölçeği ve Yetişkinler için Dayanıklılık Ölçeği olmak üzere üç ayrı form kullanılmıştır.

Bulgular: Çalışmamızda ebelerin ikincil travmatik stres toplam puanı yüksek, dayanıklılık ölçeği toplam puanı ise düşük düzeyde tespit edilmiştir (sırasıyla 53,10±17,97; 135,52± 32,06). Ebelerin yaşı, eğitim düzeyi, medeni durumu, mesleğini sevme durumları, çalışma süresi, mesleki gelecekleri hakkındaki düşüncelerine ve psikososyal hizmet içi eğitim alma durumuna göre ikincil travmatik stres ve psikolojik dayanıklılık ölçeği puanları açısından istatistiksel olarak anlamlı farklılık tespit edilmiştir ($p<0,05$). İkincil travmatik stres ölçeği ile psikolojik dayanıklılık ölçeği puanları arasında negatif yönde, yüksek derecede ve istatistiksel olarak anlamlı bir ilişki tespit edildi ($r=-0,752$; $p=0,000$).

Sonuç: Çalışmamızda daha genç, düşük eğitim seviyesine sahip, bekâr, mesleğini sevmeyen, mesleki deneyimi az olan, mesleğinden istifa etmek isteyen, psikososyal hizmet içi eğitim almayan ebelerin ikincil travmalardan etkilenme konusunda daha fazla risk altında olduğu bulunmuştur. Ebelerin psikolojik dayanıklılığın artmasıyla, ikincil travmatik stresin azaldığı tespit edilmiştir.

Anahtar Kelimeler: Ebe, Psikolojik dayanıklılık, İkincil travmatik stres

ABSTRACT

Aims: This study aimed to determine the secondary traumatic stress experiences of midwives and to reveal their relationship with psychological resilience levels and some other factors.

Method: A cross-sectional and descriptive design was used in the study. The study group consisted of 502 midwives. Three separate forms were used to collect the data, namely, a personal information form, the Secondary Traumatic Stress Scale, and the Resilience Scale for Adults.

Results: In the study, the mean score of the midwives from the secondary traumatic stress scale was found to be high, and their mean scores from the psychological resilience scale was low (53.10 ± 17.97; 135.52 ± 32.06, respectively). A statistically significant difference was found in terms of the secondary traumatic stress and psychological resilience scale scores according to midwives' age, education level, marital status, love of profession, working years, thoughts about professional future, and the status of receiving psychosocial in-service training ($p <0.05$). A negative, high, and statistically significant correlation was found between the scores of the secondary traumatic stress scale and the psychological resilience scale ($r = -0.752$; $p = 0.000$)

Conclusion: In our study, it was found that midwives who were younger, had a low educational level, were single, did not like their job, had little professional experience, wanted to resign from their job, had not received psychosocial in-service training were at higher risk for experiencing secondary trauma. Secondary traumatic stress was found to decrease as the psychological resilience of midwives increased.

Keywords: Midwife, Psychological resilience, Secondary traumatic stress

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INTRODUCTION

Secondary traumatic stress is defined as the emotional state and response of an individual as a result of witnessing or direct or indirect exposure to traumatic events due to his/her occupation (1). Midwives are an important group at risk for experiencing secondary traumatic stress in terms of witnessing traumatic births (2-4). Even if midwives keep functioning, they can experience mental trauma and develop physiological and psychological symptoms due to prolonged background exposure (2,5-7). Long-term symptoms may lead to negative consequences in midwives' personal lives, relationships with society, and professional lives. These are discussed as re-experiencing, persistent avoidance, increased anxiety and stimulation, and impairment in functions (1,8).

Long-term witnessing of traumatic births by midwives can negatively affect job satisfaction, keeping working, and well-being (9-10). In their qualitative study with 10 midwives found that the high degree of empathic relationship between midwives and women was an important factor in midwives' experience of witnessing traumatic births (9). In a qualitative study conducted with 18 midwives in Israel, Halperin et al. (2011) reported that traumatic births might have a long-lasting impact on both professional and personal identities and that they needed support to cope with stress (11). Leinweber and Rowe and Patterson (2010) reported in their study that midwives were vulnerable to secondary traumatic stress and that it threatened the nature of midwifery care (2,12). In a qualitative study conducted in our country, it was reported that after a traumatic birth, midwives experienced extremely emotional exhaustion in the form of sadness, relapses, guilt, fear, and empathy and that they were doing an increasingly defensive practice (13).

In the literature review, different opinions have been identified about individual factors that predispose individuals to secondary traumatic stress. For example, Oe et al. (2018) reported age, professional experience, and high level of education as protective factors against secondary traumatic stress in midwives (10). Also, Townsend and Campbell (2009) pointed out the vulnerability of young nurses with low-level of education to secondary traumatic stress (14). On the contrary, there are studies reporting that secondary traumatic stress scores increase as the working years increase (15, 16).

The quality of care services provided by midwives, who have an important role in promoting women's health, affects both women's health and public health (18). Therefore, it is very important that midwives can focus on the work they are doing. By taking certain precautions, it is possible to protect midwives against the negative effects of secondary

traumatic stress (1, 18-21). Resilience, which protects against secondary traumatic stress, can enable midwives to overcome the secondary traumatic stress experience (22-23).

Resilience is the body of protective mechanisms for the individual to adapt to high-risk and stressful processes (22). In case of difficult, risky, stressful events or failure, recovery to adapt to the process by withdrawing is the ability to be flexible and involve skills developed to cope (24, 25). The phenomenon of resilience is very important in terms of psychosocial protection and coping in groups at risk for secondary traumatization (15). Midwives need to be addressed distinctively since women's health is closely related to the health of the child and family and therefore the health of society (12). Since resilience is a process that can be learned and improved, organizational designs and practices based on the empowerment of midwives can increase psychological resilience (23). In a study conducted in Turkey on 377 midwives and nurses, it was reported that resilience is an important protective factor against depression symptoms (26). According to another study, resilience improves self-awareness and facilitates access to self-protection and support (23). Resilience has been investigated more widely in studies of other health and social care workers, but there is a gap in outcomes regarding midwives' experiences.

As far as we know, there are no studies showing the effect of resilience on secondary traumatic stress in midwives. Therefore, the present study aimed to determine the secondary traumatic stress and psychological resilience levels of midwives, to reveal their correlation with some other factors, and to investigate the measures to eliminate risk factors emerging in this plane.

MATERIAL and METHODS

This study used a cross-sectional and descriptive design. The sample of the study was determined using the "random sampling" method. While calculating the sample size, 502 people were included in the study with 80% test power and 5% margin of error 0.125 effect size (G*Power 3.1.9.4). The data were collected from the websites between December 10, 2020 and January 10, 2021.The questionnaire was delivered to the midwives via social media tools (such as e-mail, WhatsApp, Instagram, Facebook) via the google form link address. Informed consent page was presented on the entrance page of the questionnaire and the midwives who accepted continued the questionnaire.

Three separate forms were used to collect the data, namely, a personal information form, the Secondary Traumatic Stress Scale, and the Resilience Scale for Adults.

The Personal Information Form: This form was prepared by the researchers. It consists of 22 items questioning socio-demographic and work-related information of the participants,

such as age, educational status, marital status, family type, children, income level, work schedule, and chronic disease.

The Secondary Traumatic Stress Scale: This scale was developed by Bride et al. (2004) and adapted into Turkish by Kahil in 2016. It is a 17-item, five-point Likert-type scale that aims self-evaluation. The scale was designed to measure the post-traumatic stress symptoms developed secondarily by professionals working with traumatized individuals and to evaluate the responses experienced by the individual in the last 7 days. The scale has three sub-dimensions for determining secondary traumatic stress, namely, intrusion, avoidance, and arousal. The options on the Likert-type rating structure are never (1), rarely (2), occasionally (3), often (4), and very often (5). The scores that can be obtained from the scale range between 17 and 85. The overall score is calculated by summing the scores of each item. Increased scores show increased secondary traumatic stress symptoms (27, 28).

The Resilience Scale for Adults: This scale was developed by Friborg et al. (2003), and its validity and reliability study in our country was conducted by Basım and Çetin (2011). The scale consists of six sub-dimensions, including structural style, perception of future, family cohesion, perception of self, social competence, and social resources, and a total of 33 items. Items 1, 3, 4, 8, 11, 12, 13, 14, 15, 16, 23, 24, 25, 27, 31, and 33 are reversed. If results are to be arranged to show increased psychological resilience as the scores increase, the response options should be evaluated as 1 2 3 4 5 from left to right. Scores that can be obtained from the questionnaire range between 33 and 165. The questionnaire has a 5-point Likert type scale; accordingly, the options are 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree (29, 30).

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. At the outset, ethics committee approval of the Non-Interventional Clinical Research Ethics Committee Unit (date: 04.12.2020; issue: 106/24) was obtained. Before starting the study, the consent of the midwives who wanted to participate voluntarily in the study was obtained via an online connection. The questionnaires were filled out in approximately 10-15 minutes.

Statistical analyses were carried out on SPSS (IBM SPSS Statistics 24) software package. Frequency tables and descriptive statistics were used in the interpretation of the findings. Nonparametric methods were used for measurement values that were not suitable for normal distribution. Under the non-parametric methods, the "Mann-Whitney U" test (Z-table value) was used to compare the measurement values of two independent groups, and the

"Kruskal-Wallis H" test (χ2-table value) was used to compare the measurement values of three or more independent groups. Bonferroni correction was employed for paired comparisons of variables that yielded significant differences for three or more groups. Spearman correlation coefficient was used to examine the relationship between measurement values that did not have a normal distribution. Statistical significance was accepted as $p<0.05$.

RESULTS

Of the midwives included in the study, 256 (51.0%) were in the 41-61 age group, 288 (57.4%) had an undergraduate degree, 382 (76.1%) were married, 461 (91,8%) had a nuclear family type, and 392 (78.1%) were found to have children. It was determined that the income of 243 midwives (48.4%) was less than their expenses, 346 (68.9%) had chosen the midwifery profession willingly, 311 (62.0%) had a work experience of 16-37 years, and that 389 (77.5%) liked the midwifery profession. It was found that 315 (62.7%) of them had previously experienced traumatic events, 355 (70.7%) had no chronic diseases, 268 (53.4%) had not received in-service training, 217 (43.2%) wanted to retire, and that 252 (50.2) were not working in the COVID-19 team (Table 1).

Table 1. Distribution of findings about personal information of midwives

Variable (N=502)	**n**	**%**		**n**	**%**
Age groups [$\bar{X} \pm$ S.S.→38,99±7,71 (year)]			**Love of the midwifery profession**		
18-40	246	49,0%	Yes	389	77,5%
41-61	256	51,0%	No	113	22,5%
Level of education			**Experiencing traumatic events previously**		
Health Vocational High School	56	11,2%	Yes	315	62, 7%
Associate degree	92	18,3%	No	187	37,3%
Undergraduate	288	57,4%	**Chronic diseases**		
Graduate	66	13,1%	Yes	147	29,3%
Marital status			No	355	70,7%
Single	120	23,9%	**Psychosocial in-service training**		
Married	382	76,1%	Yes	234	46,6%
Family type			No	268	53,4%
Nuclear family	461	91,8%	**Thoughts about professional future**		
Extended family	41	8,2%	Carrying on the same job	131	26,1%
Children			Retiring	217	43,2%
Yes	392	78,1%	Resigning	42	8,4%
No	110	21,9%	Starting another job	112	22,3%
Level of income			**Status of working in a COVID-19 team**		
Income < Expenses	243	48,4%	Yes	250	49,8%
Income = Expenses	195	38,8%	No	252	50,2%
Income > Expenses	64	12,8%			
Status of choosing the midwifery profession willingly					
Yes	346	68,9%			
No	156	31,1%			
Work experience [$\bar{X} \pm$ S.S.→17,84±8,41 (year)]					
0-15	191	38,0%			
16-37	311	62, 0%			

Table 2 presents the mean scores of midwives from the secondary traumatic stress and resilience scales. According to the table, the mean score of the overall secondary traumatic stress scale was 53.10±17.97, and the mean score of the overall resilience scale for adults was 135.52±32.06 (Table 2).

Table 2. Distribution of findings about the scales

Scales (N=502)		Mean	Standard deviation	Median	Min.	Max.
Secondary traumatic stress	Avoidance	26,32	8,17	22,0	7,0	35,0
	Arousal	15,10	5,14	16,0	5,0	25,0
	Intrusion	11,68	5,80	14,0	5,0	25,0
	Total	53,10	17,97	51,0	17,0	85,0
Resilience for Adults	Structural style	16,55	3,98	18,0	4,0	20,0
	Perception of future	15,80	4,44	16,0	4,0	20,0
	Family cohesion	24,86	5,96	27,0	6,0	30,0
	Perception of self	24,74	5,90	26,5	6,0	30,0
	Social competence	24,45	5,99	26,0	7,0	30,0
	Social resources	29,13	6,76	32,0	7,0	35,0
	Total	135,52	32,06	142,0	37,0	165,0

A statistically significant difference was found in terms of the secondary traumatic stress scale scores of midwives according to their age, education level, marital status, love of the midwifery profession, work experience, receiving psychosocial in-service training, and working in the COVID-19 team as presented in Tables 3 and 4 ($p < 0.05$). The secondary traumatic stress scale scores of the midwives who were in the 18-40 age group, were health vocational high school graduates, were single, did not like their profession, had 0-15 years of work experience, had not received psychosocial in-service training, and worked in the COVID-19 team were higher (Table 3).

A statistically significant difference was found in terms of secondary traumatic stress scale scores according to the opinions of midwives about the future of their career ($\chi 2 = 50.032$; $p = 0.000$). As a result of the Bonferroni adjusted pairwise comparisons made to determine the group that caused the significant difference, a statistically significant difference was found between those who wanted to carry on their job and those who wanted to resign and find a new job. Secondary traumatic stress scale scores of those who wanted to carry on their jobs were statistically significantly lower than those who wanted to leave/resign and start a new job. Likewise, a statistically significant difference was found between midwives who wanted to retire and those who wanted to resign and start a new job. Secondary traumatic stress scale scores of those who wanted to retire were statistically significantly lower than those who wanted to quit and start a new job (Table 3).

Table 3. Comparison of scale scores by the personal information of midwives

Variable (N=502)		Secondary Traumatic Stress			Resilience for Adults		
	n	$\bar{X} \pm S.S.$	Median [IQR]		$\bar{X} \pm S.S.$	Median [IQR]	
Age groups							
18-40	246	63,77±14,85	70,0 [16,0]	Z=-12,781	112,12±25,84	116,0 [31,0]	Z=-17,498
41-61	256	42,85±14,38	36,0 [11,0]	p=0,000*	158,00±18,51	165,0 [0,0]	p=0,000*
Level of education							
HVHS (1)	56	63,25±16,06	70,0 [15,8]	χ^2=22,692	112,32±26,39	112,0 [27,8]	χ^2=45,351
Associate degree (2)	92	53,60±17,68	55,5 [34,0]	p=0,000*	132,76±31,01	134,0 [58,5]	p=0,000*
Undergraduate (3)	288	52,24±17,82	48,0 [34,0]	[1-2,3,4]	139,09±32,02	164,5 [47,0]	[1-2,3,4]
Graduate (4)	66	47,58±17,49	36,0 [34,0]		143,43±29,44	165,0 [40,5]	
Marital status							
Single	120	58,27±18,24	70,0 [39,0]	Z=-3,698	120,34±30,74	119,5 [45,3]	Z=-6,407
Married	382	51,48±17,59	42,0 [34,0]	p=0,000*	140,28±31,00	165,0 [45,0]	p=0,000*
Family type							
Nuclear family	461	52,96±17,99	49,0 [34,0]	Z=-0,434	136,40±31,95	146,0 [52,5]	Z=-2,215
Extended family	41	54,71±17,86	64,0 [34,0]	p=0,665	125,61±32,06	130,0 [40,5]	p=0,027*
Level of income							
Income<expenses	243	53,98±17,45	52,0 [34,0]	χ^2=1,221	133,62±32,66	137,0 [57,0]	χ^2=3,837
Income = expenses	195	52,49±18,40	52,0 [34,0]	p=0,543	135,81±31,51	141,0 [51,0]	p=0,147
Income > expenses	64	51,61±18,65	38,5 [34,0]		141,84±31,04	165,0 [46,0]	
Choosing the midwifery profession willingly							
Yes	346	52,14±18,11	8,5 [34,0]	Z=-1,848	136,47±32,12	144,5 [50,0]	Z=-1,159
No	156	55,24±17,51	67,0 [34,0]	p=0,065	133,40±31,94	134,0 [59,8]	p=0,247
Love of the midwifery profession	389	51,49±17,90	42,0 [34,0]	Z=-3,263	137,89±31,92	150,0 [47,0]	Z=-3,417
Yes	113	58,63±17,15	70,0 [34,0]	p=0,001*	127,34±31,35	123,0 [65,0]	p=0,001*
No							
Work experience							
0-15 years	191	63,75±14,98	70,0 [16,0]	Z=-10,266	112,71±25,95	115,0 [31,0]	Z=-3,614
16-37 year	311	46,56±16,47	36,0 [34,0]	p=0,012*	149,52±27,04	165,0 [28,0]	p=0,000*
Status of experiencing traumatic events							
Yes	315	52,66±17,84	49,0 [34,0]	Z=-0,661	138,84±30,01	149,0 [48,0]	Z=-2,753
No	187	53,84±18,19	58,0 [34,0]	p=0, 508	129,93±34,62	133,0 [65,0]	p=0,006*
Chronic diseases							
Yes	147	52,37±17,51	38,0 [34,0]	Z=-1,086	141,41±29,31	165,0 [43,0]	Z=-2,628
No	355	53,40±18,17	53,0 [34,0]	p=0,278	133,08±32,86	137,0 [65,0]	p =0,009*
Status of receiving psycho-social in-service training	234	46,89±17,07	36,0 [34,0]	Z=-7,100	149,88±26,34	165,0 [27,3]	Z=-10,156
Yes	268	58,52±16,97	70,0 [34,0]	p=0,000*	122,98±31,38	123,0 [48,0]	p=0,000*****
No							
Thoughts about the future of the career	131	50,82±19,63	42,0 [34,0]	χ^2=50,032	135,05±31,22	140,0 [52,0]	χ^2=80,707
Carrying on the job (1)	217	48,62±16,05	36,0 [34,0]	p=0,000*	147,15±28,79	165,0 [35,0]	p=0,000*
Retiring (2)	42	60,31±17,43	70,0 [39,0]	[1-3,4]	122,07±33,01	111,5 [65,0]	[2-1,3,4]
Resigning(3)	112	61,74±15,87	70,0 [27,0]	[2-3,4]	118,56±29,32	119,0 [37,0]	
Starting a new job(4)							
Working in the COVID-19 team	250	55,60±17,37	70,0 [34,0]	Z=-2,035	133,57±32,16	137,0 [53,5]	Z=-1,395
Yes	252	50,62±18,23	46,0 [34,0]	p=0,042*	137,45±31,92	148,0 [51,0]	p=0,163
No							

*"Mann-Whitney U" test (Z-table value) was employed for comparing the measurement values of two independent groups in data without normal distribution; "Kruskal-Wallis H" test (χ2-table value) was used to compare three or more independent groups. P <0.05 was accepted as statistical significance. HVHS: Health Vocational High School

There was a statistically significant difference in terms of the resilience scale scores of midwives according to their age, education level, marital status, family type, love of the midwifery profession, work experience, the status of experiencing traumatic events, chronic diseases, and the status of receiving psychosocial in-service training as shown in Tables 3 ($p < 0.05$). The resilience scale scores of midwives who were in the 41-61 age group, had an associate, undergraduate, and graduate degree, were married, had a nuclear family, loved their profession, had 16-37 years of work experience, had a chronic disease, had experienced traumatic events previously, and received psychosocial in-service training were higher (Table 3).

A statistically significant difference was found in terms of the scorers obtained from the resilience scale for adults according to the opinions of midwives about the future of their career ($\chi2 = 80.707$; $p = 0.000$). As a result of the Bonferroni adjusted pairwise comparisons made to determine the group that caused the significant difference, a statistically significant difference was found between midwives who wanted to retire in the future and those who wanted to carry on the same job and resign and start a new job. The resilience scale scores of those who wanted to retire from this job were statistically significantly higher than those who wanted to carry on the same job, resign and start a new job (Table 3).

A negative, high, and statistically significant relationship was found between the secondary traumatic stress scale scores and the resilience scale scores ($r = -0.752$; $p = 0.000$). As the secondary traumatic stress scale scores increased, the psychological resilience scale scores decreased (Table 4).

Table 4. Correlation between the scales

Correlation* (N=502)	**Resilience for Adults Scale**	
	r	**p**
Secondary Traumatic Stress Scale	-0,752	**0,000**

*The "Spearman" correlation coefficient was used to examine the correlation between two quantitative data that did not have a normal distribution. P <0.05 was accepted as statistical significance.

DISCUSSION

In our study, the total secondary traumatic stress score of the midwives was found to be high and their total resilience scale score was low. Factors affecting the secondary traumatic stress scores of midwives were determined as age, education level, marital status, love of the profession, working years, the status of receiving psychosocial in-service training, thoughts

about the future of their career, and working in the COVID-19 team. On the other hand, it was determined that midwives' age, education level, marital status, family type, love of profession, working years, experiencing a traumatic event, presence of chronic illness, receiving psychosocial in-service training, and thoughts about the future of their career affected their psychological resilience levels.

The secondary traumatic stress score of the midwives included in our study was high. Similarly, in their study conducted in the US, Beck et al. (2015) reported that midwives experienced severe secondary traumatic stress due to traumatic births, such as fetal/neonatal death, shoulder dystocia, and neonatal resuscitation (31). Rice and Warland (2013) stated in their qualitative study that high-level empathic relationships exposed midwives to secondary traumatic stress (9). Leinweber (2010) reported that midwives' high-level empathic approach while giving care to women with traumatic birth put them at risk for experiencing secondary traumatic stress. This was thought to have detrimental consequences for midwives' mental health and capacity to provide care in their relationships with women and to threaten the nature of midwifery care (2). Patterson (2019) reported that midwives were particularly vulnerable to secondary traumatic stress, they put aside their own needs, and that they felt unprepared, unsupported, and overwhelmed when they experienced a traumatic event (12). Halperin et al. (2011) reported in their qualitative study that traumatic births could cause a long-term effect on midwives and that they needed support to cope with stress (11). The negative impact of witnessing a birth trauma cannot be underestimated. Secondary traumatic stress in midwives has significant economic consequences. Midwives are not only at risk for burnout and emotional exhaustion, but such experiences can also affect their intention to leave the profession (2, 32).

Different opinions have been reported in the literature about individual factors that predispose individuals to secondary traumatic stress. According to the results of our study, the secondary traumatic stress scale scores of midwives with young age, little professional experience, and low education level were found to be higher. Similarly, Oe et al. (2018) reported in their study on 170 midwives working in perinatal services that those with younger age, little professional experience, and low education level had high secondary traumatic stress scores (10). Townsend and Campbell (2009) also pointed out the vulnerability of young nurses with low education to secondary traumatic stress (14). However, in some other studies, it was reported that secondary traumatic stress scores increased as the working years increased. Deniz Pak et al. (2017) found that nurses working in the emergency department for more than 20 years had high secondary traumatic stress scale scores (15). Besides, Kılıç and İnci (2015) showed in

their study that traumatic stress scores increased as the working years increased (16). In our study, secondary traumatic stress scale scores of single midwives were higher than those of the married. Similarly, in the study of Kim and Choi (2012), it was found that nurses with high secondary traumatic stress scores were single and younger (33).

The psychological resilience of midwives is important in psycho-social protection and coping in terms of secondary traumatization. In our study, the total resilience scale scores of the midwives were determined low-level as 135.52±32.06. Similarly, Kaya (2019) found the total resilience scale scores of nurses as 130.6±16.02 (34). In our study, the psychological resilience scale scores of midwives who were aged over 40, had an undergraduate degree, were married, had a nuclear family, loved their profession, had more than 15 years of professional experience, experienced traumatic events previously, had chronic illnesses, had received psychosocial in-service training, and wanted to retire was high.

In their study with nurses investigating psychological resilience and the factors affecting it, Çam and Büyükbayram (2017) found age, professional experience, positive attitude towards the profession, satisfaction from the profession, sharing problems, and establishing work and life balance as occupational protective factors affecting psychological resilience (35). Another study found that married nurses were more successful in coping with negative experiences and had higher levels of psychological resilience than singles. It was emphasized that a strong family bond established in the marriage and a regular life were significant for nurses to have a high level of psychological resilience (36, 37). It was reported that nurses who were satisfied with their profession had higher psychological resilience. This satisfaction was reflected in nurses' relationships with colleagues, the time they spend with their family, and their productivity (34). In another study, it was found that there was a positive relationship between nurses' job satisfaction and psychological resilience (38). These studies can be said to support our findings.

In this study, when the mean scores of the midwives that they obtained from the secondary traumatic stress scale and psychological resilience scale were compared, a negative, high, and statistically significant relationship was found ($r = -0.752$; $p = 0.000$). According to this relationship, as the resilience scores increased, the secondary traumatic stress scores decreased. In our study, the resilience scale scores of midwives who had received psychosocial in-service training were higher and their secondary traumatic stress scale scores were lower than those who had not received this training. Similarly, Deniz-Pak et al. reported that emergency service workers who had received psychosocial in-service training had higher scores from the resilience scale (15,16). In their study investigating the effectiveness of a "program

based on reducing awareness and stress" to improve psychological resilience in midwives and nurses, Foureur et al. (2013) found decreased stress symptoms (39). In the study, it was found that after the "Stress Management and Resilience Training" program, the stress levels of nurses decreased, their psychological resilience increased and that their awareness skills improved (40). The support approach for increasing individual and group resistance can prevent healthcare providers from developing stress symptoms and encourage professional attitude (41).

This study has some limitations. First, the findings of the study cannot be generalized since no sampling method was used in the study and the entire sample could not be reached. Second, another limitation of the study is that it is based on self-reporting by the midwives participating in the study. Therefore, these results are limited to the responses given by the midwives included in the study.

In our study, it was found that midwives who were younger, had a low education level, were single, did not like their profession, had shorter professional experience, had not received psychosocial training, and worked in the COVID-19 team were at higher risk for experiencing secondary traumas. In the study, when the relationship between the secondary traumatic stress scale scores and the psychological resilience scale scores was evaluated, it was found that secondary traumatic stress decreased as psychological resilience increased. This finding is important in terms of showing that midwives can be protected against the negative effects of secondary trauma by increasing their psychological resilience. This is the first known study on secondary traumatic stress and resilience in midwives in our country.

We recommend that midwives should be paid special attention and that studies aiming to reduce their stress levels and increase their psychological resilience should be conducted. The efforts of managers and policymakers to reduce secondary traumatic stress in midwives can protect the workforce. Structured training programs, courses, seminars, conferences, focus group studies, and cognitive therapies can be recommended to raise awareness and support. Moreover, student midwives should be informed about the inevitable consequences of working under stressful conditions, and training programs for developing coping strategies may be recommended to protect the future workforce.

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Informed Consent: Participants stated online that they voluntarily participated in the study before filling out the questionnaire.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. At the outset, ethics committee approval of the Non-Interventional Clinical Research Ethics Committee Unit (date: 04.12.2020; issue: 106/24) was obtained.

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