



The effect of prenatal loss status on postpartum depression and perception of vulnerable baby: A comparative study

Prenatal kayıp yaşama durumunun postpartum depresyon ve kırılgan bebek algısına etkisi: Karşılaştırmalı bir çalışma

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ABSTRACT

Objective: This study was conducted to determine the effect of prenatal loss on postpartum depression and vulnerable baby perception in women.

Method: The data of the comparative-cross-sectional study were collected in April 2022. The sample of the study consisted of 200 women, 100 who experienced prenatal loss and 100 who did not. Data were collected with the Personal Information Form, Edinburgh Postpartum Depression Scale (EPDS), and Vulnerable Baby Scale (VBS). In addition to descriptive statistics, t-tests and chi-square analysis were used for independent groups to analyze data.

Results: The mean age of the women was 28.93±4.27, 65% of them were university graduates, 57.5% were unemployed, 42.5% had a moderate economic status and 85% had a nuclear family type. The mode of delivery of 56.5% of the women was a cesarean section, 80.5% of them became pregnant intentionally and 76.5% of them planned. It was determined that the total mean score of EPDS of the women who experienced prenatal loss was 13.75±6.96, and the mean total score of VBS was 29.71±6.50. It was determined that the EPDS and VBS total mean scores were 9.89±4.62 and 26.62±5.14, respectively, in the group that did not experience prenatal loss, and the total score mean was statistically significantly lower than the group that experienced prenatal loss (p<0.001).

Conclusion: It was determined that the perception of vulnerable baby and postpartum depression levels of women who experienced prenatal loss were higher than those who did not experience loss.

Keywords: Postpartum depression; prenatal loss; vulnerable baby

ÖZET

Amaç: Bu araştırma kadınlarda prenatal kayıp yaşama durumunun postpartum depresyon ve kırılgan bebek algısına etkisinin belirlenmesi amacıyla yapılmıştır.

Metot: Karşılaştırmalı-kesitsel nitelikte olan araştırmanın verileri Nisan 2022’de toplanmıştır. Araştırmanın örneklemini, prenatal kayıp yaşayan 100 ve yaşamayan 100 olmak üzere 200 kadın oluşturmuştur. Veriler ‘Kişisel Bilgi Formu’, ‘Edinburgh Postpartum Depresyon Ölçeği (EPDÖ)’ ve ‘Kırılgan Bebek Algısı Ölçeği (KBAÖ)’ ile toplanmıştır. Verilerin analizinde tanımlayıcı istatistiklerin yanı sıra bağımsız gruplarda t testi ve ki kare analizi kullanılmıştır.

Bulgular: Kadınların yaş ortalaması 28.93±4.27 olup prenatal kayıp yaşayan kadınların; %48’inin üniversite mezunu, %51’inin herhangi bir işte çalışmadığı, %45’inin ekonomik durumunun orta düzeyde olduğu, %59’unun il merkezinde yaşadığı ve %81’inin çekirdek aile yapısına sahip olduğu saptanmıştır. Prenatal kayıp yaşamayan kadınların ise %82’sinin üniversite mezunu, %64’ünün herhangi bir işte çalışmadığı, %40’ının ekonomik durumunun orta düzeyde olduğu, %77’sinin il merkezinde yaşadığı ve %89’unun çekirdek aile tipine sahip olduğu saptanmıştır. Prenatal kayıp yaşayan kadınların %53’ünün son doğum şekli sezaryen olup %75’i planlı, % 77’si isteyerek gebe kalmıştır; prenatal kayıp yaşamayan kadınların %60’ının son doğum şekli sezaryen olup %78’i planlı, % 84’ü isteyerek gebe kalmıştır. Prenatal kayıp yaşayan kadınların EPDÖ toplam puan ortalamasının 13.75±6.96, KBAÖ toplam puan ortalamasının 29.71±6.50 olduğu belirlenmiştir. EPDÖ ve KBAÖ toplam puan ortalamalarının prenatal kayıp yaşamayanlarda sırası ile 9.89±4.62 ve 26.62±5.14 olduğu ve toplam puan ortalamalarının prenatal kayıp yaşayan gruptan istatistiksel açıdan önemli düzeyde daha düşük olduğu saptanmıştır (p<0.001).

Sonuç: Prenatal kayıp yaşayan kadınların kırılgan bebek algısı ve doğum sonu depresyon düzeylerinin kayıp yaşamayanlara kıyasla daha yüksek olduğu belirlenmiştir.

Ahtar Kelimeler: Postpartum depresyon; prenatal kayıp; kırılgan bebek

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Intraduction

Pregnancy is the period that physiologically allows the fetus to reach the necessary maturity to live outside the uterus for forty weeks. A healthy pregnancy process for the baby and the mother is important in terms of adapting to the changes seen in this period (Taşkın, 2016). However, this harmony is influenced by various factors such as the education level of the woman, culture, social support, working in an income-generating job, family structure, planned pregnancy, spousal support and prenatal care she receives (Demirbaş & Kadioğlu, 2015). One of the factors influencing this adjustment is the experience of prenatal loss. Prenatal loss includes early and late fetal deaths (miscarriage, stillbirth) (Côté-Arsenault & Donato, 2011). Fetal death in the prenatal period may occur before the onset of labor, or during or within the first seven days after birth (Ayçiçek & Çoban, 2020). Regardless of the week of pregnancy and the number of losses, women lose their dreams and hopes for the lost baby by reacting to all prenatal losses the same way they do to the death of a baby (Sutan et al., 2010). Pregnancy after prenatal loss is considered stressful by women and women perceive pregnancy as a threat. This perception may persist throughout the pregnancy (Côté-Arsenault, 2006). The parent's response to pregnancy is attachment to the fetus in the prenatal period. Prenatal attachment is reduced in pregnant women with a history of loss in the past (Armstrong & Hutti, 1998).

It has been found that post-loss women have depressive symptoms. Compared to women who have not experienced a pregnancy loss, it has been observed that depressive symptoms are at a higher rate during pregnancy in those with a history of loss (Armstrong, 2002; Franche & Mikail, 1999). It is emphasized that this effect, which occurs due to prenatal loss, will continue for a long time and may affect the next pregnancy or postpartum processes (Due et al., 2017). Previous studies of the relationship between prenatal loss in subsequent pregnancy and maternal psychological state have focused primarily on maternal anxiety and depression (Hughes et al., 1999; Hunter et al., 2017; Turton et al., 2009). What is unclear in current studies of the impact of prenatal loss is whether symptoms associated with a previous loss persist after the birth of a later (healthy) child (Hunfeld et al., 1997). In a limited number of studies, it has been reported that depressive symptoms are more common in the third trimester, that these pregnant women exhibit high levels of anxiety and depressive symptoms, and that these symptoms are more common in women who become pregnant again within a maximum of 12 months after the loss (Due et al., 2017; Hunfeld et al., 1997; Armstrong et al., 2009).

Although the transition from the prenatal period to the postnatal period is desired and often planned, it is a developmental and cognitive transition period in which mixed emotional reactions occur. Mood disorders that occur during this period can lead to mental problems in the postpartum period (Seven, 2013). Postpartum depression (PPD) is a mood disorder with clinical manifestations. It is characterized by inability to sleep, drowsiness, mood swings, changes in appetite, fear of harm, sadness, excessive crying, feelings of doubt, guilt and helplessness, difficulty concentrating and remembering, loss of interest in hobbies and usual activities, and recurrent suicidal thoughts (Pearlstein et al., 2009). PPD is one of the most important psychiatric conditions, the symptoms of which appear in the first 2-4 weeks after birth and can continue until the 12th month, and it is seen in 10-15% of postpartum women (Arslantaş et al., 2009; Baykal & Karakoç, 2021). It has also been emphasized that the depression experienced by the woman during pregnancy may be one of the causes of postpartum depression (Karamustafalıoğlu & Tomruk, 2000; Aydın & Tamam, 2006). Negative processes experienced by women pave the way for postpartum depression (Aydın & Tamam, 2006). Considering that 50% to 80% of women who have experienced prenatal loss become pregnant again (Hughes et al., 1999; Şenoğlu et al., 2019) in the literature, it is seen that pregnant women with a history of prenatal loss are among the risk groups for depression.

Mothers have positive expectations from the moment they become pregnant. However, when faced with a risk that may occur during pregnancy, during birth or after birth, mothers' expectations and perceptions of their babies may begin to change negatively. Prenatal loss negatively affects parenting identity (Jones et al., 2017) and the person who loses their parental identity; they may experience problems such as fear of another pregnancy, avoiding attachment for fear of losing, and they may perceive the lost or hard-to-have baby as sensitive/ vulnerable. The mother's perception/evaluation of the baby as sensitive and vulnerable may lead to the development of "Vulnerable Baby Syndrome" (VBS) (Stern et al., 2006; Green & Solnit, 1964; Maclean, 2010). The VBS is identified as parental anxiety regarding losing their child in a short period, even though the child has recovered from a life-threatening health issue (Çelik, 2020). Many psychosocial factors such as PPD, babies who are difficult to have using assisted reproductive techniques, intensive care or hospitalization, family anxieties may predispose the baby to vulnerable baby syndrome. These factors have been reported to be an important factor in previous losses (Slomian et al., 2019). In this study, which was carried out within the framework of all these contexts, it was aimed to examine the effect of prenatal loss on postpartum depression and vulnerable baby perception.

Materials and Methods

Study Design and Setting

This study was conducted in a comparative-sectional type to determine the effects of prenatal loss on postpartum depression and vulnerable baby perception. The study was conducted April 2022 in 3 Family Health Centers (FHCs) randomly selected from among the Family Health Centers (FHCs) with a population of 20.000 or more in a province in eastern Turkey. The study population consisted of women whose babies between one week and one-year-old registered in the relevant FHCs. As a result of the power analysis, the sample size was determined as at least 99 women for each group (with/without a history of prenatal loss) with a 5% error level, bidirectional significance level, 80% ability to represent the universe, and 85% confidence interval. Women who had experienced prenatal loss in their previous pregnancy(s) (n=100) were compared with women who had not experienced prenatal loss (n=100). The study was completed with a total of 200 women.

Inclusion criteria for research:

- Voluntarily agreeing to participate in the research,
- Do not have any diagnosed psychiatric health problems,
- All women with babies between the ages of one week and one year old will be included in the study.

Exclusion criteria for research

- Unable to communicate
- Having a psychiatric problem,
- Mothers who were not together with their babies were not included in the study

Data Collection Tools

The data were obtained through the "Personal Information Form", "Vulnerable Baby Scale (VBS)" and the "Edinburgh Postpartum Depression Scale (EPDS)".

Personal Information Form

This form consists of 12 questions to evaluate the sociodemographic and obstetric characteristics of women (Çelik, 2020; Hunter et al., 2017).

Vulnerable Baby Scale (VBS)

The scale developed by Kerruish et al. in 2005, this scale consists of 10 questions and the answers are in the 5-point Likert type (Kerruish et al., 2005). The Turkish validity and reliability study of the scale was conducted by Yavas and Cigdem (2020) (Çelik, 2020). The scale is applied to mothers who have babies between one week and one-year-old, and the mother and baby must be together to apply the scale. The total score that can be obtained from the scale is 50. A score of 27 and above indicates that the perception of vulnerability is high. Items 2, 3, 4, 5, 6, 7, 8 and 9 of the scale were reverse coded. The Cronbach alpha reliability coefficient of the scale was determined as 0.84 (Çelik, 2020). In this study, the Cronbach's alpha value was found as 0.81.

Edinburgh Postpartum Depression Scale (EPDS)

EPDS, was developed by Cox et al in 1987, is used to evaluate postpartum depressive symptoms (Cox et al., 1987). In this scale, there are 10 questions asked to tick one of four different options about how the mother felt during the previous seven days. In the evaluation of the scale, all questions are scored between 0-3 and the highest score that can be obtained on the scale is 30. While the 1st, 2nd and 4th questions in the scale were scored as 0-1-2-3; The 3rd, 5th, 6th, 7th, 8th, 9th, and 10th questions are scored as 3-2-1-0. Its Turkish adaptation was made by Engindeniz et al. in 1996 and the cut-off point of the scale was determined as 12.5 (Hunter et al., 2017; Turton et al., 2009). Values 12 and below and 13 and above indicate women at risk for developing postpartum depression (Engindeniz et al., 1996). In this study, the Cronbach's alpha value was found as 0.89.

Data Collection

Women whose babies are between 1 week and 1 year old and registered with the relevant family health centers were called from the given contact numbers and given the necessary information. A signed informed consent form was obtained from the volunteer women. The average time to fill out the questionnaire is 20-25 minutes.

Statistical Analysis

Data were coded and analyzed in a computer environment using the program SPSS 20.0. In statistical evaluation; percentage distribution, arithmetic mean, standard deviation, Cronbach's alpha, chi-square and independent groups t test were used. The results were evaluated at the 95% reliability interval, at the $p < 0.05$ level of significance.

Ethics Committee Approval

Ethical approval was obtained from the relevant local ethics committee to conduct the study. The informed consent was obtained from the women before the study. The principles of the Declaration of Helsinki were complied with in the study. (Decision No: 2022/3297).

Limitations of the Study

As this study was carried out with women living in eastern Turkey, its results may not be generalized to the entire society. The small sample size of the study was another limitation.

Results

The mean age of the women was 28.93 ± 4.27 , and the women who experienced prenatal loss; It was determined that 48% of them were university graduates, 51% did not work in any job, 45% had a moderate economic status, 59% lived in the city center and 81% had an immediate family type. In women who did not experience prenatal loss; It was determined that 82% of them were university graduates, 64% of them did not work in any job, 40% of them had a moderate economic status, 77% of them lived in the city center and 89% of them had an immediate family type. Of the women who experienced prenatal loss, 50% had a child, 75% were planned, 77% were pregnant voluntarily, 53% had a cesarean section, 56% had a female last baby; It was determined that 81% of the women who did not experience prenatal loss had a child, 78% of them were planned, 84% of them got pregnant voluntarily, 60% of them had cesarean section, the last baby of 26% was male.

Table 1. Comparison of women experiencing prenatal loss and women not experiencing prenatal loss in terms of descriptive characteristics (n=200)

Introductory Features	Experiencing Prenatal Loss (n=100)		No Prenatal Loss (n=100)	
	n	%	n	%
Educational Status				
Primary school	14	14.0	0	0.0
Middle school	10	10.0	2	2.0
High school	28	28.0	16	16.0
University and above	48	48.0	82	82.0
Working Status				
Working	49	49.0	36	36.0
Not working	51	51.0	64	64.0
Economical situation				
Low	37	37.0	28	28.0
Middle	45	45.0	40	40.0
High	18	18.0	32	32.0
Where She/He Spent Most of Her Life				
Province	59	59.0	77	77.0
District	33	33.0	23	23.0
Village	8	8.0	0	0.0
Family type				
Immediate family	81	81.0	89	89.0
Extended family	19	19.0	11	11.0
Number of children				
1	50	50.0	81	81.0
2 and above	50	50.0	19	19.0
Is pregnancy planned?				
Yes	75	75.0	78	78.0
No	25	25.0	22	22.0
Is pregnancy wanted?				
Yes	77	77.0	84	84.0
No	23	23.0	16	16.0
Type of birth				
Normal delivery	47	47.0	40	40.0
Cesarean delivery	53	53.0	60	60.0
Baby's gender				
Female	56	56.0	38	38.0
Male	44	44.0	62	62.0

Average age of women (X±SD): 28.93 ± 4.27 (min: 19, max: 42)

SD= Standard Deviation

Table 2 shows the distribution of the lowest and highest scores obtained from the postpartum depression scale and the vulnerable baby perception scale of women who experienced prenatal loss and did not experience prenatal loss. It was determined that women who experienced prenatal loss got the lowest 0 and 30 points from the postpartum depression scale, and the lowest 13 and the highest 45 points from the vulnerable baby perception scale. It was determined that women who did not experience prenatal loss got the lowest 0 and 27 points from the postpartum depression scale, and the lowest 16 and the highest 39 points from the vulnerable baby perception scale.

Table 2. The distribution of the lowest and highest scores of women with and without prenatal loss from the Postpartum Depression Scale and perception of Vulnerable Baby Scale (n=200)

Scales	Lowest and Highest Scores Possible	Experiencing Prenatal Loss		No Prenatal Loss	
		(n=100)		(n=100)	
		Min-Max		Min-Max	
EPDS	0-30	0-30		0-27	
VBS	13-45	13-45		16-39	

EPDS: Edinburgh Postpartum Depression Scale

VBS: Vulnerable Baby Scale

In Table 3, the comparison of women with and without prenatal loss in terms of depression and vulnerability is given. It was determined that the rate of depression in women who experienced prenatal loss (52%) was higher than that in women who did not experience depression (26%), and the difference between the groups was statistically significant ($p<0.01$). Again, when compared in terms of frailty, it was found that frailty rate (68%) in women who experienced prenatal loss was higher than frailty rate (44%) in women who did not, and the difference between the groups was statistically significant ($p<0.01$).

Table 3. Comparison of postpartum depression and perception of vulnerable baby in terms of women with and without prenatal loss (n=200)

		Experiencing Prenatal Loss	No Prenatal Loss	Test and p value
		(n=100)	(n=100)	
		n (%)	n (%)	
EPDS	Depression (-)	48 (48.0)	74 (74.0)	$X^2=14.208$ $p=0.000^a$
	Depression (+)	52 (52.0)	26 (26.0)	
VBS	Low vulnerability (-)	32 (32.0)	56 (56.0)	$X^2=11.688$ $p=0.001^b$
	High vulnerability (+)	68 (68.0)	44 (44.0)	

EPDS: Edinburgh Postpartum Depression Scale, VBS: Vulnerable Baby Scale

^a $p<0.001$, ^b $p<0.05$, $X^2=$ Chi-square test

Table 4 shows the comparison of the mean scores of the postpartum depression scale and the vulnerable baby perception scale in those who experienced and did not experience prenatal loss. It was determined that the mean postpartum depression scale total score was 13.75 ± 6.96 , the vulnerable baby perception scale total score average was 29.71 ± 6.50 in the group experiencing prenatal loss, and these mean scores were 9.89 ± 4.62 and 26.62 ± 5.14 , respectively, in the group that did not experience prenatal loss. As a result of the statistical evaluation, it was determined that the total mean scores of the postpartum depression scale and the vulnerable baby perception scale in the group experiencing prenatal loss were statistically significantly higher than the group without prenatal loss ($p<0.001$).

Table 4. Comparison of Postpartum Depression Scale and Perception of Vulnerable Baby Scale scores in women with and without prenatal loss (n=200)

Scales	Experiencing Prenatal Loss (n=100)	No Prenatal Loss (n=100)	Test and p value	
	X±SD	X±SD	t	p
EPDS	13.75±6.96	9.89±4.62	4.61	0.000 ^a
VBS	29.71±6.50	26.62±5.14	3.72	0.000 ^a

EPDS: Edinburgh Postpartum Depression Scale, VBS: Vulnerable Baby Scale

t: Independent-Samples, T-Test, ^ap<0.001, SD= Standard Deviation

Discussion

In this section, the findings obtained from the comparison of postpartum depression and vulnerable baby perception in women with and without prenatal loss are discussed in line with the relevant literature.

In studies conducted in Turkey, the risk of postpartum depression ranges from 14% to 28.1% (Atasoy et al., 2004; Danacı et al., 2000; Sünter et al., 2006; İnandı et al., 2002; Nur et al., 2004; Ayvaz et al., 2006). In this study, the rate of depression in women who experienced prenatal loss was 52%, and 26% in women who did not experience loss. In addition, the postpartum depression level in the group that experienced loss was significantly higher than the group that did not experience loss (Table 3 and Table 4, p<0.001). Psychological stress during pregnancy is found to have a negative effect on the well-being of the fetus and pregnant woman, to cause birth complications, and to promote the development of depression in the postpartum period (Çapık et al., 2015; Richter et al., 2012; Nasiri et al., 2018; Bassi et al., 2017). The addition of hormonal changes in the puerperant in the grieving process increases the risk of depression (Yörük et al., 2016). In this study, it is seen that prenatal loss is an effective variable on the level of postpartum depression (Table 4, p<0.001). In a study conducted by İnandı et al., supporting our study, the rate of PPD in women with a history of 3 or more miscarriages in their previous pregnancies was found to be 2.4 times higher than in women without a history of miscarriage (İnandı et al., 2002). In the study of Janssen et al., when mental health complaints and loss history at the beginning of pregnancy were considered, it was revealed that women who experienced loss up to 6 months after pregnancy loss showed more depression, anxiety, and somatization than women who did not. Furthermore, it was emphasized in the same study that loss is a stressful life event that can lead to a significant deterioration in women's mental health (Janssen et al., 1996).

In this study, the frailty rate in women who experienced prenatal loss was 68%, and it was 44% in women who did not experience loss. In addition, the frailty level in the group that experienced loss was significantly higher than the group that did not experience loss (Table 3 and Table 4, p<0.001). In this period, it is thought that the mother's anxiety and stress about the baby's health because of a risk situation such as loss in the prenatal period cause them to perceive their babies as vulnerable. When we look at the literature, in a thesis study like our study, it was found that the perception of vulnerable baby was significantly higher in women who were at risk of miscarriage when comparing women who were at risk of miscarriage and women who were not at risk of miscarriage (Çelik, 2020). In the study by Metin et al. (2016), the perception of vulnerability was found to be high among mothers who have children aged 4-5 years (Metin et al., 2016). Green and Solnit (1964) evaluated 25 children and their parents in their study and found that problems such as the thought that the child may have an important illness, the history of losing a parent, and the mother's fear of death during childbirth accompany the frailty syndrome (Green & Solnit, 1964). Similarly, in the study conducted by Thomasgard and Metz (1997), it was determined that the perception of vulnerability was significantly higher in parents whose children had a previous health problem (Thomasgard & Metz, 1997).

Considering the studies, many conditions such as having a preterm or low birth weight baby, maternal anxiety, negative health history, medical problems during birth and previous loss are among the components of the formation of the perception of vulnerability (Green & Solnit, 1964, Tallandini et al., 2015). Based on this information, it is seen that experiencing prenatal loss is an important risk factor. This study supports our view that women who have experienced prenatal loss have a more vulnerable baby perception.

Conclusion and Recommendations

In conclusion, it was found that women who have suffered prenatal loss have higher levels of vulnerable babies and postpartum depression than women who have not suffered loss. In this respect, it is recommended to screen women with prenatal loss in terms of risk factors such as postpartum depression and vulnerable baby perception and to provide appropriate health care services. The perception of vulnerability has negative effects on the growth and development of the baby and on the parent. Evaluation and observation of this process is very important for both child health and family health. For this reason, the midwives who interact most with the child and family should follow this process. For this purpose, the definition, symptoms, causes and consequences of the perception of vulnerability should be well known. Therefore, in our study, it is necessary to define the perception of vulnerability, its causes, and consequences, which have significant negative effects on the family and the baby. It is necessary to screen women with prenatal loss for risk factors and provide appropriate health care services. To prevent frailty syndrome, mothers and other family members should be provided with the baby/child, to participate in care, to be educated about baby care, and to be regularly informed about the treatment and care of the baby/child. Reaching the family and communicating clearly and accurately by midwives can prevent the development of frailty syndrome. Health professionals, especially midwives, should be aware of the risks of mother/parent perception, as they have the closest relationship with the baby in the first years of life, which is considered the most sensitive period for the mother and baby in the postpartum period. By taking early initiatives, they can provide the help that the mother needs, reduce the mother's anxiety, the perception of vulnerability about her baby, and facilitate the mother's 'becoming a mother' by preventing the development of overprotective behavior. To prevent the perception of vulnerability, it is recommended that mothers should be directed to psycho-educational programs, developmental, psycho-dynamic, and cognitive behavioral intervention programs for problems in mother-infant attachment and motherhood attitudes. It is thought that preventing the perception of vulnerability is important for maternal and infant health, especially in these groups, which pose a great risk for vulnerability, such as a history of prenatal loss.

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