ARAŞTIRMA / RESEARCH

The Effect of Social Support on Maternal Stress and Anxiety in Risky Pregnancy

Riskli Gebeliklerde Sosyal Desteğin Maternal Stres ve Anksiyete Üzerine Etkisi

Birsen TOPUZ[1], Nuray EGELİOĞLU CETİŞLİ[2]

[1]*Ankara Eğitim ve Araştırma Hastanesi*
[2]*İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü Doğum ve Kadın Hastalıkları Hemşireliği AD.*

Geliş tarihi/Received: 04.07.2022
Kabul tarihi/Accepted: 22.08.2022

Sorumlu Yazar/Corresponding Author:

Nuray EGELİOĞLU CETİŞLİ, Doç. Dr.
İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Hemşirelik Bölümü, Doğum ve Kadın Hastalıkları Hemşireliği AD.
E-posta: nurayegelioglu@gmail.com
ORCID: 0000-0001-6194-3131

Birsen TOPUZ, Uzman Hemşire
ORCID: 0000-0002-4956-0928

Abstract

Objective: This study aimed to determine the correlation between social support on maternal stress and anxiety in risky pregnancies.

Material and Method: This descriptive study was conducted with 432 pregnant women who met the acceptance criteria in the perinatology clinic of a university hospital in Turkiye from October 2019 to January 2020. The data were collected by the Individual Identification Form, the Ministry of Health Risk Assessment Form, the Perinatal Anxiety Screening Scale (PASS), the Multidimensional Scale of Perceived Social Support (MSPSS) and the Perceived Stress Scale (PSS). The data were analyzed using descriptive statistics and correlation analysis.

Results: The mean MSPSS score of the pregnant women was 58.51±17.06; the mean PSS score was found to be 14.04±5.97 and the mean PASS score was found to be 36.10±18.04. It was determined that 41.2% of the pregnant women had moderate anxiety, 36.1% had severe anxiety and 22.7% had minimal anxiety. It was found a statistically significant weak negative correlation between the MSPSS mean scores of risky pregnants and PSS (r= -0.217; p=0.000) and PASS (r= -0.143; p= 0.003), and a statistically significant moderate positive correlation between the PSS mean scores and PASS mean scores (r= 0.570; p=0.000).

Conclusion: Health professionals need to question whether pregnant women with risky pregnancies have the social support they need and should activate the social support systems of the pregnant women.

Keywords: Anxiety, maternal stress, risky pregnancy, social support.

Öz

Amaç: Bu çalışmada, riskli gebeliklerde sosyal destek ile maternal stres ve anksiyete arasındaki ilişkinin belirlenmesi amaçlanmaktadır.

Gereç ve Yöntem: Türkiye'de bir üniversite hastanesinin perinatoloji kliniğine Ekim 2019-Ocak 2020 arasında başvuran ve dâhil edilme kriterlerini karşılayan 432 gebe ile yürütülen bu araştırma tanımlayıcı tiptedir. Veriler, Birey Tanıtım Formu, Sağlık Bakanlığı Risk Değerlendirme Formu, Çok Boyutlu Algılanan Sosyal Destek Ölçeği (ÇBASDÖ), Perinatal Anksiyete Tarama Ölçeği (PATÖ) ve Algılanan Stres Ölçeği (ASÖ) ile toplanmıştır. Veriler tanımlayıcı istatistikler ve korelasyon analizi kullanılarak analiz edilmiştir.

Bulgular: Gebelerin ÇBASDÖ puan ortalaması 58,51±17,06; ASÖ puan ortalaması 14,04±5,97 ve PATÖ puan ortalaması 36,10±18,04 olarak bulunmuş; %41,2'sinin orta, %36,1'inin şiddetli ve %22,7'sinin minimal düzeyde anksiyete yaşadıkları belirlenmiştir. Riskli gebelerin ÇBASDÖ puan ortalamaları ile ASÖ (r= -0.217; p=0.000) ve PATÖ (r= -0.143; p= 0.003) arasında istatistiksel olarak anlamlı zayıf negatif korelasyon, ASÖ puan ortalamaları ile PATÖ puan ortalamaları arasında (r= 0.570; p=0.000) ise istatistiksel olarak anlamlı orta düzeyde pozitif korelasyon olduğu bulunmuştur.

Sonuç: Sağlık profesyonellerinin riskli gebeliği olan gebelerin ihtiyaç duydukları sosyal desteğe sahip olup olmadıklarını sorgulamaları ve gebenin sosyal destek sistemlerini harekete geçirmeleri gerekmektedir.

Anahtar Kelimeler: Anksiyete, maternal stres, riskli gebelik, sosyal destek.

1. Introduction

Pregnancy is a developmental crisis period for women that they need physiological, psychological, and social adaption. For this reason, all pregnant women have an environment where both their own and their baby's needs can be met (1). Anatomical and physiological changes during pregnancy affect the women's body. These changes and some other factors may adversely affect the health of pregnant and fetus. Such pregnancies are called "risky pregnancies" (2). In risky pregnancies, the normal progress of the pregnancy process, its normal termination and the birth of a healthy baby are under threat. The physical problems experienced by the pregnant cause psychological problems and affect her adaptation to pregnancy (3,4).

In risky pregnancies, the need for social support increases as the pregnant and fetus are adversely affected and the development of stress, anxiety, and depression is more likely to happen (5). In the study conducted with 312 pregnant (n=156 risky pregnant, n=156 healthy pregnant), the perceived stress scale score was found to be higher in pregnant women with a risky pregnancy than in those with healthy pregnancy (6). In another study that is conducted with 232 pregnant (n=108 risky and n=124 healthy), it was found that 85.3% of pregnant women received support during pregnancy and 65.2% of risky pregnant and 71.6% of healthy pregnant received this support from their spouses (7).

Social support increases positive health behavior in risky pregnancies and maternal and fetal complications occur less in such cases (7-9). In a study conducted with pregnant with a history of gestational diabetes, it has been reported that the factors that increase the risk of type 2 diabetes after gestational diabetes were stress and lack of social support. As a result of the study, it was determined that pregnant women need social support and special programs for a healthy lifestyle (10). In another study that examined the relationship between maternal stress, anxiety and social support, it was concluded that adequate spousal and family support during and after pregnancy reduces stress and anxiety (11). In the study of Yanık and Özcanarslan (2019) in which they examined the correlation between perceived social support and levels of coping with stress in risky pregnant women, a positive correlation was found between social support and coping with stress.

In risky pregnancies, pregnant women think that the health of their baby and themselves will be adversely affected, and they experience more stress and anxiety compared to a healthy pregnancy. In such cases, pregnant women need more social support. This study aimed to determine the correlation between social support on maternal stress and anxiety in risky pregnancies. For this purpose, the research questions are;

1. How is multidimensional perceived social support in risky pregnancies?

2. Is there a correlation between multidimensional perceived social support, perceived stress and perinatal anxiety screening scale mean scores of risky pregnant women?

3. Is there a correlation between perceived stress and perinatal anxiety screening scale mean scores of risky pregnant women?

2. Material and Methods

2.1. Design and Sample

The study was conducted with risky pregnant women who applied to the perinatology outpatient clinic of a university hospital in Izmir, with a descriptive research type. The study population was risky pregnant women who applied to the perinatology outpatient clinic (n=16862); the sample set consisted of 432 pregnant women who applied to the outpatient clinic between October 2019 and January 2020 and who met the acceptance criteria, using the purposive sampling method, which is one of the nonprobability sampling methods. In the study, using the sample size calculation formula of the known universe, the number of individuals to be sampled was calculated as 376 people with a 95% confidence interval and a 5% margin of error, and 432 pregnant women were reached by taking 15% more. Pregnant women who could read and write in Turkish agreed participating in the study, and who answered yes to any of the questions in the Ministry of Health Risk Assessment Form were included in the study. The research data were collected by the researchers within 20 minutes on average through face-to-face interviews with women with risky pregnancies in the interview room in the outpatient.

2.2. Measures

Data were collected with the Individual Identification Form, the Ministry of Health Risk Assessment Form, the Perinatal Anxiety Screening Scale, the Multidimensional Scale of Perceived Social Support and the Perceived Stress Scale. The Individual Identification Form prepared by the researchers by screening the literature consists of 14 questions questioning the sociodemographic and obstetric characteristics of the women (1,5,7,9).

Ministry of Health Risk Assessment Form consists of 24 questions with three sections, including the obstetric history of the pregnant woman, current pregnancy information, and general medical history. Pregnant women who answered yes to any of the questions in the form were considered risky and included in the sample.

Multidimensional Scale of Perceived Social Support (MSPSS), which was developed in the United States of America, was adapted into Turkish in 1995. The scale is a seven-point Likert-type scale consisting of 12 items. It subjectively evaluates the adequacy of social support from three different sources (family, friends and special people). The minumum score to be obtained from the whole scale is 12, the maximum score is 84, and a higher score indicates higher perceived social support. The Cronbach's alpha value of the scale was found to be 0.89 by Eker et al. (12), and it was found as 0.87 in this study.

Perceived Stress Scale (PSS) was developed in 1983 and adapted into Turkish in 2007. The eight-item five-point Likert scale has two subscales, "Perceived Stress" and "Perceived Coping". A total score of 0-32 is obtained from the scale, and a higher total score means a higher perceived stress level. The Cronbach's alpha value of the scale was determined by Bilge et al. (13) as 0.81 and 0.72 in this study.

Perinatal Anxiety Screening Scale (PASS) has 31 statements and was developed in 2014 and the Turkish validity and reliability study was completed in 2018. The four sub-

dimensions of the scale are "Acute Anxiety and Adjustment Disorder, General Anxiety and Special Fear, Perfectionism, Control and Trauma, and Social Anxiety". In the evaluation of the scores obtained from the scale, 0-20 points indicate minimally, 21-41 points moderate and 42-93 points severe anxiety symptoms. The Cronbach's alpha value of the scale was found to be 0.95 by Yazici et al. (14), it was found as 0.92 in this study.

2.3. Statistical Analysis

The analysis of the data obtained from the research was carried out in the SPSS 25.0 statistical package program. The socio-demographic characteristics of the participants in the study were given as descriptive statistics (number, percentage). The relationship between the mean scores of the MSPSS, PSS and PASS was conducted in correlation analysis. The significance level was set as $p<0.05$ for all statistical analyzes.

2.4. Ethical Consideration

Data were collected after obtaining permission from the Non-Interventional Clinical Research

Ethics Committee (Date: 28/08/2019, IRB: 370). The written permission was obtained from the institution where the research was conducted, and verbal and written consent was obtained from the participants of the research.

3. Results

The mean age of the pregnant women included in the study was 29.22±6.04 years, the mean age of their spouses was 33.03±6.35 years, 46.1% of the pregnant were primary school graduates, 76.4% were unemployed, 54.6% had middle income level and 85.0% had a nuclear family structure. Forty-seven point nine percent of the pregnant were primary school graduates and the mean duration of marriage was 6.62±5.35 years (Table 1).

Table 1. Sociodemographic Characteristics of the Pregnants (n=432)

Variables	Mean±SD	Min-Max
Mean age (year)	29.22±6.04	17-44
Mean age of spouse (year)	33.03±6.35	17-54
	n	**%**
Educational status		
Illiterate/Literate	24	5.6
Primary	199	46.1
Secondary	128	29.6
High school	81	18.7
Employment status		
Employed	102	23.6
Unemployed	330	76.4
Income level		
Good	170	39.4
Middle	236	54.6
Bad	26	6.0
Family type		
Nucleus	367	85.0
Wide	65	15.0
TOTAL	**432**	**100**

One-third of the pregnants (33.3%) had two pregnancies, 53.9% were in their 3rd trimester, 54.6% had more than 24 months the duration between previous and current pregnancy, 60.6% had a planned pregnancy, 96.1% did not receive training from pregnancy class etc. (Table 2).

Table 2. Obstetric Characteristics of the Pregnants (n=432)

Variables	n	%
Number of pregnancy		
One	134	31.0
Two	144	33.3
Three	82	19.0
Four and over	72	16.7
Pregnancy week		
First trimester	44	10.2
Second trimester	155	35.9
Third trimester	233	53.9
The duration between previous pregnancy and current pregnancy		
First pregnancy	134	31.0
Less than 24 months	62	14.4
24 months and more	236	54.6
The planned state of pregnancy		
Planned	262	60.6
Unplanned	170	39.4
The status of receiving education from pregnant classrooms etc.		
Yes	17	3.9
No	415	96.1
TOTAL	**432**	**100**

When the obstetric history of the pregnant included in the study was examined according to the Ministry of Health Risk Assessment Form, it was determined that 16% had a history of premature birth, 15.3% had a history of the last baby born weighed <2500 grams, and 12.5% had a history of stillbirth or newborn loss. In the evaluation of the current pregnancies of the pregnant women with the same form, it was found that 47.5% had anemia, 21.3% had vaginal bleeding, and 21.1% had 35 years and older pregnancies. In addition, in their general medical histories, it was determined that 20.6% of the pregnant women had cigarette, alcohol or other substance addictions, 15.5% had thyroid disease and 14.4% had insulin-dependent diabetes mellitus (Table 3).

In the study, it was found that the total mean score of MSPSS of risky pregnant women was 58.51±17.06 and that they received social support from family, friends, and a special people the most, respectively. The mean score of the PSS for pregnants was 14.04±5.97 and the mean score of the PASS was found to be 36.10±18.04. It was found that 41.2% of the pregnants had moderate anxiety, 36.1% had severe anxiety and 22.7% had minimal anxiety (Table 4).

There was a statistically significant weak negative correlation between the mean scores of the MSPSS and the PSS ($r= -0.217$; $p=0.000$) and the PASS ($r= -0.143$; $p= 0.003$) of risky pregnant women. In addition, it was assessed that there was a statistically significant moderately positive correlation between the total scores of the PSS and the PASS ($r= 0.570$; $p=0.000$) of the pregnant (Table 5).

Table 3. Current Status of the Pregnants According to the Risk Assessment Form of the Ministry of Health (n=432)

Ministry of Health Risk Assessment Form	No	Yes
	n (%)	n (%)
Obstetric history		
Stillbirth or newborn loss in previous pregnancies	378 (87.5)	54 (12.5)
History of 3 or more consecutive spontaneous abortions	408 (94.4)	24 (5.6)
History of preterm birth (between 22-37 weeks)	363 (84.0)	69 (16.0)
History of giving birth to a baby with an abnormality	421 (97.5)	11 (2.5)
Birth weight of last baby < 2500 g	366 (84.7)	66 (15.3)
Birth weight of last baby > 4500 g	423 (97.9)	9 (2.1)
Last pregnancy: Hospitalization for high blood pressure or pre-eclampsia/eclampsia	408 (94.4)	24 (5.6)
Previous surgery on the reproductive organs (Myomectomy, septum surgery, conization, classical CS cervical cerclage)	341 (78.9)	94 (21.1)
Current pregnancy		
Diagnosed or suspected pregnancy	404 (93.5)	28 (6.5)
Younger than 18 years of age	425 (98.4)	7 (1.6)
Older than 35 years of age	341 (78.9)	91 (21.1)
Rh incompatibility in current or previous pregnancies	385 (89.1)	47 (10.9)
Vaginal bleeding	340 (78.7)	92 (21.3)
Pelvic mass	407 (94.2)	25 (5.8)
Diastolic blood pressure above 90 mmHg	393 (91.0)	39 (9.0)
History of anemia	227 (52.5)	205 (47.5)
General Medical History		
Insulin dependent diabetes mellitus	370 (85.6)	62 (14.4)
Renal disease	418 (96.8)	14 (3.2)
Cardiovascular disease	421 (97.5)	11 (2.5)
Thyroid disease	365 (84.5)	67 (15.5)
Thalassemia carrier	427 (98.8)	5 (1.2)
Smoking, alcohol and other substance abuse	343 (79.4)	89 (20.6)

Table 4. Multidimensional Scale of Perceived Social Support, Perceived Stress Scale and Perinatal Anxiety Screening Scale Mean Scores of the Pregnants

	Mean±SD	Min-Max
MSPSS		
Family	24.95±4.79	4-28
Friend	18.32±8.04	4-28
Special People	15.23±9.44	4-28
Total Score	58.51±17.06	12-84
PAS		
Perceived Stress	9.55±4.57	0-20
Perceived Coping	4.49±2.65	0-12
Total Score	14.04±5.97	0-32
PASS		
General Anxiety and Special Fear	14.39±7.50	0-33
Perfectionism, Control and Trauma	6.61±3.20	0-12
Social Anxiety	5.92±4.44	0-19
Acute Anxiety and Adjustment Disorder	9.17±6.53	0-27
Total Score	36.10±18.04	0-91
Anxiety levels	**n**	**%**
Minimal (0-20 points)	98	22.7
Moderate (21-41 poits)	178	41.2
Severe (42-93 points)	156	36.1

MSPSS: Multidimensional Scale of Perceived Social Support, PSS: Perceived Stress Scale, PASS: Perinatal Anxiety Screening Scale

Table 5. The Relationship between Pregnants' Multidimensional Perceived Social Support, Perceived Stress and Perinatal Anxiety Screening Scale Mean Scores

	PSS Total Score *Test and p-value[a]*	PASS Total Score *Test and p-value[a]*
MSPSS Total Score	r= -0.217 p= 0.000	r= -0.143 p= 0.003
PSS Total Score		r= -0.570 p= 0.000

MSPSS: Multidimensional Scale of Perceived Social Support, PSS: Perceived Stress Scale, PASS: Perinatal Anxiety Screening Scale, a: Correlation analysis

4. Discussion

This study aimed to examine the correlation between social support on maternal stress and anxiety in risky pregnancies. It was assessed that risky pregnant women had high social support scores and received social support mostly from family, friends, and a special people, respectively. Jonsdottir et al. (15) who examined Icelandic pregnants for the relationship between partner relationships and social support and risky situations, concluded that women received social support from special people, family and friends the most, respectively, and their social support scores were high. In the study of prenatal attachment and social support in risky pregnancies conducted by Aksoy et al. (2) in Turkiye, it was concluded that the social support scores of pregnant women were high. It was concluded that in risky pregnancies, pregnant women received social support from family, friends, and a special people the most, respectively (1). According to the findings obtained from this study, women with risky pregnancies in our country receive social support from their families the most, and this result is thought to be related to the cultural structure of our country.

The stress level perceived by the risky pregnants in the study is moderate. Byrn and Penckofer (16) in which the relationship between gestational diabetes and prenatal depression was examined, it was found that depression, anxiety, and stress scores of pregnant women with gestational diabetes were higher than those without gestational diabetes. In other studies, it was concluded that the perceived stress scores of pregnants with gestational hypertension were high (17,18). Spyridou et al. (19) determined that previous traumatic birth experiences were positively related to perceived maternal stress. Hui et al. (20) found in their study that pregnant with gestational diabetes using insulin experienced higher levels of perceived stress than pregnant with diet-regulated gestational diabetes. In the study of Baran et al. (6), in which they evaluated the perceived stress levels and causes of stress in pregnant, it was determined that pregnants with risky pregnancies experienced more stress than pregnants with healthy pregnancies. They reported that the causes of stress in pregnant women stemmed from their fear of complications during pregnancy and uncertainties about the pregnancy process. In the study by Özçetin and Erkan (21), in which psychological resilience, perceived stress and psychosocial health in risky pregnants were examined, it was concluded that the anxiety, and perceived stress levels of pregnants were high. Risky pregnancies cause mothers to experience fear, anxiety, and stress for both themselves and their babies. In this study, it was determined that pregnant women experienced stress related to their pregnancy, similar to the literature. Healthcare professionals should reveal the emotions experienced by the pregnant women with risky pregnancies.

It was concluded that 41.2% of the pregnants included in the study experienced moderate anxiety, 36.1% had severe anxiety and 22.7% had minimal anxiety. Kang et al. (22) in China, concluded that pregnant women with anemia and gestational hypertension experienced higher anxiety level. According to Pisoni et al. (23), in which prenatal attachment difficulties of pregnants at risk of preterm birth were examined, it was reported that 34.95% of them experienced low and moderate anxiety, and 23.3% had severe anxiety. Byaat et al. (24), in which depression and anxiety levels were examined in high-risk obstetric patients receiving inpatient treatment, it was found that 12.6% of the high-risk pregnant women receiving inpatient treatment had high levels of anxiety. The fear of risky pregnant women about both their babies and their own health results in high levels of anxiety. The finding obtained from the research is an expected finding. They should direct risky pregnant women who experience high levels of fear, stress and anxiety to seek professional support.

In the study, there is a negative relationship between perceived social support and perceived stress and perinatal anxiety in pregnants. There is a moderately positive significant correlation between the stress and perinatal anxiety perceived by pregnants. According to Tang et al. (25) in China, it was found that low social support in pregnant is an important factor that increases stress and anxiety. Littleton et al. (26) reported that having an inadequate social support network is a stressful situation for pregnant. It is thought that one of the most important factors in coping with the stress and anxiety experienced by pregnants with risky pregnancy is social support. The results from this study also support this idea.

5. Conclusion

In the study examining the correlation between social support on maternal stress and anxiety in risky pregnancies, it was found that the perceived social support scores of risky pregnant were high. It was determined that they receive social support mostly from family, friends, and a special people, respectively; the perceived stress levels of pregnants were moderate; the majority of them experienced moderate and severe anxiety. It was concluded that the perceived stress and perinatal anxiety level decreased with the increase in the perceived social support level, and the perinatal anxiety level increased with the increase in the perceived stress level.

Healthcare professionals should observe risky pregnant women with high anxiety and stress levels for symptoms, be active listeners, and establish an empathetic, understanding, and reassuring relationship with pregnant and social support providers. They should investigate the source of maternal anxiety and stress, collect data on the factors affecting it, and guide the pregnant in defining social support and in benefiting actively from social support. It is recommended that healthcare professionals should screen in detail, and evaluate the effect of perceived social support on maternal stress and anxiety in risky pregnancies routinely with valid and reliable measurement tools.

6. Contribution to the Field

It is thought that the study will guide healthcare professionals in terms of determining the importance of social support and its relationship with maternal stress and anxiety in risky pregnancies.

Ethical Aspect of the Research

The data were collected after obtaining the permission of the Non-Interventional Clinical Research Ethics Committee (Date: 28/08/2019, IRB: 370), from the institutions where the study will be conducted, and from the individuals participating in the study, with verbal and written consent.

Conflict of Interest

This article did not receive any financial fund. There is no conflict of interest regarding any person and/or institution.

Authorship Contribution

Concept: BT, NEC; **Design:** BT, NEC; **Supervision:** BT, NEC; **Funding:** None; **Materials:** None; **Data Collection/ Processing:** BT; **Analysis/Interpretation:** BT, NEC; **Literature Review:** BT, NEC; **Manuscript Writing:** BT, NEC; **Critical Review:** NEC.

References

1. Güleç D, Eminov A, Kavlak O. Investigation of anxiety and depression level and nursing care satisfaction in high risk pregnant women. CBU-SBED. 2020;7:70-75.

2. Aksoy YE, Yılmaz SD, Aslantekin F. Prenatal attachment and social support in risk pregnancies. Turkiye Klinikleri J Health Sci. 2016;1:163-169.

3. Öztürk N, Aydın N. Effects of maternal prenatal stress on fetus development. Turkiye Klinikleri Psychiatry-Special Topics. 2018;11:16-21.

4. Tanpradit K, Kaewkiattikun K. The effect of perceived stress during pregnancy on preterm birth. Int J Womens Health. 2020;12:287.

5. Yanık D, Özcanarslan F. The relationship between perceived social support and the level of coping with stress in the risky pregnant. J Midwifery and Health Sci. 2019;2:96-104.

6. Baran GK, Şahin S, Öztaş D, Demir P, Desticioğlu R. Assessment of perceived stress levels and stress factors in pregnant women. Cukurova Med J. 2020;45:170-180.

7. Gümüşdaş M, Apay SE, Özorhan E. Comparison of psycho-social health in pregnant women with and without risk. HSP. 2014;1:32-42.

8. Alio AP, Lewis CA, Scarborough K, Harris K, Fiscella K. A community perspective on the role of fathers during pregnancy: A qualitative study. BMC Pregnancy Childbirth. 2013;13:60.

9. Ölçer Z, Bakır N, Oskay Ü. Perceptions of social support and self-sufficiency in high-risk pregnancies. Journal of Anatolia Nursing and Health Sciences. 2016;19:25-33.

10. Razee H, van der Ploeg HP, Blignault I, et al. Beliefs, barriers, social support, and environmental influences related to diabetes risk behaviours among women with a history of gestational diabetes. Health Promot J Austr. 2010;21:130-137.

11. Racine N, Plamondon A, Hentges R, Tough S, Madigan S. Dynamic and bidirectional associations between maternal stress, anxiety, and social support: The critical role of partner and family support. J Affect Disord. 2019;252:19-24.

12. Eker D, Arkar H, Yaldız H. Factorial structure, validity, and reliability of Revised Form of the Multidimensional Scale of Perceived Social Support. Turkish Journal of Psychiatry. 2001;12:17-25.

13. Bilge A, Öğce F, Genç RE, Oran NT. Psychometric compatibility of the Turkish version of The Perceived Stress Scale. Journal of Ege University School of Nursing. 2009;25: 61-72.

14. Yazıcı E, Mutu Pek T, Uslu Yuvacı H, et al. Perinatal Anxiety Screening Scale validity and reliability study in Turkish (PASS-TR validity and reliability). Psychiatry and Clinical Psychopharmacology. 2019;29:609-617.

15. Jonsdottir SS, Thome M, Steingrimsdottir T, et al. Partner relationship, social support and perinatal distress among pregnant Icelandic women. Women Birth. 2017;30:e46-e55.

16. Byrn M, Penckofer S. The relationship between gestational diabetes and antenatal depression. JOGNN. 2015;44:246-255.

17. Caplan M, Keenan-Devlin LS, Freedman A, et al. Life time psychosocial stress exposure associated with hypertensive disorders of pregnancy. Am J Perinatol. 2021;38:1412-1419.

18. Malakouti J, Sehhati F, Mirghafourvand M, Nahangi R. Relationship between health promoting lifestyle and perceived stress in pregnant women with preeclampsia. J Caring Sci. 2015;4:155.

19. Spyridou A, Schauer M, Ruf-Leuschner M. Prenatal screening for psychosocial risks in a high risk-population in Peru using the KINDEX interview. BMC Pregnancy and Childbirth. 2016;16:13.

20. Hui AL, Sevenhuysen G, Harvey D, Salamon E. Stress and anxiety in women with gestational diabetes during dietary management. Diabetes Educ. 2014;40:668-677.

21. Özçetin YSÜ, Erkan M. Resilience, perceived stress and psychosocial health of high-risk pregnant women. Cukurova Med J. 2019;44:1017-1026.

22. Kang YT, Yao Y, Dou J, et al. Prevalence and risk factors of maternal anxiety in late pregnancy in China. Int J Environ Res Public Health. 2016;13:468.

23. Pisoni C, Garofoli F, Tzialla C, et al. Complexity of parental prenatal attachment during pregnancy at risk for preterm delivery. J Matern Fetal Neonatal Med. 2016;29:771-776.

24. Byatt N, Hicks-Courant K, Davidson A, et al. Depression and anxiety among high-risk obstetric inpatients. Gen Hos Psychiatry. 2014;36:644-649.

25. Tang X, Lu Z, Hu D, Zhong X. Influencing factors for prenatal Stress, anxiety and depression in early pregnancy among women in Chongqing, China. J Affect Disord. 2019;253:292-302.

26. Littleton HL, Breitkopf CR, Berenson AB. Correlates of anxiety symptoms during pregnancy and association with perinatal outcomes: a metaanalysis. Am J Obstet Gynecol. 2007;196:424-432.