

Prenatal Distress and the Contributing Factors in High-Risk Pregnant Women

Abstract

Background: This study aims to identify prenatal distress and the contributing factors in high-risk pregnant women.

Methods: This descriptive study was conducted among 241 high-risk pregnant women at Etlik Zübeyde Hanım Health Application and Research Center in Ankara, Turkey. Sampling was performed using the simple random sampling method. Data were collected using the sociodemographic form and the Tilburg Pregnancy Distress Scale. Data analysis was performed using the Mann-Whitney U test, Kruskal-Wallis H test, and posthoc test. The significance level was taken as $P < .05$.

Results: The average age of the pregnant women was 28.61 ± 5.8 years, and the Tilburg Pregnancy Distress Scale total mean score was found to be 29.05 ± 11.6 . A statistically significant difference was found between the Tilburg Pregnancy Distress Scale total mean scores and the variables such as pregnant women's educational level, their income level, the place where they spent their childhood, their wanting of the pregnancy, and the number of children they had ($P < .05$).

Conclusion: More than half of the high-risk pregnant women were found to experience distress. In addition, it was found that some sociodemographic and obstetric variables impacted the distress levels.

Keywords: Pregnancy, distress, high-risk pregnancy

Ebru Gözüyeşil¹ 
Ayten Ariöz Düzgün² 

¹ Çukurova University School of Health Sciences, Adana, Turkey

² Ankara Yıldırım Beyazıt University, School of Health Sciences, Ankara, Turkey

Introduction

Pregnancy, a physiological phenomenon, is a process that requires a biopsychosocial adaptation for the pregnant woman and her family. The differences experienced in this process could be listed as the changes in the physiological and psychosocial balance, roles in the family and work life, and parenting roles.¹ Pregnancy, which could be characterized as a developmental crisis, has a very important role in a woman's life. The process of adaptation to the psychological changes that develop in pregnancy could cause mild, medium, or severe levels of psychological problems in some women.²

A high-risk pregnancy is defined as a physiological and psychosocial condition that threatens the health of the mother, fetus, or newborn and increases the risk of disease and death.¹ Systemic diseases existing before pregnancy or diseases developing during the pregnancy constitute high-risk pregnancies. High-complication pregnancies with Rhesus incompatibility, premature rupture of membrane, pre-eclampsia, intrauterine growth retardation, and incompetence of the cervix could be listed as high-risk pregnancies.^{1,3}

Owing to the problems associated with the mother or the baby, women's stress level increases even more in high-risk pregnancies.² Having a term pregnancy and a healthy baby carry a high-risk condition. Excessive stress and anxiety experienced by the mother could cause negative pregnancy outcomes in these pregnancies. Excessive stress experienced in pregnancy also causes a repressed immune system, decreases the birth weight of the fetus, and increases the risk of preterm birth.¹ Maintaining the gestational process in a healthy way and preparing the baby for life outside the uterus in a healthy way is possible for the mother through the adaptation of both the mother and the fetus to this condition.⁴

Analyzing the literature on this issue, Kara et al.⁵ reported significant levels of distress experienced in high-risk pregnancies. Woods et al.⁶ reported that pregnant women with

Gözüyeşil E, Ariöz Düzgün A. Prenatal Distress and the Contributing Factors in High-Risk Pregnant Women. *J Educ Res Nurs*. 2021;18(2):123-129.

Corresponding Author: Ebru Gözüyeşil
E-mail: ebrugozuyesil@hotmail.com;
ebrugozuyesil@osmaniye.edu.tr

Received: October 14, 2019
Accepted: January 29, 2020



Copyright@Author(s) - Available online at
www.jer-nursing.org
Content of this journal is licensed under a
Creative Commons Attribution-NonCommercial
4.0 International License.

≥2 diseases experienced more psychosocial stress and more negative birth outcomes. In their study conducted among hospitalized high-risk pregnant women, Pamuk and Arslan⁷ detected that high-risk pregnant women at bed rest in the hospital experienced many physical and psychological problems. Another study⁸ reported that views about the fetus and emotional problems caused a decrease in the placental blood flow.

An assessment of the prenatal distress, the prevalence of which could increase in high-risk pregnancies, is of importance in terms of the productivity and efficiency of the health services provided to pregnant women. Identification of the antepartum symptoms that might cause prenatal stress during pregnancy, particularly through preventive care practices, could prevent pregnant women from experiencing these problems. Therefore, this study is intended to guide midwives and nurses who perform high-risk pregnancy follow-ups on the services they will provide. In this regard, this study aims to identify the prenatal distress levels and the contributing factors in high-risk pregnant women.

Material and Methods

Study Design

This study utilized a descriptive study design to identify prenatal distress levels and the contributing factors in high-risk pregnant women.

Setting and Time of the Study

The study was conducted with pregnant women who had inpatient treatment in Etlik Zübeyde Hanım Health Application and Research Center in Ankara University Faculty of Health Sciences, Turkey, between March 1 and September 1, 2018.

Target Population and the Sample

The target population of the study was the women who applied to Etlik Zübeyde Hanım Health Application and Research Center in Ankara University Faculty of Health Sciences for follow-up and treatment and were diagnosed with a high-risk pregnancy. Considering the monthly average number of pregnant women applying to the policlinic, the study was conducted with 241 women with a high-risk pregnancy who were selected using the simple random sampling method.

The women who agreed to participate in the study, who were aged between 18 and 40 years, who had pregnancy duration ≥12 weeks, and who were diagnosed with high-risk pregnancy were included in the study. Women who had communication difficulties and mental deficiency were not included in the study.

Data Collection Tools

Data were collected using the Sociodemographic Form and the Tilburg Pregnancy Distress Scale (TPDS).

The Sociodemographic Form: The Sociodemographic Form was prepared by the researchers in line with the related literature.^{2,5-7} The form includes 23 questions that assess the sociodemographic and obstetric features of pregnant women.

The Tilburg Pregnancy Distress Scale: The TPDS was developed in 2011 by Pop et al.⁹ to identify distress in pregnancy. The reliability and validity of the scale were tested in 2015 by Çapık and Pasinlioğlu.¹⁰ The scale is composed of 16 items in total. Each item in the scale is scored on a 4-point Likert scale, including “very often” (0 points),

“quite often” (1 point), “sometimes” (2 points), “rarely or never” (3 points). The scale has 2 subscales called Negative Affect and Partner Involvement.^{9,10} The Negative Affect subscale is composed of 11 items that include items 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, and 16. The scores to be obtained from this subscale range between 0 and 33. The Partner Involvement subscale is composed of 5 items, including items 1, 2, 4, 8, and 15. The scores to be obtained from this subscale range between 0 and 15. Items 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, and 16 are scored reversely. The scores to be obtained from the scale range between 0 and 48. The scale is administered to pregnant women who have a pregnancy duration of ≥12 weeks. The scale has a cut-off point, and a total score of ≥28 indicates pregnant women who are at risk in terms of distress (depression, anxiety, stress). Cronbach's alpha value of the scale was found to be 0.83 in the validity-reliability analyses.¹⁰ In this study, Cronbach's alpha value of the scale was found to be 0.90, and the Cronbach's alpha values for the Negative Affect and Partner Involvement subscales were found to be 0.93 and 0.91, respectively.

Data Collection

Data were collected by the researchers from pregnant women at bed rest in the high-risk pregnancy service of Etlik Zübeyde Hanım Health Application and Research Center in Ankara University Faculty of Health Sciences. Data were collected through interviews conducted face to face, which took approximately 10 minutes to complete.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 18 (IBM Corp.; Armonk, NY, USA). Normal distribution of the data was identified using the Kolmogorov-Smirnov ($P < .05$) test, which indicated that the data did not distribute normally. In addition to the statistical methods (means, standard deviation, frequencies), data analyses included the Mann-Whitney U test for the comparison of the quantitative data between the 2 groups, Kruskal-Wallis H test for the assessments of the quantitative data among >2 groups, and paired comparisons in the Kruskal-Wallis H test for the identification of the group that caused the differences. Statistical significance was accepted at $P < .05$.

Ethical Considerations

Ethical committee approval was obtained from Ankara Yıldırım Beyazıt University Ethics committee (2018/65), and institutional approval was obtained from Etlik Zübeyde Hanım Health Application and Research Center at Ankara University Faculty of Health Sciences. In addition, the individuals who participated in the study were informed about the purpose of the study, and their written consent was obtained by the informed consent form.

Results

The average age of the pregnant women was 28.61 ± 5.8 years. Of all the pregnant women, 47.7% graduated from primary/secondary school, all of them had social security, and the partners of all the pregnant women were employed (Table 1). In addition, 87.6% of them wanted their pregnancy, 46.9% saw a private doctor for their follow-ups, and 66.0% were hospitalized owing to the reasons related to uterus and placenta (Table 2). Other personal and pregnancy-related findings of the participating pregnant women are presented in Tables 1 and 2.

The TPDS total mean score of the pregnant women was found to be 29.05 ± 11.6 . Besides, the mean scores were 23.17 ± 9.8 for the Nega-

Table 1. Distribution of the Pregnant Women by Some Personal Features

Personal features	Mean±SD	Median (min-max)
Average age, years	28.61 ± 5.8	28 (17-39)
Duration of marriage (month)	88.03 ± 71.1	72 (1-264)
Age	n	(%)
≤19	10	(4.1)
20-29	129	(53.5)
30-39	102	(42.4)
Education level		
Primary/secondary school	115	(47.7)
High school	108	(44.8)
University	18	(7.5)
Working		
Yes	53	(22.0)
No	188	(78.0)
Income level perception		
Low	39	(16.2)
Medium	61	(25.3)
Good	113	(46.9)
Very good	28	(11.6)
Type of family		
Nuclear family	225	(93.4)
Extended family	16	(6.6)
The education level of the spouse		
Primary/secondary school	61	(25.3)
High school	124	(51.5)
University	56	(23.2)
The place where they spent their childhood		
City	154	(63.9)
Town	17	(7.1)
Village	70	(29.0)

max: maximum; min: minimum; SD: standard deviation.

tive Affect subscale and 5.88 ± 4.8 for the Partner Involvement subscale (Table 3). Of all the participating pregnant women, 63.5% experienced distress. A comparison of the pregnant women's TPDS mean scores according to some of their personal and pregnancy-related features showed that there were significant differences between the pregnant women's TPDS total mean scores in terms of education level ($P < .05$). The results of the advanced analyses showed that the difference was caused by the primary/secondary school group ($P < .05$) (Table 4).

Table 2. Distribution of the Pregnant Women According to Pregnancy Features

Pregnancy features	Mean±SD	Median (min-max)
Gestational week	29.80 ± 6.1	31 (13-42)
Number of pregnancies	2.29 ± 1.1	2 (1-6)
Number of children	1.12 ± 0.9	1 (0-4)
Wanting the pregnancy	n	(%)
Yes	211	(87.6)
No	30	(12.4)
The person who did the pregnancy follow-up		
A private doctor	113	(46.9)
A doctor in a public hospital	103	(42.7)
Doctor+midwife	25	(10.4)
Going for follow-up each time she is called		
Yes	241	(100.0)
Using medicine before and during pregnancy		
Yes	7	(2.9)
No	234	(97.1)
Type of medicine		
Diabetic medicine	1	(0.4)
Blood thinners	2	(0.8)
High blood pressure medication	1	(0.4)
Thyroid medication	3	(1.2)
Reason for hospitalization		
Fetus-related reasons	32	(13.3)
Reasons due to uterus and placenta	159	(66.0)
Systemic diseases	50	(20.7)
Duration of hospital stay		
0-9 days	229	(95.0)
10-19 days	8	(3.3)
≥20 days	3	(1.2)
Gestational week		
Second trimester	62	(25.7)
Third trimester	179	(74.3)
Number of pregnancies		
Primigravida	76	(31.5)
Multigravida	165	(68.5)
Number of children		
0	83	(34.4)
1-2	137	(56.8)
≥3	21	(8.7)

max: maximum; min: minimum; SD: standard deviation.

Scale and subscales	Mean±SD	Median (min-max)
Negative Affect	23.17 ± 9.8	28 (0-33)
Partner Involvement	5.88 ± 4.8	5 (0-15)
Total scale score	29.05 ± 11.6	32 (2-48)

Max: maximum; min: minimum; SD: standard deviation; TPDS: Tilburg Pregnancy Distress Scale.

Personality features	Negative Affect	Partner Involvement	TPDS total score
	Mean±SD	Mean±SD	Mean±SD
Age			
18-19 ^a	23.40 ± 9.6	4.30 ± 3.7	27.70 ± 12.1
20-29 ^b	23.64 ± 9.7	4.91 ± 4.5	28.55 ± 11.0
30-39 ^c	22.54 ± 9.9	7.26 ± 4.9	29.81 ± 12.5
Test statistics	$\chi^2=1.813$ $P=.404$	$\chi^2=13.756$ $P=.001^{**}$	$\chi^2=1.809$ $P=.405$
Posthoc		c>a,b	
Education level			
Primary/secondary school ^a	24.20 ± 9.4	7.10 ± 4.7	31.31 ± 11.1
High School ^b	22.10 ± 10.3	4.77 ± 4.6	26.87 ± 12.1
University ^c	22.94 ± 8.4	4.72 ± 4.3	27.66 ± 9.2
Test statistics	$\chi^2=1.987$ $P=.370$	$\chi^2=15.206$ $P<.001$	$\chi^2=9.056$ $P=.011^*$
Posthoc		a>b,c	a>b,c
Income level			
Low ^a	24.97±9.5	8.74 ± 5.0	33.71 ± 10.6
Medium ^b	22.80±9.5	6.21 ± 4.4	29.01 ± 11.1
Good ^c	22.61±10.2	5.00 ± 4.4	27.61 ± 11.8
Very good ^d	23.71±9.5	4.71 ± 5.4	28.42 ± 12.0
Test statistics	$\chi^2=2.008$ $P=0.571$	$\chi^2=18.975$ $P<.001$	$\chi^2=8.132$ $P=.043^*$
Posthoc		a>b,c,d	a>b,c,d
Partner's education level			
Primary/secondary school ^a	23.47 ± 9.6	8.68 ± 4.5	32.16 ± 12.0
High school ^b	22.71 ± 10.2	4.78 ± 4.5	27.50 ± 11.6
University ^c	23.83 ± 9.1	5.26 ± 4.5	29.10 ± 10.6
Test statistics	$\chi^2=0.359$ $P=.836$	$\chi^2=27.324$ $P<.001$	$\chi^2=8.665$ $P=.013^*$
Posthoc		a>b,c	a>b,c
The place where they spend their childhood			
City ^a	22.57 ± 10.0	4.83 ± 4.5	27.41 ± 11.7
Town ^b	22.88 ± 10.1	6.11 ± 4.2	29.00 ± 12.6
Village ^c	24.54 ± 9.2	8.12 ± 4.7	32.67 ± 10.4
Test statistics	$\chi^2=0.958$ $P=.619$	$\chi^2=22.057$ $P<.001$	$\chi^2=10.404$ $P=.006^{**}$
Posthoc		c>a,b	c>a,b

Z: Mann-Whitney U test; χ^2 : Kruskal-Wallis H test; * $P<.05$; SD: standard deviation; TPDS: Tilburg Pregnancy Distress Scale.

Pregnancy features	Negative Affect	Partner Involvement	TPDS total score
	Mean±SD	Mean±SD	Mean±SD
Wanting the pregnancy			
Yes	22.84 ± 10.0	5.00 ± 4.2	27.84 ± 11.5
No	25.46 ± 7.5	12.10 ± 3.7	37.56 ± 8.4
Test statistics	Z= -0.014 $P=.989$	Z= -6.834 $P<.001$	Z= -4.803 $P<.001$
Duration of hospital stay			
0-9 days	23.17 ± 9.7	5.78 ± 4.8	28.96 ± 11.5
10-19 days	26.75 ± 8.8	9.25 ± 2.7	36.00 ± 9.7
≥20 days	20.66 ± 15.3	3.66 ± 1.5	24.33 ± 15.0
Test statistics	$\chi^2=1.722$ $P=.423$	$\chi^2=5.069$ $P=.079$	$\chi^2=4.074$ $P=.130$
Pregnancy trimesters			
Second trimester	24.37 ± 8.5	5.29 ± 4.8	29.66 ± 10.8
Third trimester	22.75 ± 10.2	6.08 ± 4.8	28.84 ± 11.9
Test statistics	Z= -0.624 $P=.532$	Z= -1.126 $P=.260$	Z= -0.317 $P=0.751$
Number of pregnancies			
Primipara	25.00 ± 8.6	4.09 ± 4.2	29.09 ± 9.8
Multipara	22.32 ± 10.2	6.70 ± 4.8	29.03 ± 12.3
Test statistics	Z= -1.594 $P=.111$	Z= -3.953 $P<.001$	Z= -0.505 $P=.667$
Number of children			
0 ^a	25.59 ± 8.5	4.22 ± 4.3	29.81 ± 9.7
1-2 ^b	21.30 ± 10.5	5.94 ± 4.5	27.25 ± 12.4
≥3 ^c	25.75 ± 7.0	12.00 ± 3.2	37.76 ± 8.3
Test statistics	$\chi^2=8.375$ $P=.015^*$	$\chi^2=39.041$ $P<.001$	$\chi^2=16.507$ $P<.001$
Posthoc	a,c>b	c>a,b	c>a,b

Z: Mann-Whitney U test; χ^2 : Kruskal-Wallis H test; * $P<.05$; SD: standard deviation; TPDS: Tilburg Pregnancy Distress Scale.

Significant differences were found between the TPDS total mean scores in terms of the education level of the partners ($P<.05$). The results of the advanced analysis indicated that the difference was caused by the primary/secondary school group ($P<.05$) (Table 4). Significant differences were found between the TPDS total mean scores in terms of the pregnant women's income level ($P<.05$). The results of the advanced analysis showed that the difference was caused by the group with low income ($P<.05$) (Table 4).

Significant differences were found between the TPDS total mean scores in terms of the places where the pregnant women spent their childhood ($P < .05$). The results of the advanced analysis indicated that the difference was caused by the group that spent their childhood in a village ($P < .05$) (Table 4). Significant differences were found between the TPDS total mean scores with respect to wanting the pregnancy. The TPDS total mean scores of the group who did not want the pregnancy were found to be higher ($P < .05$) (Table 5).

Significant differences were detected between the TPDS total mean scores in terms of the number of children ($P < .05$). The advanced analysis results showed that the difference was caused by the group who had ≥ 3 children ($P < .05$) (Table 5).

No significant differences were detected between the TPDS total mean scores in terms of the pregnant women's age, duration of hospital stay, pregnancy trimester, and the number of pregnancies ($P > .05$) (Tables 4 and 5).

Discussion

This study found that the high-risk pregnant women were at risk in terms of distress and that more than half of them experienced distress. In their study that investigated the distress levels of high-risk pregnant women, Kara et al.⁵ found that the TPDS mean score of the pregnant women was 34.92 ± 5.14 and that 91.2% of them experienced distress. The study conducted in 2019 by Bahadır Yılmaz¹¹ reported that the prenatal distress levels of high-risk pregnant women were higher than those of women with normal pregnancy. A study conducted by Woods et al.⁶ showed that the birth outcomes were more negative in high-risk pregnant women and that they experienced more psychological stress. Studies conducted in our country and that investigated distress in pregnancy also reported a prevalence of distress between 11.9% and 34.1%.¹²⁻¹⁵ Besides being a physiological process, pregnancy is a stressful and complicated process. This is more significant in high-risk pregnant women. Studies that assessed the psychosocial health condition in pregnancy reported that high-risk pregnant women experienced more distress and anxiety and consequently potential depression compared with pregnant women with no risk; hence, the probability of developing depression was higher, and their psychosocial health was affected more negatively.^{11,16,17} The literature also reports similar findings, indicating that high-risk pregnancy increases the distress experienced by pregnant women. In addition, because the pregnant women studied in this study were having inpatient treatment, their higher distress level is somewhat expected. The distress level could increase owing to the high-risk pregnancy diagnosis and the accompanying inpatient treatment. The difference between pregnant women's education level and the TPDS total mean score was found to be caused by the primary/secondary school group. The low education level of pregnant women is considered to be a factor that increases their distress. Therefore, it is somewhat expected that pregnant women with high education level have better distress management. Similarly, the study conducted by Çapık et al.¹⁴ reported that educational level was an important factor in distress management. Özşahin et al.¹⁸ stated that pregnant women with high education level managed their anxiety and distress better. Other studies also reported that education level affected the stress level in pregnancy.^{15,19,20} This result indicates that a high educational level could have positive impacts on the distress level owing to the factors such as the increase in skills about coping with distress and the changes in the women's position in social life.

The difference between the educational level of the pregnant women's partners and the TPDS total mean score was found to be caused by the primary/secondary school group. This finding indicates that the partner's education level is also a stress factor for pregnant women. Çapık et al.¹⁴ reported that although the educational level of pregnant women's partners indicated no significant differences in terms of the distress score, the distress score was lower in pregnant women whose partner graduated from university. Family, friends, and particularly partners were the most important social support sources for pregnant women.²¹⁻²³ A high educational level could increase partners' awareness and provide pregnant women with more support. A high education level could also be considered an advantage in terms of finding a job, working in jobs with higher status, and having social security. Hence, this condition is also considered to contribute to better socioeconomic levels. Bernard et al.²⁴ reported that the psychosocial well-being of pregnant women with decreased partner support was affected negatively. Therefore, pregnant women whose partner has a low educational level could have a higher possibility of experiencing distress. The pregnant women's distress level was found to decrease with an increase in their income level. Major factors such as education level and income level are known to have direct impacts on women's health status.²⁵ Carolan-Olah and Barry²⁶ reported higher levels of antenatal stress, anxiety, and depression symptoms in pregnant women who had a low economic level. Similarly, Leigh and Milgrom²⁷ reported that depression increased even more in pregnant women with a low-income level than in pregnant women who had a good income level. Erdem et al.²⁸ also found that economic level was associated with anxiety level. Other studies also reported that economic anxiety increased the stress experienced in pregnancy.^{11,19,26,29} This result indicates that a low economic level increases the distress level experienced by pregnant women.

Pregnant women's distress level was found to be inversely associated with the urbanization level of the place where they spent their childhood and with the level of facilities in places where they lived. Living in a village was considered a risk factor to accessing educational services and having a low education level, which could contribute to the distress experienced. Özşahin et al.¹⁸ found that the psychosocial health level was higher in pregnant women living in a city center. The literature also reports that the health of women living in the countryside is worse than that of the ones living in urban regions.^{25,30} On the other hand, owing to benefiting from health services, residential places are known to be an important factor that impacts health levels.³¹ This finding could be considered a consequence of the duration spent in the countryside.

Significant differences were found between pregnant women's wanting of the pregnancy and the TPDS total mean scores. Not wanting the pregnancy is an important factor for the pregnant woman to experience distress. Studies also showed that distress and ineffective coping levels were higher in unwanted pregnancies.³²⁻³⁴ Unwanted pregnancies are known to cause pregnant women to perceive events more negatively and to increase distress levels.³⁵⁻³⁷ In this study, significantly higher TPDS mean scores of pregnant women with unplanned pregnancies than the mean scores of those who had a planned and wanted pregnancy were somewhat expected. Pregnant women's distress was found to increase with an increase in the number of living children. Dündar et al.³⁶ found that the TPDS mean scores increased with an increase in the number of children. Other studies also showed that the increase in the number of children also

increased the level of distress experienced.³⁸⁻⁴⁰ On the other hand, in the literature are studies indicating that number of children does not impact distress and anxiety levels.^{14,41}

Variables such as age, duration of hospital stay, pregnancy trimester, and number of pregnancies did not cause a significant difference in the distress levels. This result could be caused by the pregnant women's similar age group and the average duration of hospital stay. In a similar vein, the literature also reports that the number of pregnancies does not impact psychological problems.^{14,41} However, some studies also reported that the number of pregnancies had impacts on distress level.^{36,42}

This study found that the distress mean scores of the high-risk pregnant women were high and that more than half of the pregnant women experienced distress. In addition, pregnant women's distress level was found to be impacted by variables such as educational level, income level, the place where the women spent their childhood, wanting the pregnancy, and the number of children had by the women. Pregnancy is a stressful and complicated process even when no health problems are experienced. This is even more significant in high-risk pregnancies. Having inpatient treatment increases the distress experienced, particularly by high-risk pregnant women. Therefore, midwives and nurses have important roles in identifying pregnant women under risk and performing appropriate interventions. Besides, midwives and nurses should have a pioneering role in helping pregnant women to experience this duration in a more healthy and stress-free way and in developing effective coping strategies as well as preparing and using education programs.

Ethics Committee Approval: Ethics committee approval was received for this study from the Ankara Yıldırım Beyazıt University Ethics Committee (2018/65) and institutional permission was obtained from Ankara Health Sciences University Etlik Zübeyde Hanım Health Practice and Research Center.

Informed Consent: The purpose of the study was explained to the individuals participating in the study and their written consent was obtained with an Informed Consent Form.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – E.G., A.A.D.; Design – E.G., A.A.D.; Data Collection and/or Processing – A.A.D., E.G.; Analysis and/or Interpretation – E.G.; Writing – E.G., A.A.D.; Critical Reviews – E.G., A.A.D.

Conflict of Interest: The authors have no conflict of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

References

- Ölçer Z, Oskay U. Yüksek riskli gebelerin yaşadığı stresörler ve stresle baş etme yöntemleri. *Hemşirelikte Eğitim ve Araştırma Dergisi*. 2015;12(2):85-92.
- Yılmaz SD, Beji NK. Gebelerin stresle başa çıkma, depresyon ve prenatal bağlanma düzeyleri ve bunları etkileyen faktörler. *Genel Tıp Derg*. 2010;20(3):99-108.
- Yeşiltepe Oskay Ü. Yüksek riskli gebelerde hemşirelik bakımı. *Perinatal J*. 2004;12(1):11-16.
- Coşkun A. Yüksek riskli gebelikler fetus/yenidoğana etkisi ve hemşirelik yaklaşımı, Dağoğlu T, Görak G. editors, Temel Neonatoloji ve Hemşirelik İlkeleri. İstanbul: Nobel Publishing; 2008.p.60-61.
- Kara P, Nazik E, Cenkcı Z. Yüksek Riskli Gebelerde Distres Düzeyinin Belirlenmesi. Sözel Bildiri, 2. Uluslararası Gebelik Doğum ve Lohusalık Kongresi, 01-03 Aralık 2017, Ankara.
- Woods SM, Melville JL, Guo Y, Fan MY, Gavin A. Psychosocial stress during pregnancy. *Am J Obstet Gynecol*. 2010;202(1):61.E1-7. [Crossref]
- Pamuk S, Aslan H. Hastanede yatan riskli gebelerde hastane stresörlerinin ve bakım gereksinimlerinin belirlenmesi. *Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi*. 2009;2(2):23-32.
- Helbig A, Kaaseni A, Malt UF, Haugen G. Does antenatal maternal psychological distress affect placental circulation in the third trimester? *Plos One*. 2013;8(2):e57071. [Crossref]
- Pop VJM, Pommer AM, Pop-Purceleanu M, Wijnen HAA, Bergink V, PouweR F. Development of the Tilburg Pregnancy Distress Scale: the TPDS. *BMC Pregnancy Childbirth*. 2011;11:80. [Crossref]
- Çapık A, Pasinlioğlu T. Validity and reliability study of the Tilburg Pregnancy Distress Scale into Turkish. *J Psychiatr Ment Health Nurs*. 2015;22(4):260-269. [Crossref]
- Bahadır Yılmaz E. Socio-demographic and pregnancy-related characteristics associated with prenatal distress: A Turkish study. *Cent Eur J Nurs Midw*. 2019;10(3):1069-1075. [Crossref]
- Çakır L, Can H. Gebelikte sosyodemografik değişkenlerin anksiyete ve depresyon düzeyleriyle ilişkisi. *The Journal of Turkish Family Physician*. 2012;3(2):35-42.
- Şahin P. Gebelikte depresyon ve anksiyete belirti düzeyi ve ilişkili faktörler. Yüksek Lisans Tezi, Sağlık Bilimleri Enstitüsü, Mersin Üniversitesi; 2015
- Çapık A, Ejder Apay S, Sakar T. Gebelerde distres düzeyinin belirlenmesi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*. 2015;18(3):196-203. [Crossref]
- Yüksel F, Akin, Durna Z. Prenatal distress in Turkish pregnant women and factors associated with maternal prenatal distress. *J Clin Nurs*. 2013;23(1-2):54-64. [Crossref]
- Gümüşdaş M, Ejder Apay S, Özorhan EY. Riskli olan ve olmayan gebelerin psiko-sosyal sağlıklarının karşılaştırılması. *HSP*. 2014;1(2):32-42. [Crossref]
- Yıldız H, Gebelikte Psiko-sosyal Sağlığı Değerlendirme Ölçeği Geliştirme Çalışması. *Maltepe Üniversitesi Hemşirelik Bilim ve Sanatı Dergisi*. 2011;4(1):64-74.
- Özşahin Z, Erdemoğlu E, Karakayalı Ç. Gebelikte Psikososyal sağlık düzeyi ve ilişkili faktörler *The Journal of Turkish Family Physician*. 2018;9(2):34-46. [Crossref]
- Marta Makara S, Justyna MT, Katarzyna S, Marian S, Małgorzata G. Socio-demographical and psychosocial determinants of anxiety symptoms in a population of pregnant women in the regions of central and eastern Poland. *Ann Agric Environ Med*. 2013;20(1):195-202.
- Üzar Özçetin YS, Erkan M. Yüksek riskli gebelerde psikolojik sağlık, alınan stres ve psikososyal sağlık. *Cukurova Med J*. 2019;44(3):1017-1026. [Crossref]
- Stapleton LR, Schetter CD, Westling E, et al. Perceived partner support in pregnancy predicts lower maternal and infant distress. *J Fam Psychol*. 2012;26(3):453-463. [Crossref]
- Schetter CD, Niles AN, Guardino CM, Khaled M, Kramer MS. Demographic, Medical, and Psychosocial Predictors of Pregnancy Anxiety. *Paediatr Perinat Epidemiol*. 2016;30(5):421-429. [Crossref]
- Tang X, Lu Z, Hu D, Zhong X. Influencing factors for prenatal Stress, anxiety and depression in earlypregnancy among women in Chongqing. *J Affect Disord*. 2019;253:292-302. [Crossref]
- Bernard O, Gibson RC, McCaw-Binns A, et al. Antenatal depressive symptoms in Jamaica associated with limited perceived partner and other social support: A cross-sectional study. *Plos One*. 2018;13(3):1-19. [Crossref]
- Şavran G, Sağlıkta toplumsal cinsiyet eşitsizlikleri: Eskişehir'de kırsal ve kentsel alanlarda kadın sağlığı. *Fe Dergi*. 2014;6(1):98-116. [Crossref]
- Carolan-Olah M, Barry M. Antenatal stress: an irish case study. *Midwifery*. 2014;30(3):310-306. [Crossref]
- Leigh B, Milgrom J. Risk factors for antenatal depression, postnatal depression and parenting stress. *BMC Psychiatry*. 2008; 8:24. doi: 10.1186/1471-244X-8-24. [Crossref]
- Erdem Ö, Erten Bucaktepe G, Özen Ş, Hamdi Karaş Ş. Prepartum ve postpartum dönemde annelerin depresyon ve kaygı düzeylerinin incelenmesi. *Düzce Tıp Dergisi*. 2010;12(3):24-31.
- Prady SL, Pickett KE, Croudace T, et al. Psychological distress during pregnancy in a multi-ethnic community: findings from the born in bradford cohort study. *Plos One*. 2013;8(4):e60693. [Crossref]
- Akın A. Toplumsal Cinsiyet Ayrımcılığı ve Sağlık. *Toplum Hekimliği Bülteni*. 2007;26(2):1-9.

31. Aslan D, Özcebe H, Bilir N, Vaizoğlu S. What are the predictors of health services utilization by women in a city center located in the eastern part of Turkey?: A cross sectional study. *Turk J Med Sci.* 2006;36:37-42.
32. McCrory C, McNally S. The effect of pregnancy intention on maternal prenatal behaviours and parent and child health: results of an Irish cohort study. *Paediatr Perinat Epidemiol.* 2013;27(2):208-15. [Crossref]
33. Gariepy AM, Lundsberg LS, Miller D, Stanwood NL, Yonkers KA. Are pregnancy planning and pregnancy timing associated with maternal psychiatric illness, psychological distress and support during pregnancy? *J Affect Disord.* 2016;205:87-94. [Crossref]
34. Bayrampour H, McDonald S, Tough S. Risk factors of transient and persistent anxiety during pregnancy. *Midwifery.* 2015;31(6):582-9. [Crossref]
35. Messer LC, Dole N, Kaufman JS, Savitz DA. Pregnancy intendedness, maternal psychosocial factors and preterm birth. *Matern Child Health J.* 2005;9(4):403-12. [Crossref]
36. Dündar T, Özsoy S, Aksu H, Toptaş B. Obstetrik özelliklerin gebelikte distres üzerine etkisi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi.* 2019;22(1):17-24.
37. Coşkun Margirit A, Okcu G, Arslan S. The impact of distress experienced during pregnancy on prenatal attachment. *Perinatal J.* 2019;27(2):49-55. [Crossref]
38. Arslan B, Arslan A, Kara S, Öngel K, Mungan M. Gebelik anksiyete ve depresyonunda risk faktörleri:452 olguda değerlendirme. *Tepecik Eğitim Hastanesi Dergisi.* 2011;21(2):79-84. [Crossref]
39. Körükcü Ö, Deliktaş A, Aydın R, Kabukcuoğlu K. Gebelikte psikososyal sağlık durumu ile doğum korkusu arasındaki ilişkinin incelenmesi. *Clin Exp Health Sci.* 2017;7:1-6.
40. Lee S, Ayers S, Holden D. Risk perception of women during high risk pregnancy: A systematic review. *Health Risk Soc.* 2012;14(6):511-531. [Crossref]
41. Dağlar G, Nur N. Gebelerin stresle başa çıkma tarzlarının anksiyete ve depresyon düzeyi ile ilişkisi. *Cumhuriyet Tıp Dergisi.* 2014;36(4):429-441. [Crossref]
42. Goletzke J, Kocalevent RD, Hansen G, et al. Prenatal stress perception and coping strategies: Insights from a longitudinal prospective pregnancy cohort. *J Psychosom Res.* 2017;102:8-14. [Crossref]