The relationship between spousal support and depression, anxiety, stress, and prenatal attachment in high-risk pregnancies

Busra Calli[a,*], Hacer Alan Dikmen[b]

[a]Selcuk University, Health Sciences Institute, Department of Midwifery, Konya, Türkiye
[b]Selcuk University, Faculty of Health Sciences, Department of Midwifery, Konya, Türkiye

Abstract

Aim: To examine the relationship between spousal support and depression, anxiety, stress, and prenatal attachment in high-risk pregnant women.

Materials and Methods: Data were collected from 375 high-risk pregnant women in their 2nd/3rd trimesters in November 2021-February 2022. An introductory information form, the Spouse Support Scale (SSS), the Depression, Anxiety, and Stress Scale (DASS-21), and the Prenatal Attachment Inventory (PAI) were used to collect data.

Results: Median SSS score was 76 (29-81), median PAI score was 74 (31-84). Median anxiety scale score was 4 (0-21), depression scale score was 2 (0-21), and stress scales score was 3 (0-21). There was a positive significant relationship between spousal support and prenatal attachment, and a negative significant relationship between spousal support and anxiety, depression, and stress (p<0.001).

Conclusion: Inadequate spousal support in high-risk pregnancies is a risk factor for prenatal attachment, anxiety, depression, and stress levels.

Introduction

Even if there is no health problem, pregnancy is a stressful and complex period in which biological, physiological and psychological changes are experienced [1], which is even more pronounced and severe in women with high-risk pregnancies. High-risk pregnancy is defined as physiological and psychosocial conditions that increase the risk of morbidity and mortality by adversely affecting the health and life of the mother, fetus, or newborn [2]. Pregnancies with complications such as bleeding (ablation placenta or placenta previa), premature rupture of membranes, gestational diabetes mellitus, the threat of preterm birth and hypertensive conditions of pregnancy, a chronic disease existing before pregnancy or developing with pregnancy, fall into the high-risk pregnancy group [2]. According to the World Health Organization (WHO), report covering 2010-2017, approximately 808 mothers a day and 290 thousand mothers per year die worldwide due to complications during pregnancy and childbirth [3].

Pregnancy is a period of adaptation for pregnant women. If the pregnant woman experiences a high-risk pregnancy during this period, the adaptation process may become difficult, and the acceptance of pregnancy and fetus may become difficult. Having difficulty in adapting, the pregnant woman expects support from her environment, especially from her husband/partner. When the process is disrupted in any period of pregnancy and the pregnancy becomes high risk, this process may become more positive with the support of the spouse [4]. It has been reported that the support of pregnant women by their spouses facilitates their adaptation to the changes brought about by pregnancy and especially in risky cases [5,6]. In addition, one of the crucial factors in association with the psychosocial status of high-risk pregnant women is spousal support [7].

The inability of woman to adapt to biological and psychosocial changes during pregnancy be a risk for depression and stress [8]. In addition, the diagnosis of a disease during pregnancy may cause the pregnant woman to worry about the health of her baby and to experience fear and anxiety [8,9]. In a study, 95 high-risk pregnant and 95

*Corresponding author:
Email address: callibusra36@gmail.com (Busra Calli)

healthy pregnant women were included. As a result of the study, depression was found in 28.4% of high-risk pregnant women, and moderate and severe anxiety in 32.6% [10]. In a study examining high-risk pregnant women's depression level, it was found to be high [2]. In another study, it was stated that increased stress, depression, and anxiety were detected in women hospitalized due to high-risk pregnancy [11,12].

In addition to the increased levels of anxiety and depression in high-risk pregnancies, the prenatal attachment process may also be adversely affected [13]. High-risk pregnancies carry a risk in terms of establishing a secure mother-infant bond [14]. In a study, the prenatal attachment levels of pregnant women who were hospitalized due to risky pregnancy were reported to be low [15]. In another study conducted with 397 pregnant women to determine the effect of distress experienced during pregnancy on prenatal attachment, it was reported that health problems experienced during pregnancy had prenatal effects [16]. Karaca (2022), in a study conducted with 152 pregnant women with hypertensive disorder during pregnancy [17], reported that the prenatal attachment level was low, while 486 pregnant women with gestational diabetes had increased anxiety and depression, and moderate prenatal attachment [18].

As a result, it was stated that the pregnant women included in the high-risk pregnancy classification experience psychosocial problems such as anxiety, stress and depression along with physiological problems, and the problems experienced decreased the level of prenatal attachment [19,20]. It has been stated that it is important to support pregnant women in high-risk pregnancies and develop strategies for this, and that especially spouse support and interaction of the spouse will contribute to the pregnant women to cope with these processes [19,21]. In addition, midwives and gynecology nurses should determine depression, anxiety, stress, and prenatal attachment levels in high-risk pregnant women, and should inform the spouses about the importance of spousal support [13]. No study has been found in the literature examining the relationship between spousal support and depression, anxiety, stress, and prenatal attachment in high-risk pregnant women. It was aimed in this study to assess the relationship between spousal support and depression, anxiety, stress, and prenatal attachment in high-risk pregnant women.

Research questions

In high-risk pregnant women, are there a relationship between spousal support and:

1. Depression?
2. Anxiety?
3. Stress?
4. Prenatal attachment?

Materials and Methods

Population and sample of the study

Data were collected in the pregnant follow-up outpatient clinic of a university hospital in Konya. The centers of the hospital's pregnancy follow-up outpatient clinic formed the working room for expectant mothers. The study was examined using the G-power 3.1.9.4 (G*Power Team, Düsseldorf, Germany), with an effect variable of 0.05 type I error and a total estimated estimate of 327 people for a minimum 95% power estimate was calculated as. In the study, it was aimed to reach more than 10% of the observation, whose data loss was calculated as a surveillance bed, and the study was terminated with 375 pregnant women.

Ethical considerations of the study

Ethical principles and 1964 Declaration of Helsinki and subsequent changes were complied at every stage. Konya Selçuk University Faculty of Health Sciences Non-Interventional Clinical Research Ethics Committee approved the study (2022-1815). Written permission from the institution where the application is made taken (05.01.2022/14567952-900-136885). All pregnant women included in the sample were informed about the study and their verbal informed consent was obtained. The pregnant women were assured that they could decide to participate in the study completely according to their own will. Permission to use the scales was obtained from the respective authors for SSS, DAS, and PAI.

Data collection tools

A personal information form, the Spouse Support Scale (SSS), the Depression, Anxiety, and Stress Scale (DASS-21), and the Prenatal Attachment Inventory (PAI) were used to collect data. Pregnant women who are 18 years of age or older, who can speak and understand Turkish, who have conceived spontaneously, and who are in the high-risk pregnancy category in the 2nd and 3rd trimesters are included.

Personal information form

The form [4,22,23], developed by the authors in line with the literature comprises two parts. The 10-item first part is about socio-demographic characteristics of the women and spouses (age, spouse age, education status, place of residence, work, spouse education, spouse employment). In the second part, there are 11 items about the obstetric characteristics of the pregnant women (such as gestational week, number of pregnancies, desire and planning of pregnancy, regular control).

Spousal Support Scale (SSS)

The SSS, developed by İbrahim Yildirim in 2004, is used to examine the perceived support of married individuals from each other. The SSS consists of twenty-seven 3-point Likert type items. The score range of the scale is 27-81. There are a total of 27 items in the scale, including 9 items on "emotional support subdimension", 7 items on "financial aid and information support subdimension", 8 items on "appreciation support subdimension", and 3 items on "social interest support subdimension". Higher scores on the scale indicate that the individual feels that they receive more support from their spouse. The Cronbach Alpha coefficient of the scale was reported as 0.95 [24]. In this study, the scale total score was studied. The Cronbach Alpha coefficient was calculated as 0.94.

Depression, Anxiety, and Stress Scale (DASS-21)

The DASS-21, a 21-item scale developed by Brown et al. in 1997 [25], was adapted into Turkish by Yilmaz et al. in 2017. It is a four-point Likert-type scale and has 7 items each to measure the dimensions of depression, anxiety, and stress. Each item is evaluated on four scales from zero to three. It is considered appropriate to ask the questions in the scale mixed, not in groups based on the dimensions of depression, anxiety, and stress. In the original scale, the measurement was carried out in this way. The scale is evaluated according to the total scores. Score range is 0 to 21 points in each dimension. The following scores are assumed to indicate the existence of the related problem: Five points, depression sub-dimension; four points, anxiety subdimension; and, eight points, stress subdimension. Items 1-7 of the scale were anxiety subdimension, items 8-14 were depression subdimension, and items 15-21 of the scale were stress subdimension. The Cronbach Alpha (α) reliability coefficient of the scale (DASS-21) was reported as 0.86 in the depression subdimension, 0.79 in the anxiety subdimension, and 0.80 in the stress subdimension [26]. In this study, the Cronbach's Alpha coefficient was calculated as 0.94 for the DASS-21 scale. The Cronbach's Alpha coefficient was calculated as 0.89 in the depression subdimension, 0.84 in the anxiety subdimension, and 0.89 in the stress subdimension.

Prenatal Attachment Inventory (PAI)

The PAI was developed by Mary Muller in 1993 [27] and adapted into Turkish by Yilmaz and Beji in 2013. This 21-item scale was developed to explain the thoughts and feelings experienced by pregnant women and to determine the level of their attachment to the baby in the prenatal period. Each item is a 4-point Likert-type scale between 1 and 4 points. The score range of the scale is 21-84 points. There is a direct correlation between scores and prenatal attachment. The Cronbach Alpha reliability coefficient of the scale was reported as 0.84 by Yilmaz and Beji [28]. In this study, the Cronbach Alpha coefficient was calculated as 0.92.

Data collection

Firstly, the purpose of the study was explained to the pregnant women, their verbal consent was obtained, and they were asked to fill in the printed forms in a private room in the clinic. The forms were given to the pregnant women by the researchers. Filling the forms took approximately 20-25 minutes. Since depression, anxiety and stress questions is a private issue, data were collected on a self-reported basis in a private, bright, and warm room allocated by the hospital for this study, with no one allowed to enter the room.

Statistical analysis

The data were analyzed using the Statistical Package for the Social Sciences for Windows (SPSS), version 20.0 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.). Kolmogorov Smirnov test was used to test the normality of the data. Nonparametric tests were used because the mean score of all scales was <0.05. Spearman correlation analysis and Mann-Whitney U test were used together with descriptive statistics (number, percentage, median, minimum, and maximum values) in the analysis of the data. Bivariate tests were used in the study and significance was accepted as $p<0.05$ [29]. The dependent variables of the study are the median DASS-21 scale total score, depression, anxiety, and stress subdimension levels, and the median PAI score. The independent variable of the study is the median score of spousal support perceived by high-risk pregnant women.

Results

The median age of the pregnant women participating in the study was 26 (18-42) years, the median week of gestation was 33 (20-40) weeks, and the median duration of hospitalization was 1 day (1-9). The education level of 44.5% of the pregnant women was primary education. Of the participants, 92.3% stated that their last pregnancy was voluntary, 86.4% reported that they attended antenatal controls regularly, 73.3% attended the controls with their spouses, and 48.5% visited hospital with complaints of low back and groin pain (Table 1). The median DASS-21 score of the pregnant women was 9 (0-62), the median PAI score was 74 (31-84), and the median SSS score was 76 (29-81). Depression was found in 29.3% of the pregnant women, anxiety in 52.3%, and stress in 23.7% (Table 2).

There was a significant, negative, moderate correlation between the median SSS score and the DASS-21 (rs=-0.334) and depression (rs=-0.389), anxiety (rs=-0.228), stress (rs=-0.315) sub-dimensions ($p<0.001$). There was also a significant, positive, moderate correlation between the median SSS score of the pregnant women and the median PAI (rs=0.287) score ($p<0.002$).
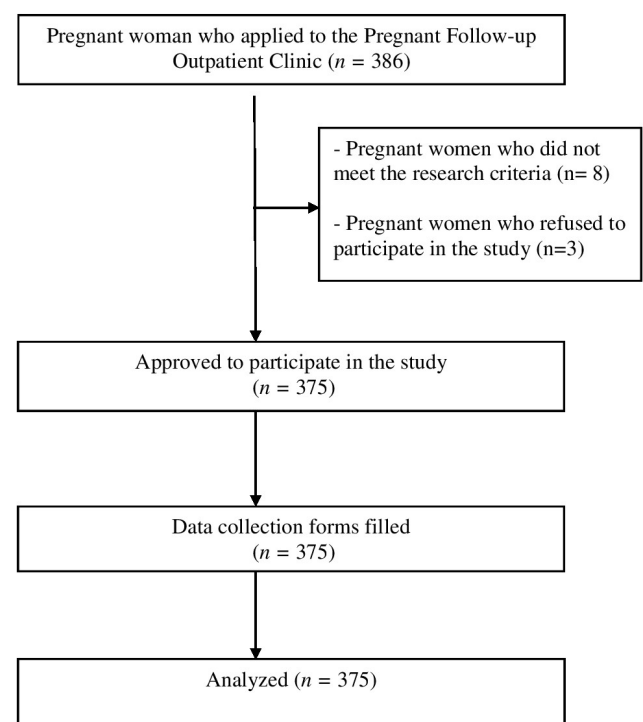

Figure 1. Flow chart of the study.

Table 1. Distribution of socio-demographic and obstetric characteristics of pregnant women (N=375).

Variables		Median	Min-Max
Age		26	18-42
Spouse's age		29	18-51
Marriage duration (years)		4	1-25
Gestational week		33	20-40
Number of pregnancies		2	1-7
Length of hospital stay (days)		1	1-9
		n (%)	%95 CI
Longest place of residence	City	290 (77.3)	73.1-81.6
	Country	85 (22.7)	18.4-26.9
Education level	Illiterate	27 (7.2)	4.5-9.9
	Primary school	167 (44.5)	39.5-49.6
	High school	106 (28.3)	24-33.1
	University or higher	75 (20)	16-24.3
Family type	Nucleus	295 (78.7)	74.4-82.4
	Extended	80 (21.3)	17.6-25.6
Employment status	Yes	57 (15.2)	11.7-18.9
	No	318 (84.8)	81.1-88.3
Spouse's education level	Illiterate	10 (2.7)	1.3-4.5
	Primary school	173 (46.1)	41.1-50.9
	High school	123 (32.8)	28.3-37.9
	University or higher	69 (18.4)	14.4-22. 1
Spouse's employment status	Yes	331 (88.3)	85.1-91.5
	No	44 (11.7)	8.5-14.9
Perceived income level	Income less than expenses	102 (27.2)	22.9-31.7
	Income equals expenses	244 (65.1)	60.5-69.9
	Income more than expenses	29 (7.7)	5.1-10.4
Wanted pregnancy	Yes	346 (92.3)	89.6-94.9
	No	29 (7.7)	5.1-10.4
Planned pregnancy	Yes	315 (84)	80.3-87.5
	No	60 (16)	12.5-19.7
Attending the control sessions regularly	Yes	324 (86.4)	82.9-89.6
	No	51 (13.6)	10.4-17.1
Spouse's attendance to control sessions regularly	Yes	275 (73.3)	68.8-77.9
	No	100 (26.7)	22.1-31.2
Control locations	Family health centers	12 (3.2)	1.6-5.3
	State hospitals	301 (80.3)	76.3-84.3
	Private hospitals	30 (8)	5.3-10.7
	Not attended control sessions regularly	32 (8.5)	5.9-11.5
Experiencing problem during pregnancy*	Yes	174 (46.4)	41.1-51.5
	No	201 (53.6)	48.5-58.9
Complaints for hospital visits	Bleeding	59 (15.7)	12-19.2
	Water discharge	52 (13.9)	10.1-17.3
	Back and groin pain	182 (48.5)	43.5-53.9
	High blood pressure	46 (12.3)	9.1-16
	High blood sugar	36 (9.6)	6.9-12.5
Previous hospitalization	Yes	65 (17.3)	13.6-21.6
	No	310 (82.7)	78.4-86.4

Abbreviation: *Such as nausea-vomiting, heartburn, urinary tract infection, fatigue-weakness, sleep problems.

Table 2. Distribution of the median score and minimum-maximum values of pregnant women and the prevalence of depression, anxiety and stress (N=375).

Variables	Median	Minimum-Maximum
DASS-21	9	0-62
Depression*	2	0-21
Anxiety*	4	0-21
Stress*	3	0-21
SSS	76	29-81
PAI	74	31-84

Abbreviations: *DASS-21: Depression, Anxiety, and Stress Scale aDASS-21 subscales; *SSS: Spouse Support Scale; *PAI: Prenatal Attachment Inventory.

Table 3. Distribution of depression, anxiety, stress, and prenatal attachment level scores in relation with spousal support in pregnant women.

		DASS-21	Depression		Anxiety		Stress		PAI
SSS	r^s	-0.334	-0.389		-0.228		-0.315		0.287
	p	<0.001	<0.001		<0.001		<0.001		<0.001
			Depression		Anxiety		Stress		
			Yes	No	Yes	No	Yes	No	
SSS median			70	77	74	77	70	77	
(min-max)			(29-81)	(46-81)	(29-81)	(51-81)	(29-81)	(46-81)	
			z=-5.419. p<0.001		z=-3.804. p<0.001		z=-4.505. p<0.001		

Abbreviations: DASS-21: Depression, Anxiety, and Stress Scale aDASS-21 subscales; SSS: Spouse Support Scale; PAI: Prenatal Attachment Inventory. r^s: Spearman correlation, z= Mann Whitney U Test.

There was a statistically significant difference between the median SSS scores and the presence of depression, anxiety, and stress (p<0.001; Table 3). These findings answer the research questions.

Discussion

High-risk pregnancy is a condition that threatens the health of the mother and fetus as a result of existing diseases in the mother during the pre-pregnancy period or the emergence of some risky conditions that may develop during pregnancy [30]. The support provided by the spouse during the high-risk pregnancy period facilitates adaptation to psychosocial problems such as depression, anxiety, and stress that may occur in case of risky situations [5,7]. Psychosocial problems experienced during high-risk pregnancy also affect prenatal attachment negatively [31]. In the study, we aimed to examine the relationship between spousal support and depression, anxiety, stress, and prenatal attachment in women high-risk pregnant women.

In the present study, pregnant women received high levels of support from their spouses (median FAQ score=76; min-max=29-81). Yüksekal and Yurdakul (2021) reported the mean SSS total score of pregnant women as 68.99±10.852 [32]. Doğrul (2020) found the mean SSS score of pregnant women as 70.81±7.1317 [22], and Derman (2020) reported the mean SSS score of pregnant women as 72.50±9.37 [23]. In Turkish society, pregnancy is a desired and important period. For this reason, it can be said that the levels of

spousal support during pregnancy are high in other studies, like the present findings.

In the present study, pregnant women had psychosocial problems: 29.3% had depression, 52.3% had anxiety, and 23.7% had stress. In a similar study, 22.7% of pregnant women had mild depression and 23.1% had moderate depression; 33.3% had moderate anxiety and 36.5% had severe/very severe anxiety; and 19.5% experienced mild stress and 13.1% moderate stress [33]. Health problems experienced during pregnancy may increase the risk of psychosocial problems in pregnant women. Therefore, the psychosocial health level of high-risk pregnant women should be evaluated.

In the present study, it was determined that the prenatal attachment levels of the pregnant women were high (median PSI score=74; min-max=31-84). In studies comparing prenatal attachment in high-risk and low-risk pregnant women, it was concluded that prenatal attachment level of high-risk pregnant women was higher than that of low-risk pregnant women [5,14,34]. This may cause women with high-risk pregnancies to experience higher prenatal attachment due to their fear of losing their babies. The present findings agree with results reported in the literature.

The support provided by the spouse during the high-risk pregnancy period is important in terms of recognizing and preventing negative psychosocial problems such as depression, anxiety, and stress, as well as physiological problems in pregnancy, and reducing their negative effects on the

mother's and child's health [32,35]. In the present study, it was determined that spousal support reduced depression, anxiety and stress levels in high-risk pregnant women. This result answers the research questions. In other similar studies, it has been found that spousal support has a decreasing effect on the level of stress and depression, [36,37]. Inadequate spousal support in high-risk pregnant women may be a risk factor for depression, anxiety and stress. Spousal support during high-risk pregnancy positively affects the health of the pregnant woman and protects against psychosocial problems by reducing the damages caused by risky events.

The support provided by the spouse during the high-risk pregnancy period enables the pregnant women to accept the role of motherhood more effectively and increases their prenatal attachment [32,38]. In the present study, it was found that the spousal support increased prenatal attachment. This result answers the research questions. Parallel to the present study, it was found in the literature that the level of prenatal attachment increased as the compatibility of pregnant women with their spouses increased [39,40]. Inadequate spousal support in high-risk pregnancies may be a risk factor for prenatal attachment. Midwives and gynecology nurses should question the relationship of pregnant women with their spouses during the prenatal and even pre-pregnancy follow-up periods and should inform the couples about the importance of spousal support.

Conclusion

In the present study, insufficient spousal support was found to be a risk factor for depression, anxiety, stress, and inadequate prenatal attachment in high-risk pregnant women. Midwives and gynecology nurses are the health professionals who are closest to the family in the pre-pregnancy, during pregnancy and delivery, and in the postpartum period. Midwives and gynecology nurses should definitely evaluate high-risk pregnant women's psychosocial health levels, prenatal attachment levels, and the level of spousal support they receive, as well as their physiological health, while making medical evaluations, especially during their hospitalization. The relationship of spousal support with psychosocial health problems and prenatal attachment can be discussed with pregnant women and their spouses providing insufficient spousal support. By determining the reasons why the pregnant women's spouses provide insufficient support through qualitative studies, sessions can be held to increase it.

Limitations

Study results are valid only for the women involved in this study, and they are not generalized to the general population. A decent sample size was achieved in this study. This is the first study to reveal the relationship of spousal support with prenatal attachment, depression, anxiety and stress in high-risk pregnancies. This study will make an important contribution to the literature by demonstrating that spousal support is very important in high-risk pregnant women. In this way, the importance of spousal support in prenatal follow-ups can be discussed with couples.

References

1. Ölçer Z, Bakır N, Oskay Ü. Stressors experienced by high-risk pregnant women and methods of coping with stress. JERN. 2015; 12(2):85-92.
2. Güleç D, Eminov A, Kavlak O. Investigation of anxiety and use and nursing care satisfaction in risky pregnant women. CBU-SBED. 2020; 7(1):70-7.
3. World Health Organization. Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. https://apps.who.int/iris/handle/10665/327596 access date 21.03.2022.
4. Kural B. The effect of spousal support in the prenatal period on fear of pregnancy and childbirth. Master's thesis, Hamidiye University, Istanbul, 2021.
5. Aksoy Y, Yilmaz S, Aslantekin F. Prenatal attachment and social support in high-risk pregnant women. Turkiye Klinikleri J Health Sci. 2016; 1(3):163-69.
6. Arisukwu OC, Oyekola IA, Oyeyıpo EJ, Asamu F, Osueke N. Spousal support during pregnancy in the Nigerian rural context: a mixed methods study. BMC Pregnancy and Childbirth. 2021; 21(1):1-12.
7. The effect of spousal support on anxiety in high-risk pregnancies: A Case-Control Study. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4040406 access date 21.03.2022.
8. Coskun AM, Arslan S, Okcu An analysis of pregnancy perception of pregnant women in terms of stress, demographic and obstetric characteristics. JERN. 2020; 17(1): 1-9.
9. Baran GK, Şahin S, Öztaş D, Demir P, Desticioğlu R. Evaluation of perceived stress levels and causes of stress in pregnant women. Cukurova Medical Journal. 2020; 45(1): 170-80.
10. Karabulutlu Ö, Yavuz C. Evaluation of the frequency of depression and anxiety levels in high-risk pregnancies. J. Cauc. Stud. 2021; 8(1): 51-69.
11. Özçetin YSU, Erkan M. Psychological resilience, perceived stress and psychosocial health in high-risk pregnant women. Cukurova Medical Journal. 2019; 44(3): 1017-26.
12. Palma E, Armijo I, Cifuentes J, Ambiado S, Rochet P, Díaz B, Mena C. Hospitalisation in high-risk pregnancy patients: is prenatal attachment affected. J Reprod Infant Psychol. 2021; 39(1): 30-42.
13. Baltacı N, Başer M. Anxiety in high-risk pregnant women, prenatal attachment and the role of the nurse. DEUHFED. 2020; 13(3): 206-12.
14. Bakır N, Ölçer, Z, Oskay Ü. Prenatal attachment level of high-risk pregnant women and affecting factors. JACSD.2014; 1:25-37.
15. İzmir MKŞ. Evaluation of prenatal attachment and fear of childbirth in high-risk pregnant women. Doctoral dissertation, Marmara University, Istanbul, 2019.
16. Coskun AM, Okcu G, Arslan S. The impact of distress experienced during pregnancy on prenatal attachment. J. Perinat. Med. 2019; 27(2): 49-55.

17. Karaca FA. The effect of hypertensive disorder on prenatal attachment and acceptance of pregnancy in last trimester pregnancies. Master's thesis, Adnan Menderes University, Aydın, 2022.

18. Özkahraman-Koç Ş, Ersoy S, Yildirim B, Ersoy İH. Anxiety, depression, and prenatal attachment levels in pregnant women with gestational diabetes mellitus. Int J Clin Exp Med. 2019; 12(5): 6078-86.

19. Dinçer Y. Stressors and coping methods in women with high-risk pregnancies: a qualitative study. Contin.Med.Educ. 2018; 27(5): 333-42.

20. Özdemir K, Çevirme A, Başkaya Y. Anxiety and prenatal attachment levels in pregnancy and influencing factors. Cukurova Medical Journal. 2020; 45(2): 502-10.

21. Ölçer Z, Bakır N, Oskay Ü. Self-efficacy and social support perceptions of high-risk pregnant women. Anatolian J Health Res. 2016; 19(1): 22-33.

22. Dikmen HA, Şanlı Y. The effect of progressive muscle relaxation exercises on the distress level and perception of pregnancy in pregnant women. DEUHFED. 2019; 12(3): 186-98.

23. Doğrul E. The relationship of spousal support in pregnant women with the role of motherhood, body image and distress level. Master's thesis, Selcuk University, Konya, 2020.

24. Yildirim İ. Development of spousal support scale. TPCGJ. 2004; 3(22): 19-26.

25. Brown TA, Chorpita BF, Korotitsch W, Barlow D. Psychometric properties of the depression anxiety stress scales (DASS) in clinical samples. Behav Res Ther. 1997; 35(1): 79-89.

26. Yilmaz Ö, Hakan B, Arslan A. The validity-reliability study of the Turkish short form of the depression anxiety stress scale (DASS 21). J. Financ. Econ. 2017; 2(2): 78-91.

27. Muller ME. Development of the prenatal attachment ınventory. Western J Nurs Res. 1993; 15(2):199-211.

28. Yilmaz S, Beji NK. Turkish adaptation of prenatal attachment inventory: reliability and validity study. Anatolian Journal of Nursing and Health Sciences. 2013; 16(2): 103-9.

29. Tabachnick BG, Fidell LS. Ullman JB. Using multivariate statistics. Boston: MA pearson. 2007; 481-98.

30. Zengin S. Evaluation of normal and risky pregnant women's adaptation to motherhood in the postpartum period. PhD thesis, Yildirim Beyazıt University, Ankara, 2019.

31. Pisoni C, Garofoli F, Tzialla C, Orcesi S, Spinillo A, Politi P, Stronati, M. Complexity of parental prenatal attachment during pregnancy at risk for preterm delivery. J. Matern. Fetal Neonatal Med. 2016; 29(5): 771-6.

32. Yüksekal Z, Yurdakul M. Perceptions of spousal support of pregnant women and related factors. TJTFP. 2021; 15(4): 800-8.

33. Yüksel A, Dabanlı Z, Bahadır Yilmaz E. Determination of the relationship between mindfulness and depression, anxiety and stress levels in pregnant women. J Res Nurs. 2020; 6(2): 195-202.

34. Özgen D. Prenatal attachment in healthy and risky pregnant women. Master's thesis, Sakarya University, Sakarya, 2016.

35. Arisukwu O, Igbolekwu CO, Oyekola IA, Oyeyipo EJ, Asamu FF, Osueke ON. Spousal support during pregnancy in the Nigerian rural context: a mixed methods study. BMC pregnancy childbirth. 2021; 21(1): 1-12.

36. Lee EJ, Lee JY, Lee SJ. Yu SE. Influence of self-esteem and spouse support on prenatal depression in pregnant women. J Korean Soc Matern Child Health. 2020; 24(4): 212-20.

37. Seo HJ, Song JE, Lee Y, Ahn JA. Effects of stress, depression, and spousal and familial support on maternal identity in pregnant women. KJWHN. 2020; 26(1): 84-92.

38. Havutçu G. The effect of high-risk pregnancies on prenatal parental attachment. Master's thesis, Adnan Menderes University, Aydın, 2019.

39. Küçükkaya B, Süt HK, Sevcan ÖZ, Sarıkaya NA. The relationship between marital adjustment and prenatal attachment during pregnancy. AUHSJ. 2020; (1): 102-10.

40. Öztürk E. The effect of perceived social support on prenatal attachment and anxiety experienced during pregnancy. Master's thesis, Celal Bayar University, Manisa, 2018.