

The Relationship Between Spousal Support and Pregnancy Stress in High-Risk Pregnant Women

Zeynep Özbek¹, Kerime Derya Beydağ^{2*}

¹Şuhut State Hospital, Afyonkarahisar 03800, Turkey

²Department of Nursing, Faculty of Health Sciences, Istanbul Gedik University, Istanbul 34876, Turkey

*Corresponding author: Kerime Derya Beydağ, kderybeydag@gmail.com

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Abstract: *Objective:* This research was conducted to establish the relationship between spousal support and pregnancy stress in high-risk pregnant women. *Methods:* The sample of the descriptive and correlational study consisted of 220 pregnant women who were hospitalized for treatment in the perinatology service of the Women's and Children's Hospital on the Anatolian side of Istanbul between 1st December 2020 and 1st February 2021. Data were collected using a descriptive data collection form, the Pregnancy Stress Assessment Scale, and the Spousal Support Scale. Data analysis involved numerical and percentage calculations, ANOVA test, Kruskal Wallis test, *t*-test, and Spearman correlation analysis. *Results:* The average score on the Pregnancy Stress Assessment Scale for the participating pregnant women was 50.24 ± 27.10 , and the average score on the Spousal support scale was 57.69 ± 9.21 . No statistically significant relationship was found between the average scores on the Pregnancy Stress Rating Scale and the Spousal Support Scale for pregnant women ($P > 0.01$). *Conclusion:* It is recommended that nurses and midwives working with high-risk pregnant women incorporate plans to reduce pregnancy stress into their care processes.

Keywords: Pregnancy; Stress; Spouse; Support

Online publication: November 27, 2023

1. Introduction

A high-risk pregnancy is a pregnancy that develops due to pre-existing or pregnancy-related biological, physiological, and psychological abnormal conditions in the expectant mother. It increases the risk of disease and death for the mother, fetus, or newborn, negatively affecting their health, as well as lowering their living standards and quality of life due to biological, psychological, and physiological changes ^[1,2]. In addition to creating a situation of risk for women from the early stages of pregnancy, high-risk pregnancy leads to increased levels of stress for expectant mothers and family members when there is a higher risk of disease and death for the mother, a risk to the health integrity of the fetus, and an increased risk of death. An increase in a pregnant woman's prenatal stress level has been reported to potentially lead to premature labor, delayed fetal development and growth within the normal range, and low birth weight. Furthermore, an elevated level of prenatal stress can adversely affect the bond between the fetus and the mother and may lead to postpartum

depression^[3,4].

Stress can affect not only the fetus in a pregnant woman but also the relationship between the pregnant woman and her partner. Some pregnant women may become introverted, which can lead to emotional distance between couples. Restrictions or bans on sexual intercourse can make pregnant women feel guilty toward their partners, lead to negative interpretations of pregnancy, and even cause jealousy between partners^[5].

Spousal support is one of the significant factors that affect the social support system. In the literature, it is mentioned that spouses are the primary source of social support for many individuals and that married individuals typically turn to their spouses as their first choice during times of stress^[6]. It is known that spousal support during pregnancy and postpartum periods prevents isolation and withdrawal between spouses in stressful times, fosters emotional closeness through the support received, helps avoid situations that may create conflict, and mitigates increased negativity^[7-9]. A study found that support received during pregnancy reduced the anxiety levels and stress of pregnant women trying to adapt to the role of motherhood. It was also determined that as the support from partners increased, the ability of pregnant women to cope with problems also increased^[8]. In another study, women who received spousal support during pregnancy had a more positive view of motherhood and were able to cope more easily with stress factors during pregnancy^[10].

Women with high-risk pregnancies experience emotional, physical, and social challenges. Stress levels due to maternal and fetal problems are higher in high-risk pregnant women. During this process, pregnant women should be made aware of stressors, taught appropriate coping methods, and supported in their application to maintain maternal and fetal health^[2,11,12]. Recognizing stressors during pregnancy that can create stress and problems, and early identification by healthcare professionals are important in the application of preventive interventions. Interventions encompassing cultural, spiritual, and psychosocial approaches contribute to a healthy pregnancy and assist in childbirth^[10,13]. During this process, in addition to the expectant mother, the partner should also be included in the process and should be involved in all care processes to reduce their stress. This study aims to establish the relationship between spousal support and pregnancy stress in high-risk pregnant women.

2. Materials and methods

This descriptive and correlational research was conducted at a Women's and Children's Diseases Education and Research Hospital in the Anatolian side of Istanbul between December 1, 2020, and February 1, 2021. The population of the study consisted of 320 high-risk pregnant women who presented to the perinatology department during the data collection dates. It was intended to reach the entire population without selecting a sample, but due to some pregnant women not willing to participate ($n = 40$) and not being able to speak and understand Turkish ($n = 60$), the study was completed with 220 pregnant women. Pregnant women aged 18 and above, who could speak and understand Turkish, had no communication barriers, had a partner, and were willing to participate were included in the study. The research data were obtained using a demographic data form, the Pregnancy Stress Assessment Scale, and the Spousal Support Scale.

Before the data collection process, ethical committee approval (meeting date: January 8, 2020; decision number: 117) was obtained. Following ethical committee approval, necessary permission was obtained from the hospital where the research would be conducted. Throughout the research, the principles of the Helsinki Declaration were followed. Participants were informed that they were free to participate in the research and could withdraw from the research at any stage. It was also explained that the research results could be published for scientific purposes without disclosing their personal information.

2.1. Demographic questionnaire

This questionnaire included nine questions related to age, education level, employment status, income level, marital relationship, duration of marriage, number of pregnancies, month of pregnancy, and decision-maker for the pregnancy, which were thought to be related to pregnancy stress and spousal support level.

2.2. Pregnancy Stress Assessment Scale (PSAS)

Developed by Chung-Hey Chen (1983) ^[14], the Turkish validity and reliability study was conducted by Aksoy *et al.* (2019). The scale consists of five sub-dimensions and 36 Likert-type items. All items in the scale are positive, and the scoring uses a rating of “definitely no (0), mild (1), moderate (2), severe (3), very severe (4).” The scale yields a minimum score of 0 and a maximum score of 144, with higher scores indicating higher levels of prenatal stress. The internal consistency analysis of the scale found a Cronbach’s alpha coefficient of 0.94 ^[15]. In this study, the Cronbach’s alpha value of the scale was found to be 0.91.

2.3. Spousal Support Scale (SSS)

It was developed by Yıldırım (2004) to measure perceived partner support. The scale is of a three-point Likert type (Suitable for me = 3, Partially suitable = 2, Not suitable for me = 1), and three items (10, 20, 24) on the scale are scored in reverse. The scale yields a minimum score of 27 and a maximum score of 81, with higher scores indicating greater perceived spousal support. The scale consists of four sub-dimensions: emotional support (1, 2, 3, 4, 6, 9, 12, 16, 21), material aid and information support (7, 13, 15, 17, 24, 25, 27), appreciation support (5, 10, 14, 18, 20, 22, 23, 26), and social interest support (9, 11, 18) ^[16]. In this study, the Cronbach’s alpha value of the scale was found to be 0.89.

2.4. Statistical analysis

The data obtained in the research were analyzed using the SPSS (Statistical Package for Social Sciences) for Windows 22.0 program. Descriptive statistics such as mean, standard deviation, median minimum, maximum, frequency, and ratio values were used for data description. The distribution of variables was measured with the Kolmogorov-Smirnov test, and for the analysis of quantitative data, *t*-test, ANOVA test, Kruskal-Wallis, and Spearman correlation analysis were used. The findings were evaluated at a 95% confidence interval with a 5% significance level.

3. Result

The average age of the pregnant women was 30.3 ± 6.2 years (min: 18, max: 48). About 37.7% of the pregnant women were high school graduates and employed. It was determined that 54.1% of the pregnant women had an income equal to their expenses, 21.4% had relatives as spouses, and 75.5% had a good relationship with their spouses (**Table 1**).

About 61.4% of the pregnant women had two or more pregnancies, 46.8% of them were in the 7th to 9th month of pregnancy, 77.3% had planned pregnancies, and 75.5% decided on their pregnancy jointly with their spouses (**Table 2**).

The average PSAS score of the pregnant women was 50.24 ± 27.10 , and the average SSS score was 57.69 ± 9.21 (**Table 3**).

Table 1. Distribution of descriptive characteristics of pregnant women ($n = 220$)

Variables	<i>n</i> (%)
The average age of women	30.39 ± 6.22 (18–48)
Education level of women	
Primary education	73 (33.2)
High school	83 (37.7)
University and above	64 (29.1)
Employment status	
Working	83 (37.7)
Not working	137 (62.3)
Income level	
Income less than expenditure	58 (26.4)
Income matches expenditure	119 (54.1)
Income more than expenditure	43 (19.5)
Relationship status with spouse	
Good	166 (75.5)
Average	54 (24.5)
Marriage type	
By agreement	152 (69.1)
Arranged marriage	68 (30.9)

Table 2. Distribution of the characteristics of pregnant women regarding their pregnancy ($n = 220$)

Variables	<i>n</i> (%)
Number of pregnancies	
First pregnancy	85 (38.6)
Second or more pregnancies	135 (61.4)
Month of pregnancy	
1–3 months	41 (18.6)
4–6 months	76 (34.5)
7–9 months	103 (46.8)
Planned pregnancy status	
Planned	170 (77.3)
Unplanned	50 (22.7)
Decision-maker for the pregnancy	
Wife	19 (8.6)
Husband	35 (15.9)
Spouses jointly	166 (75.5)

Table 3. Distribution of the mean scores of PSAS and SSS

Scales	Center	Ss	Min	Max
Pregnancy Stress Assessment Scale	50.24	27.10	0	144
Spousal Support Scale	57.69	9.21	37	81

There was no statistically significant difference in the average PSAS scores based on the pregnant women's education level, employment status, income level, the quality of their relationship with their spouses, and the type of marriage ($P > 0.05$) (Table 4). However, the average SSS score was higher for pregnant women who were university graduates (70.51 ± 7.63), employed (69.24 ± 8.68), had higher income than expenses (69.16 ± 8.98), had a good relationship with their spouses (69.84 ± 7.77), and had married with mutual agreement (68.69 ± 8.84) (Table 4).

Table 4. Distribution of the mean scores of PSAS and SSS according to the demographic characteristics of the pregnant women

Variables		PSAS (mean \pm SD)	SSS (mean \pm SD)
Education level	Primary education	46.05 \pm 27.52	65.57 \pm 9.59
	High school	49.03 \pm 27.35	67.12 \pm 9.52
	University and above	56.57 \pm 25.51	70.51 \pm 7.63
	<i>F</i>	2.745	5.276
	<i>P</i>	0.066	0.066 c > a, b
Employment status	Working	49.97 \pm 27.03	69.24 \pm 8.68
	Not working	50.40 \pm 27.24	66.59 \pm 9.41
	<i>t</i>	-0.113	2.077
	<i>P</i>	0.910	0.039
Income level	Income less than expenditure	52.15 \pm 30.97	64.32 \pm 9.40
	Income equal to expenditure	47.99 \pm 25.31	68.62 \pm 8.88
	Income more than expenditure	53.88 \pm 26.34	69.16 \pm 8.98
	<i>F</i>	0.942	5.199
<i>P</i>	0.391	0.006 a < b, c	
Relationship status with spouse	Good.	48.56 \pm 26.12	69.84 \pm 7.77
	Middle	55.38 \pm 29.58	60.68 \pm 9.90
	<i>t</i>	-1.613	7.006
	<i>P</i>	0.108	0.001
Marriage type	By agreement	51.11 \pm 25.17	68.69 \pm 8.84
	Arranged marriage	48.29 \pm 31.10	65.13 \pm 9.61
	<i>t</i>	0.712	2.689
	<i>P</i>	0.477	0.008

ANOVA test (*F* values) and *t*-test (*t* values) were used.

The average PSAS score for pregnant women with their first pregnancy was 56.21 ± 25.32 , while for

those with two or more pregnancies, it was 46.48 ± 27.59 , and the difference between them was found to be statistically significant ($P < 0.05$). Pregnant women in the 1st to 3rd month of pregnancy had a higher average PSAS score (56.63 ± 30.05) compared to those in the 4th to 6th month and 7th to 9th month of pregnancy, and the difference was statistically significant ($P < 0.05$) (Table 5).

Pregnant women with first pregnancy had a higher average SSS score (70.28 ± 8.15) compared to those with second or more pregnancies (65.90 ± 9.46), planned pregnancies (68.45 ± 8.79) compared to unplanned pregnancies (64.68 ± 10.07), and those who made the pregnancy decision jointly with their spouses (68.78 ± 8.66) compared to those where only their spouses made the decision (62.40 ± 10.11). The differences were statistically significant ($P < 0.05$) (Table 5).

There was no statistically significant relationship found between the average PSAS and SSS scores ($r_s = 0.005$; $P = 0.940$) (Table 6).

Table 5. Distribution of the mean scores of PSAS and SSS according to the pregnancy characteristics of the pregnant women

Variables	PSAS (mean \pm SD)	SSS (mean \pm SD)	
Number of pregnancies	First pregnancy	56.21 ± 25.32	70.28 ± 8.15
	Second or more pregnancies	46.48 ± 27.59	65.90 ± 9.46
	<i>t</i>	2.628	3.520
	<i>P</i>	0.009	0.001
Month of pregnancy	1–3 months	56.63 ± 30.05	68.87 ± 9.48
	4–6 months	55.64 ± 25.92	68.15 ± 9.59
	7–9 months	43.70 ± 25.44	66.66 ± 8.80
	<i>F</i>	5.895	1.059
	<i>P</i>	0.003 a > b, c	0.349
Planned pregnancy status	Planned	49.82 ± 26.79	68.45 ± 8.79
	Unplanned	51.64 ± 28.34	64.68 ± 10.0
	<i>t</i>	0.414	2.578
	<i>P</i>	0.679	0.011
Decision-maker for the pregnancy	Wife	43.68 ± 25.92	67.00 ± 9.32
	Husband	53.57 ± 31.00	62.40 ± 10.11
	Spouses jointly	50.28 ± 26.38	68.75 ± 8.66
	KW	1.182	13.476
	<i>P</i>	0.554	0.001 c > a, b

ANOVA test (*F* values), *t*-test (*t* values), and Kruskal-Wallis test (KW values) were used.

Table 6. The relationship between PSAS and SSS

Scales	SSS	
PSS	r_s	0.005
	<i>p</i>	0.940

r_s : Spearman correlation

4. Discussion

In high-risk pregnancies, the changes related to maternal and fetal health can lead to anxiety, fear, and stress, negatively affecting the adaptation process during pregnancy^[15].

The average PSAS score of the pregnant women in the scope of the study was found to be below the average (50.24 ± 27.10). Similar to the research finding in Akın's (2018) study, the average PSAS score was found to be 56.88 ± 24.59 , indicating that the stress level was below the medium^[5]. In Chen's (2015) study on women in the Taiwan region, the average score was 53.96 ± 21.04 ^[17]. In contrast to the research findings of this study, in a study conducted by Koyucu Genç *et al.* (2020) on primiparous and multiparous pregnant women, the average PSAS score for primiparous women was 94.81 ± 12.72 , and for multiparous women, it was 82.91 ± 13.74 ^[18]. Karataş Baran *et al.* (2020) also found that the stress levels of high-risk pregnant women were higher compared to normal pregnancies^[19]. It is believed that the fact that nearly half of the pregnant women were in the last trimester and may have accepted the problems arising during their pregnancy could have influenced this result.

In this research, no significant difference was found between the pregnant women's education level, employment status, income level, the quality of their relationship with their spouses, and the type of marriage with the PSAS. In the literature, there are different results compared to the research findings of this study. In a study by Güler (2020) that assessed stressors during pregnancy, it was found that the employment and high education level of pregnant women facilitated adaptation to pregnancy, having a low income increased pregnancy stress and problems in their relationships with spouses and the social environment caused issues during pregnancy^[20]. In a study by İnciser Paşalak (2016), it was found that the education level of pregnant women did not affect their adaptation to pregnancy, but income level and the social security of pregnant women influenced the adaptation process^[21]. In Doğrul's study (2020), pregnant women with university education and higher had lower distress levels in pregnancy compared to those with lower levels of education^[8]. In a study by Demir Alkin and Beydağ (2020) on women who had three or more pregnancies, no significant difference was found between the education and employment status of pregnant women and their perceived stress, but a significant difference was found between their income levels and perceived stress^[22].

The research outcome may have been influenced by the region where the included pregnant women lived, the educational and employment status of individuals with high-risk pregnancies not affecting the stress levels that could arise in the existing risky situation, and the income level not being a source of stress for pregnant women.

The average PSAS score of pregnant women who were experiencing their first pregnancy and in the first three months of pregnancy was found to be higher compared to the other groups. Similar to this study, in a study conducted by Demir Alkin and Beydağ (2020), significant differences were found between the perceived stress during pregnancy and the number of pregnancies^[22]. Various studies in the literature have also reported that the number of pregnancies and the gestational week affect stress levels^[3,23,24]. Experiencing pregnancy for the first time, which is an important process in a woman's life, can lead to stress due to the woman facing an unknown situation. Depending on the intensity of ambivalent feelings during the first trimester, the pregnant woman may experience a wide range of emotions and higher emotional intensity, which can lead to a stressful period.

No significant difference was found between who made the decision to become pregnant and whether the pregnancy was planned in relation to the PSAS. Demir Alkin and Beydağ (2020) also found no significant difference between the planned status of the pregnancy and the perceived stress in pregnant women^[22]. In Elkin's (2015) study, no significant differences were found between the planned status of pregnancy and coping with stress^[4]. In Derman's (2020) study, individuals experiencing planned pregnancies had lower stress levels^[10]. This result suggests that the joint decision-making process regarding pregnancy by pregnant women and their

partners does not significantly affect stress levels.

The average SSS score of the pregnant women in the study was found to be at a moderate level (57.69 ± 9.21). Similarly, in the study by Yüksekak and Yurdakul (2021), the average SSS score of pregnant women was found to be 68.99 ± 10.8 , indicating a high level of spousal support^[25]. In Öngay's study (2019) on women who had miscarriages, the average SSS score was found to be 70.76 ± 11.44 ^[7]. In the study by Nazık *et al.* (2010), pregnant women were found to perceive high levels of support from their partners^[26]. Sokoya *et al.* (2014) stated that most pregnant women require spousal support during pregnancy and childbirth and that pregnancy becomes less stressful with spousal support^[27]. It is considered that the fact that the majority of the participating pregnant women had a planned pregnancy and made the decision about pregnancy jointly with their partners influenced the result.

Pregnant women with a university education (70.51 ± 7.63), those who were employed (69.24 ± 8.68), those with higher income than expenses (69.16 ± 8.98), those with a good relationship with their spouses (69.84 ± 7.77), and those who got married by mutual agreement (68.69 ± 8.84) had higher average SSS scores (**Table 4**). Similarly, in Derman's study (2020), working pregnant women perceived higher levels of support when they had higher incomes than expenses^[10]. In the study by Pasinoğlu and Metin (2016), pregnant women and their partners who were employed, had a high level of education, and had a good income were found to have higher support perceptions^[28]. Similarly, in the study by Yılmaz and Pasinoğlu (2014), pregnant women with highly educated partners were found to have higher levels of spousal support^[29]. Akkaş (2014) also found that pregnant women with good relationships with their partners had higher perceived spousal support^[30].

Pregnant women who were experiencing their first pregnancy and had planned their pregnancy also had a higher level of spousal support.

Similar to the research findings, in the study by Yüksekak and Yurdakul (2021), it was found that pregnant women who were experiencing their first pregnancy and had planned pregnancies had higher levels of spousal support^[25]. In the study by Nazık *et al.* (2010), a significant difference was found between spousal support and planned pregnancies^[26]. Derman's study (2020) found that women with fewer pregnancies had higher perceptions of spousal support^[10]. In the study by Moseson *et al.* (2018), a significant difference was found between the planned status of pregnancy and the level of social support during pregnancy^[31]. Barton *et al.* (2017) also found that pregnant women who planned their pregnancies had a higher level of perceived social support^[32]. These results support the findings of this study. It is suggested that the majority of pregnant women, despite not being their first pregnancy, had planned their pregnancies jointly with their partners and felt the support provided by their spouses to a high extent.

The study found that the level of spousal support of the pregnant women in the study did not affect pregnancy stress. In contrast to the study findings, different studies that examined factors affecting depression, anxiety, and stress during pregnancy have found that spousal support affects pregnancy stress^[33-35]. Doğrul (2020) concluded that distress decreased with increased spousal support in pregnant women^[8]. Derman (2020) found a significant difference between the psychosocial health status during pregnancy and spousal support^[10]. In the study by Demir Alkin and Beydağ (2020), women who went through pregnancy without receiving support perceived higher stress levels compared to those who received support^[22]. Kılıçaslan (2008) and Üst (2012) in two different studies found that pregnant women who received social support had reduced anxiety and worry levels^[36,37]. This result was attributed to the limited time that partners were allowed to spend with pregnant women due to restrictions on hospital visiting hours during the pandemic.

As a result of the study, the stress levels of pregnant women were found to be low, while their levels of spousal support were moderate. The stress levels of pregnant women who were experiencing their first pregnancy and in the first three months of pregnancy were found to be higher; the levels of spousal support

were lower in those with second or more pregnancies, unplanned pregnancies, and those whose partners decided for pregnancy. The study found that the perceived spousal support of pregnant women did not affect their stress levels.

The following recommendations were made as a result of this study:

- (1) In the assessment of pregnant women's health, in addition to physical assessment, a psychosocial assessment should be included in the anamnesis. The continuity of the assessment of psychosocial health in existing data collection forms should be ensured, and based on the results obtained, pregnant women should receive the necessary professional support.
- (2) Especially for pregnant women experiencing their first pregnancy in the first trimester, identifying the situations that increase their stress levels and providing information/education accordingly.
- (3) Encouraging pregnant women with second or more pregnancies, unplanned pregnancies, and those whose partners decided for pregnancy to participate in prenatal education classes and care programs given before childbirth.
- (4) It is recommended to plan studies aimed at reducing the stress levels of pregnant women and increasing the levels of spousal support during the prenatal period, where spouses participate together.

Disclosure statement

The authors declare no conflict of interest.

Author contributions

All authors were involved in the conceptualization, methodology, formal analysis, and writing (review and editing) of the study. ZO performed the investigation, visualization, and writing the original draft of the study. KDB provided supervision of the study.

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