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The relationship between support systems and anxiety in couples admitted to the emergency department with vaginal bleeding

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ABSTRACT

Introduction: First-trimester vaginal bleeding largely occurs due to miscarriage, ectopic pregnancy, gestational trophoblastic diseases. Pregnant women diagnosed with threatened abortion experience and their spouses severe anxiety and stress due to the probability of the pregnancy ending. Couples having difficulty coping with the see motions need support systems. The aim of this study was to examine the relationship between the anxiety levels experienced by couples who present at the emergency department with a complaint of vaginal bleeding and are diagnosed with threatened abortion, as well as their support systems.

Methods: The study was conducted with 276 participants (138 pregnant women and their spouses) admitted to the obstetrics emergency department of an obstetrics and paediatrics hospital in Turkey between December 2014 and March 2015. Data were collected through a demographic information form developed by the researcher, the State-Trait Anxiety Inventory (STAI), and the Multidimensional Scale of Perceived Social Support (MSPSS).

Results: There were significant negative associations between mean the State-Trait Anxiety Inventory scores and Multidimensional Scale of Perceived Social Support scores of the pregnant women and their spouses ($p < 0.05$). The couples' anxiety levels did not significantly differ according to whether they received support from each other and from emergency nurses ($p > 0.05$).

Conclusion: It was found that both state and trait anxiety levels of the couples decreased as perceived social support increased. However, it was determined that the support couples received from each other and from emergency nurses was not sufficient in terms of reducing anxiety.

1. Introduction

Among the most common reasons for admission to emergency departments during pregnancy are vaginal bleeding, pelvic pain, nausea, headaches, dizziness, and syncope [1,2]. First-trimester vaginal bleeding largely occurs due to miscarriage (threatened, inevitable, incomplete, or complete), ectopic pregnancy, gestational trophoblastic diseases, and cervical lesions [3–5]. The definition of a threatened abortion is pregnancy-related bloody vaginal discharge or frank bleeding during the first half of pregnancy without cervical dilatation [6]. Nearly 25% of pregnant women have some degree of vaginal bleeding during the first two trimesters, and about 50% of these cases progress to miscarriage [6,7]. According to the Turkish Population and Health Survey (2013), 14% of all pregnancies end in miscarriage [8]. In the case of threatened abortion, the mother and the foetus both have a chance of survival, but in other forms of miscarriage, the mother is treated, and the foetus is lost [9].

Pregnant women diagnosed with threatened abortion experience severe anxiety and stress due to the probability of the pregnancy ending [10,11]. Additionally, paternal anxiety often occurs alongside the depression and anxiety experienced by the pregnant woman in the process of threatened abortion, which is a subject newly defined in the literature [12]. Since pregnancy provides women and their spouses with self-confidence and a sense of value, the risk of the pregnancy ending results in the loss of not only the expected child but also the parents' dreams for the child, their role expectations, and their visions of family life [3,13]. In addition, because the prognosis of the pregnancy in the case of a threatened abortion is not clear, healthcare personnel cannot use clear terms about the possible outcome of the pregnancy [11,13,14]. This uncertainty increases the anxiety level of the patient and family [10,11,14].

Parents having difficulty coping with these emotions need support systems [14]. Previous studies stressed that couples need support from health professionals in this period just as much as they need their social support systems [13,15–19]. It has further been reported that health

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professionals were effective in activating the support systems of pregnant women (especially mothers, spouses, and families), and that in cases where couples could not find social support systems, health professionals could improve the health outcomes of the mother and the baby in families at risk [17,18]. Couples were found to expect holistic care, information integration, and a positive empathic attitude from health professionals, especially emergency nurses [15,16,19]. In their study, Edwards et al. (2018) reported that women looked for opportunities to discuss their emotions when experiencing threatened abortion, whereas men wanted to hear the 'truth.' Edwards et al. suggested that health professionals should use a sex-specific approach when providing support to such couples [19].

When the literature was examined, the number of studies that revealed the emotions of couples diagnosed with threatened abortion and their support systems to guide health professionals was limited [11,20,21]. For this reason, the aim of this study was to examine the relationship between the anxiety levels experienced by couples who present at the emergency department with a complaint of vaginal bleeding and are diagnosed with threatened abortion, as well as their support systems.

2. Methods

2.1. Study setting

This correlational and cross-sectional study was conducted from 15 December 2014 to 15 March 2015 in the obstetrics emergency department of an obstetrics and paediatrics hospital in Turkey. A power analysis using the Gpower computer program indicated that a total sample of 106 pregnant women and 106 male partners would be needed to detect large effects (d = 0,3066) with 96,38% power using a *t* test between means with alpha at. In this respect, 138 pregnant women and 138 male partners were interviewed. Inclusion criteria for the pregnant women included having a pregnancy duration of < 20 weeks, being diagnosed with threatened abortion after presenting at the emergency department with vaginal bleeding, not being diagnosed with a mental disorder requiring medication, and volunteering to participate in the study. Inclusion criteria for the spouses included not being diagnosed with a mental disorder requiring medication and volunteering to participate in the study.

2.2. Study design

As data collection tools, a male/female questionnaire developed by the researcher based on the literature, the State-Trait Anxiety Inventory, and the Multidimensional Scale of Perceived Social Support were used. Data was collected on the female participants via an information form that included the socio-demographic and obstetric histories of the pregnant women and questions regarding health personnel; data on the male participants was gathered via an information form that included the socio-demographic characteristics of these spouses and questions regarding health personnel. There is no measurement tool tested for validity and reliability in Turkish appropriate for our study to measure health personnel support in Turkey. For this reason, questionnaire items were used to assess health personnel support.

The STAI was developed by Spielberger et al. in 1970 [22]. The validity and reliability of the Turkish form of the scale have been previously tested [23]. The answers given for the STAI had Likert-type scoring. This Likert-type scale separately measured state and trait anxiety with 20 questions each. Higher scores indicated higher levels of anxiety, and lower sores indicated lower levels of anxiety. Higher scores from both the state and trait anxiety scales indicated higher anxiety levels. Additionally, 36 points or less was defined as no anxiety, 37–42 points as mild anxiety, and 42 or more points as high levels of anxiety.

The MSPSS was developed in 1988 by Zimet and Dahlem [24]. The validity and reliability of the Turkish form of the scale have been previously tested [25]. The scale subjectively evaluates the sufficiency of social support received from three different sources: family, friends, and significant other. The answers given for the MPSS had Likert-type scoring. The lowest possible score on a subscale was 4, while the highest score was 28. The lowest possible score on the whole scale, calculated by adding the subscale scores, was 12, while the highest was 84. Higher scores on the overall scale indicated higher perceived social support.

2.3. Data analysis

The IBM SPSS Statistics software, version 21, was used to analyse the data. In data analysis, the software package was used to calculate descriptive measures (mean values, standard deviations, minimums, maximums, and percentages). Independent-samples t-tests, one-way analysis of variance, and Pearson correlation analysis were performed. The level of statistical significance was set at $p < 0.05$.

2.4. Ethical considerations

The study was initiated after receiving approval from Ondokuz Mayıs University Clinical Research Ethics Board.

3. Results

The socio-demographic characteristics of the pregnant women diagnosed with threatened abortion and their spouses are given in Table 1.

When the STAI mean scores of the couples in the study were examined, it was seen that the mean total State (p = 0.050) and Trait (p = 0.001) anxiety scores significantly varied by sex (Table 2). The mean total MSPSS scores and subscale scores of the couples are shown in Table 2, and a statistically significant difference between mean friend support scores according to sex was found (p = 0.025) (Table 2).

The stillbirth rate of the women diagnosed with threatened abortion before their current pregnancy was determined to be 2.2%, their miscarriage rate was determined to be 14.4%, their abortion rate was determined to be 13.0%, and their rate of live birth was determined to be 52.4% (Table 3). No statistically significant difference between the State Anxiety Inventory (SAI) ($p > 0.05$) and Trait Anxiety Inventory (TAI) ($p > 0.05$) scores of the women could be found according to status regarding stillbirth, miscarriage, abortion, and live birth before the current pregnancy (Table 3).

It was found that the mean MPSS scores were significantly and negatively correlated with the mean SAI (p = 0.046) and the mean TAI (p = 0.001) among the pregnant women. A statistically significant negative correlation between the mean MPSS scores and the mean SAI (p = 0.003) and TAI scores (p = 0.006) of the spouses was also found (Table 4).

The distribution of the mean SAI and TAI scores of the couples according to their statuses regarding receiving support from their spouses, physicians, and emergency nurses are provided in Table 5. When the mean SAI and TAI scores of the couples were examined according to the spousal support received from each other, no statistically significant

Table 1
The socio demographic characteristics of the couples diagnosed with threatened abortion.

Socio Demographic Characteristics	Female (n = 138)	Male (n = 138)
Age **	27,9 ± 5,4	31,4 ± 5,4
Age of marriage**	22,1 ± 4,5	26,0 ± 4,0
Level Of Education*		
Elementary School	33 (23,9)	6 (4,3)
Intermediate School	39 (28,3)	30 (21,7)
High School	27 (19,6)	63 (45,7)
University	39 (28,3)	39 (28,3)
Working Status*		
Working	45 (32,6)	135 (97,8)
Not Working	93 (67,4)	3 (2,2)

*Frequency (percentage) **Mean ± Standard deviation

Table 2
Comparison of Mean Multidimensional Perceived Social Support Scale and State-Trait Anxiety Inventory scores in couples

State-Trait Anxiety Inventory	Female (n = 138)	Male (n = 138)	Test Statistic	p
State	43,8 ± 4,5	41,6 ± 5,6	t = 1,931	**0,050**
Trait	48,7 ± 5,6	45,8 ± 5,8	t = 4,218	**0,001**
MSPSS Total and Sub Dimension Scores in couples				
Family	24,6 ± 5,0	24 ± 5,4	t = 0,865	0,388
Friends	16,8 ± 8,9	19,1 ± 7,7	t = -2,247	**0,025**
Special Person	13,5 ± 9,1	13,3 ± 8,2	t = 0,182	0,856
Scale Total	54,9 ± 17,1	56,3 ± 16,3	t = -0,761	0,447

Independent samples *t* test was used

Table 3
Comparison of obstetric stories and State-Trait Anxiety Inventory mean scores of pregnant women

Obstetric History	SAI Mean Scores ($\bar{X}$ ± SS)	Test Statistic/p **	TAI Mean Scores ($\bar{X}$ ± SS)	Test Statistic/ p**
History miscarriage				
Yes	59,7 ± 12,1	t = 2.405	44,0 ± 8,3	t = 0.062
No	60,5 ± 11,3	p = 0.060	45,0 ± 8,1	p = 0.912
History abortion				
Yes	59,7 ± 12,1	t = 2.405	44,0 ± 8,3	t = 0.062
No	60,5 ± 11,3	p = 0.060	45,0 ± 8,1	p = 0.912
History abortion				
Yes	59,2 ± 12,1	t = 0.020	44,3 ± 8,3	t = 0.071
No	64,8 ± 9,1	p = 0.725	44,5 ± 8,1	p = 0.505
History stillbirth				
Yes	59,9 ± 11,9	t = 0.015	44,3 ± 8,3	t = 1.538
No	61,0 ± 11,5	p = 0.881	45,0 ± 5,0	p = 0.894
Living the child				
Yes	62.4 ± 9.1	t = 1.614	43.7 ± 82.6	t = 0.575
No	58.8 ± 18.8	p = 0.109	44.6 ± 82.8	p = 0.566

*Frequency(percentage), **Independent samples *t* test was used

difference in the mean scores of either the pregnant women ($p > 0.05$) or their spouses ($p < 0.05$) could be found (Table 5). The pregnant women's SAI scores significantly differed according to whether they received support from physicians ($p = 0.042$) (Table 5); however, no statistically significant difference in the mean SAI ($p > 0.05$) and TAI ($p > 0.05$) scores of the spouses could be found according to status regarding receiving support from physicians. When the mean SAI and TAI scores of the couples were examined according to receiving support from emergency nurses, no statistically significant difference in the mean scores of either the pregnant women ($p > 0.05$) or their spouses ($p > 0.05$) could be found (Table 5).

4. Discussion

According to the study results, the mean age at first marriage was 22.1 ± 4.5 years for women and 26.0 ± 4.0 for men. In a study published by the Turkish Statistical Institute (TurkStat), the mean age of first marriage among the Turkish population in 2014 was 26.9 for males and 23.7 for females in [26]. All pregnancies included in the study occurred in the context of a marriage union. According to the results of our study, the mean age of first pregnancy was found to be between the ages of 21 and 25, with a rate of 37.4%. It was found that 68.9% of the women participating in the study previously experienced at least one pregnancy. According to the obstetrics findings of women across Turkey, the mean age of first pregnancy was found to be 21 [8]. Based on these results, the marriage types of the couples in the present study were representative of the Turkish population.

The mean State Anxiety Inventory and Trait Anxiety Inventory (SAI-TAI) scores of the pregnant women were compared according to their status regarding stillbirth, miscarriage, abortion, and live birth before the current pregnancy, and no statistically significant difference could be found. In a study by Tabur et al. (2007), no statistically significant difference in mean SAI-TAI scores could be found according to status regarding miscarriage or live birth before the current pregnancy [27]. Similarly, in a study by Zhu et al. (2018), no statistically significant difference between the anxiety levels experienced by women with or without miscarriage in their obstetric history could be found [20]. In a study by Candan (2012), no statistically significant difference between the mean STAI scores of women who had and had not previously experienced abortus could be found [28]. In their study, Uçuk et al. (2016) determined the mean SAI and TAI scores of primipara women diagnosed with miscarriage to be significantly higher compared to multipara women [10]. In a study by Marcinko et al. (2012), the anxiety and depression levels of pregnant women who had experienced spontaneous abortus in their previous pregnancies were found to be higher compared to those who had not [29]. When the literature was examined, findings contradicting our results emerged.

When the mean total STAI scores of the couples in the study were examined, it was seen that they varied by sex. Higher mean STAI scores of the pregnant women at a statistically significant level is a finding supported by the literature [11,19–21]. In our study, when the couples' total MPSS scores and subscale scores were examined, a statistically significant difference in the mean friend subscale score by sex was found. The male participants were more able to control their anxiety through the support they received from their friends. Candan (2012) found no statistically significant difference among the mean scores for total, friend, family and significant other perceived social support between women and their spouses experiencing loss of pregnancy [28]. According to this results, it was thought that the couples may not have perceived the social support they received from their families to be at sufficient levels, or that women diagnosed with threatened abortion may not have wanted to receive support from relatives out of fear that abortus could result in a loss of status and negative comments towards the women given the way Turkish culture generally perceives such issues. Facing a need for social support that their families could not meet, couples may have sought what they perceived as greater social support from friends who were similar to them in age, status, interests, and values. In a qualitative study examining the support systems needed by potential parents during antenatal services, the participants stressed the importance of peer support [30].

In our study, according to the correlation results for the mean MSPSS and the mean STAI scores, the pregnant women's and their spouses' SAI and TAI decreased as perceived social support increased. Thus, it was shown that social support diminished the STAI levels of the pregnant women and their spouses. Oruçlu (2011) found a statistically significant relationship between the mean MSPSS score of high-risk pregnant women and their level of ability to cope with stress [31]. In a

Table 4
The correlation between the mean scores from the Multidimensional Perceived Social Support Scale and the State-Trait Anxiety Inventory

Social Support Scale – The State-Trait Anxiety Scale	Female	Male
Perceived Social Support – State Anxiety Scale	r = −0,170; **p = 0,046**	r = −0,251; **p = 0,003**
Perceived Social Support – Trait Anxiety Scale	r = −0,275; **p = 0,001**	r = −0,232; **p = 0,006**

*Pearson correlation test was used

Table 5
The distribution of the State-Trait Anxiety Inventory mean scores of the couples according to their status regarding receiving support from their spouses, physicians, and emergency nurses

Status regarding receiving support of the couples	State Anxiety		Trait Anxiety	
	Female	Male	Female	Male
Receiving support from spouse	43,4 ± 3,9	41,5 ± 5,1	49,2 ± 5,9	46,1 ± 6,2
Not receiving support from spouse	44,0 ± 4,8	43,7 ± 5,8	48,4 ± 5,3	45,6 ± 5,5
Test Statistic	t = −0,846	t = −2,286	t = 0,784	t = 0,482
p	0,399	0,074	0,434	0,631
Receiving support from physician	42,8 ± 3,2	41,9 ± 5,6	48,0 ± 5,7	45,8 ± 4,7
Not receiving support from physician	44,3 ± 4,9	42,8 ± 5,6	49,1 ± 5,5	45,9 ± 6,1
Test Statistic	t = −2,056	t = −0,727	t = −1,099	t = −0,071
p	**0,042**	0,469	0,274	0,944
Receiving support from emergency nurses	44,3 ± 3,7	43,7 ± 5,5	47,8 ± 5,5	46,5 ± 5,5
Not receiving support from emergency nurses	43,6 ± 4,7	42,5 ± 5,5	48,9 ± 5,6	45,8 ± 5,8
Test Statistic	t = 0,738	t = 0,750	t = −0,985	t = 0,394
p	0,462	0,455	0,326	0,695

Independent samples *t* test was used

study by Arshad and Hafeez (2016), it was similarly shown that there was a negative correlation between stress experienced during miscarriage and perceived social support, wherein social support was found to be an important factor in coping with such stress [32]. Our study is thus supported by the literature.

When the mean SAI and TAI scores of the couples were examined according to the spousal support received from each other, no statistically significant difference in the mean scores of either the pregnant women or their spouses could be found. According to these results, the pregnant women received support from their spouses, but this was not sufficient to decrease their anxiety. In another study conducted in Turkey, support received from family, friends, and physicians was mentioned by very few individuals. The most widely mentioned type of support was 'spousal support,' and the anxiety levels of women who perceived more effective spousal support were found to be lower [33]. In a qualitative study, women experiencing high-risk pregnancies expressed that they desired emotional care from their spouses and regarded such care as an indicator of their spouses' love for them. The pregnant women felt that this support would decrease the risks they were facing with their pregnancies [34]. Some studies have indicated that pregnant women receive the most support during pregnancy from their spouses [14,16,19,20]. However, the fact that spouses experience anxiety in this process as well can constitute an obstacle to the pregnant women receiving the expected support from spouses. In this context, health personnel should consider utilising their role in activating the social support systems of pregnant women.

When the mean SAI and TAI scores of the couples were examined according to receiving support from physicians, the women's SAI scores and support from physicians were found to be significantly associated. These results showed that a woman facing losing her child attributed vital importance to everything said by the physician, whom she may have viewed as the only person who could provide answers about the baby's health. Consequently, the pregnant woman attached high importance to the physician's words and wanted to know as much as possible about the baby's health from the physician. Each explanation and test provided by the physician signified hope for the women.

The mean SAI and TAI scores of the pregnant women and their spouses in cases where they did and did not receive support from emergency nurses were examined, and no statistically significant difference could be found. Similarly, Tabur (2007) reported low rates of help and support from healthcare personnel during hospital stays with a diagnosis threatened abortion [27]. In their study, Rowlands and Lee (2010) examined the support received by women under risk of miscarriage from the health centre in their study and reported that the pregnant women were exposed to insensitive remarks while being treated at the hospital, that health professionals lacked empathy, and that sufficient information was not provided to the pregnant women [35]. In another study conducted to assess the attitudes of health professionals towards the psychological needs of patients having miscarriages, it was concluded that health professionals could not yet provide the support needed by women having miscarriages and that health professionals should be more aware of the importance of this need for added sensitivity [36]. These findings could be explained by prejudice against healthcare personnel using too many medical terms, which could then cause communication problems and further increase anxiety levels. Additionally, emergency department healthcare personnel's workloads and personal characteristics might have in some cases rendered them incapable of providing sufficient help and support to pregnant women at risk of abortus. This situation could be explained as pregnant women at risk of abortus preferred that emergency department healthcare personnel not share their emotions due to their workload and personal characteristics [14]. Additionally, emergency nurses may have abstained from interference since they give different and possibly exaggerated meanings to 'support' in their profession. For this reason, the number of studies analysing the support needs and expectations of couples experiencing threatened abortion should be increased, and the results should be shared with emergency nurses. If this is provided, it can be hypothesised that couples and health personnel could more effectively understand each other and have realistic mutual expectations.

5. Limitations

There is only one obstetrics and children's hospital with an obstetrics clinic in the city in which our study was conducted, and thus the study was carried out at this hospital. However, pregnant women can be admitted to various obstetrics clinics, as well as emergency departments in cases of vaginal bleeding. Therefore, the study findings cannot be generalised to the entire population. In addition, since couples were the targets in of study, reaching pregnant women presenting with threatened abortion and their spouses who agreed to participate in the study was difficult. Due to the importance and sensitivity of the topic, it is recommended that larger scale studies in different regions should be conducted.

6. Conclusion

According to the study results, women obtained higher TAI and state SAI scores on the STAI. Women were found to have been more anxious than men. Support from physicians was effective in decreasing pregnant women's anxiety levels, and support received from emergency nurses was insufficient in decreasing anxiety levels of pregnant women and their spouses.

Declaration of Competing Interest

None.

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