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INVESTIGATION OF PSYCHOSOCIAL HEALTH AND DEPRESSION LEVELS OF PREGNANCY

GEBELERİN PSİKOSOSYAL SAĞLIK VE DEPRESYON DÜZEYLERİNİN İNCELENMESİ

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Abstract

Objective: The present study was conducted to examine the relationship between psychosocial health and depressive symptom levels of pregnant women.

Methods: The data of 150 pregnant women who were followed up in the Family Healthcare Center were collected by face-to-face interview. The data were collected with study specific Personal Data Form, the Psychosocial Health Assessment in Pregnancy Scale (PHAPS), and Beck Depression Inventory (BDI).

Results: The mean age of the pregnant participants was 27.49 ± 5.69 years, and the mean marriage duration was 6.21 ± 5.33 years and average number of pregnancies 2.50 ± 1.58. Of the pregnant women participating in the study, 26.0% were in the first trimester, 34.7% were in the second trimester, and 39.3% were in the third trimester. The total mean score of the PHAPS during the pregnancies of the women was 2.06 ± 0.6 and their psychosocial health status was poor. It was found that 23.3% of the pregnant women had mild, 8.7% had moderate, and 0.7% had severe depression symptoms.

Conclusion: Negative and moderately significant relations were detected between better psychosocial health status and depression during pregnancy.

Keywords: *Pregnant, psychosocial health, depression.*

Öz

Amaç: Bu araştırma gebelerin psikososyal sağlık ve depresif belirti düzeyleri arasındaki ilişkinin incelenmesi amacıyla yapıldı.

Yöntem: Aile Sağlığı Merkezi'nde izlenen 150 gebenin verileri yüz yüze görüşme yöntemi ile toplandı. Veriler, 10 Mart 2021-26 Temmuz 2021 tarihleri arasında yüz yüze görüşülerek toplandı. Veriler; çalışmaya özel Kişisel Veri Formu, Gebelikte Psikososyal Sağlığı Değerlendirme Ölçeği (GPSDÖ) ve Beck Depresyon Ölçeği (BDÖ) ile toplandı.

Bulgular: Gebelerin ortalama yaşı $27,49 \pm 5,69$ yıl, ortalama evlilik süresi $6,21 \pm 5,33$ yıl ve ortalama gebelik sayısı $2,50 \pm 1,58$ idi. Çalışmaya katılan gebelerin %26,0'sı birinci trimesterde, %34,7'si ikinci trimesterde ve %39,3'ü üçüncü trimesterdeydi. Gebelerin Gebelikte Psikososyal Sağlığı Değerlendirme ölçeği toplam puan ortalamasının 2.06 ± 0.6 ve psikososyal sağlık durumlarının kötü olduğu belirlendi. Gebelerin %23,3'ünde hafif, %8,7 'sinde orta ve % 0,7'sinde ise şiddetli depresyon belirtisi olduğu saptandı.

Sonuç: Gebelikte psikososyal sağlık durumu ile depresyon arasında negatif yönlü ve orta düzeyde anlamlı bir ilişki bulundu.

Anahtar Kelimeler: *Gebe, psikososyal sağlık, depresyon.*

Introduction

Pregnancy is among the most important developmental experience in a woman's life because of the effects of the physiological and psychosocial changes experienced by the woman during pregnancy.[1] The pregnancy process, which women experience happily and excitedly, may become an emotional and mental struggle with the upcoming birth.[2,3] Diagnosing and treating the psychological disorders manifesting in this period is important for the health of the mother and the baby.[4] Both social and psychological problems affect the psychosocial health of pregnant women.[5] The support of the spouse during pregnancy, social support, economic level, body image, smoking, alcohol, substance use, stress, and depression are among the factors that affect psychosocial health, and negative situations can cause anxiety and depression in pregnant women.[5] In a study performed by the World Health Organization, it was reported that women experience depression at the highest level during pregnancy, childbirth, and puerperium, and is more common in the 18-44 age group. Although depression is detected in 10-15% of pregnant women in developed countries, this reaches 20-40% in developing countries.[6] Rwakarema et al. found that 50% of depression symptoms were detected in the second trimester, 34.3% in the third trimester, and 15.7% in the first trimester.[7] Tekgöz et al. reported that 50.5% of pregnant women showed a depressive symptom in the third trimester.[8] Recognition and prevention of psychosocial reactions and healthcare practices are important, together with physiological reactions during pregnancy, in terms of reducing negative effects on mother and fetus/newborn health and developing preventive mental healthcare services. When medical evaluations are performed in pregnancy follow-ups, it is important to adopt a holistic approach to evaluate psychosocial health and depressive symptoms in addition to the physical evaluation.[9] Thus, the purpose of the present study was to examine the relationship between psychosocial health status of pregnant women and their depressive symptom levels.

Methods

Participants

Both descriptive and cross-sectional sampling methods were used in this study. The study sample consisted of 150 pregnant women, between the ages of 18-49, registered in two Family Healthcare Centers in Gaziantep city, and who were literate and accepted to participate in the study. Of the pregnant women participating in the study, 26.0% were in the first trimester, 34.7% were in the second trimester, and 39.3% were in the third trimester. The study was conducted in line with the Declaration of Helsinki. Ethics Committee approval was obtained from SANKO University before starting the study along with necessary permissions that were obtained from the institutions where the study would be conducted. Pregnant women who participated in the study were informed about the purpose and subject of the study, and their consent was obtained thus ensuring that only those who volunteered participated.To determine the sampling size of the study, the power calculation was performed considering the depression parameter against a population of 300 people and this showed that a sample of at least 122 people was sufficient at 0.95 power. A total of 150 pregnant women who agreed to participate in the study constituted the sampling of the study. The data were collected by face-to-face interviews between 10 March 2021 and 26 July 2021.

Measures

The Personal Data Form. This form was developed by the researchers and consisted of questions about the pregnant women and their spouses (age, marital status, educational status, occupation, family type, income level) and questions that evaluated antidepressant use, psychiatric illness, and substance and alcohol use.

Psychosocial Health Assessment in Pregnancy Scale (PHAPS). The scale, which was developed by Yıldız (2011) to evaluate psychosocial health during pregnancy.[10] The scale is a 5-point Likert-type scale that consists of 46 items and six dimensions, which are "pregnancy and spouse relation characteristics, anxiety and stress characteristics, domestic violence characteristics, psychosocial support needs, familial characteristics, and characteristics of physical-psychosocial changes related to pregnancy". The sub-dimensions of the scale are as follows; Characteristics of the Relationship between the Pregnant and the Spouse (CRPS), Characteristics of Anxiety and Stress (CAS), Characteristics of Domestic Violence (CDV), Characteristics of Psychosocial Support System (CPSS), Family Characteristics (FC), Characteristics of Physical-Psychosocial Changes Related to Pregnancy (CPPCP). The mean value is determined by dividing the total score obtained from the scale by the number of items, and results between 1 and 5 are obtained. Scores of 5 indicate good pyshosocial health while scores of 1 indicate that psychosocial health is very poor. The same evaluation is made in the sub-dimensions, and as the score approaches 1, it indicates that there is a problem with that sub-dimension. In the reliability study of the scale, the Cronbach's α internal consistency value was reported as 0.93.[10] Cronbach's α was found to be 0.90 in this study. The interpretation for score ranges in the PHAPS assessment are ≤1.79 very poor, 1.80 - 2.59 poor, 2.60 - 3.39 moderate, 3.40 - 4.19 good and ≥4.20 - 5 very good. [10]

Beck Depression Scale (BDI). Beck Depression Scale was developed by Beck and consists of 21 items. The first validity and reliability study in Turkey was conducted by Hisli in 1989 and the Cronbach Alpha Coefficient was found to be 0.80.[11] In this study, Cronbach's Alpha was0.83. The participants were asked to score each item between zero (0) and three (3) when considering the last week. The depression score is obtained by summing these scores. The highest possible score is 63, and a high total score indicates greater severity of depression.[11]

Statistical Analysis

SPSS (Statistical Package or the Social Sciences) 23.0 package program was used for statistical analysis of the data. The Shapiro-Wilk, student t, Mann Whitney U, One-Way Anova, and Kruskal Wallis test were used in the analysis of the data. Tukey and Tamhane's T2 tests *Post Hoc* tests were also used to determine the differences between more than two groups. Pearson and Spearman Correlation tests were used to determine the relationship between scale scores. A Multiple Linear Regression Model was used to determine the factors that affected BDI and PHAPS scores.

Results

The mean age of the pregnant participants was 27.49±5.69 years, and the mean marriage duration was 6.21±5.33 years and average number of pregnancies 2.50±1.58. Of the

pregnant women participating in the study, 26.0% were in the first trimester, 34.7% were in the second trimester, and 39.3% were in the third trimester. When the distribution of the characteristics of the pregnant women regarding their pregnancies was examined, the presence of miscarriage during pregnancy and the mean number of abortions were 1.24±0.48 in 30% of the pregnant women. When the distribution of the characteristics of the pregnant women and their spouses was examined, 7.3% of pregnant women had a chronic disease, 3.3% had a psychiatric illness, and 7.3% had used antidepressants in the past. Other characteristics of the participants are shown in Table 1.

Table 1. Characteristics of the participants (*N*=150)

Characteristics	n	%
Trimester		
First trimester	39	26.0
Second trimester	52	34.7
Third trimester	59	39.3
Educational status		
Primary school	40	26.7
Secondary school	37	24.7
High school	39	26.0
University and above	34	22.7
Working status		
Yes	128	85.3
No	22	14.7
Family type		
Nuclear family	129	86.0
Big family	21	14.0
Family income level		
Low level	38	25.3
Medium level	112	74.7
Pregnancy planning status		
Planned	111	74.0
Not planned	39	26.0
Chronic disease in pregnant women		
Yes	11	7.3
No	139	92.7
Psychiatric disease in pregnant women		
Yes	5	3.3
No	145	96.7
Antidepressant use in pregnant women		
I have used in the past	11	7.3
I did not use	139	92.7
Spouse's chronic illness		
Yes	11	7.3
No	139	92.7
Spouse's psychiatric illness		
Yes	2	1.3
No	148	98.7
Spouse's use of antidepressants		
Yes	2	2
No	148	148
	Mean	**SD**
Age of Pregnant	27.49	5.69
Duration of marriage	6.21	5.33
Number of abortions (n=45)	1.24	0.48
Number of pregnancies	2.50	1.58
Number of living children	**1.18**	**1.26**

The mean BDI score of the pregnant women who participated in the study was 7.72±6.28, and the total mean PHAPS score was 2.06±0.46. The PHAPS scale sub-dimension scores are shown in Table 2.

In this study, it was found that 67.3% of the pregnant women did not show signs of depression, 23.3% showed mild, 8.7% moderate and 0.7% severe depression symptoms.

The relationship between the BDI and PHAPS scale and sub-dimension scales are given in Table 3. Although significant negative moderate correlations were detected between the BDI and the mean scores of CRPS, CAS, CDV, CPSS, CPPCP sub-dimensions, and total PHAPS scores of the pregnant women who participated in the study (*p*<0.05), it was also found that there was a low level of correlation with the FC sub-dimension mean score (*p*<0.05). Although a moderate and positive correlation was detected between the total mean of the PHAPS and the mean score of the CAS, CDV, FC, and CPPCP sub-dimensions (*p*<0.05), it was found that there was a high level and positive correlation between the CRPS sub-dimension score and the CPSS sub-dimension score mean (*p*<0.05). (Table 3)

The factors that affected the PHAPS total scores of the participants were also the variables observed to be significantly different in univariate analyses. On multivariate linear regression analysis, a statistically significant correlation was found with the pregnancy planning status (*p*=0.003) variable and BDI (*p*<0.001) score (Table 4).

Similarly, the factors that affected the mean BDI score of the participants that were significant in univariate analysis were subsequently trested in a multivariate linear regression analysis.

Significant correlations were found between the family type (*p*=0.019) variable and the PHAPS (*p*<0.001) scale score (*p*<0.05) (Table 5).

Discussion

The psychosocial health and depression levels, sociodemographic and pregnancy-related characteristics of 150 pregnant women were evaluated in the present study. Of the pregnant women participating in the study, 26.0% were in the first trimester, 34.7% were in the second trimester, and 39.3% were in the third trimester. The mean age of the pregnant participants was 27.49±5.69 years, and the mean marriage duration was 6.21±5.33 years and average number of pregnancies 2.50±1.58.

According to the present study results, the PHAPS total score and subscale scores of pregnant women were determined to be poor. Especially the PHAPS "Characteristics of domestic violence (CDV)," sub-dimension score was very poor. In a study conducted in our country, the psychosocial health levels of pregnant women were found to be higher than the scores of the current study. PHAPS was 3.88±0.55. PHAPS subscale mean scores; pregnancy and spousal relationship 3.94±0.64, anxiety and stress characteristics 3.23±0.92, domestic violence 4.49±0.70, psychosocial support needs 3.76±0.69, familial characteristics were determined as 4.13±0.72, and the characteristics of physical-psychosocial changes related to pregnancy were 3.67±0.86.[12] Poor psychosocial health during pregnancy causes an increased risk of preeclampsia and spontaneous abortion. Stress during pregnancy can also cause delays in language development, cognitive, behavioral, and psychomotor development of offspring, and has been

Table 2. Distribution of mean, standard deviation, median, minimum, maximum and Cronbach alpha values of the BDI and, PHAPS Scale and Sub Dimensions of the participants

Characteristics	Min	Min	Max	Median	X	SD	Cronbach alpha
BDI		0	31	6	7.72	6.28	0.830
PHAPS	1.07	3.37	1.97	2.06	0.46		0.900
CRPS	1		3.46	1.84	1.87	0.62	0.845
CAS	1		4.5	2.81	2.82	0.72	0.708
CDV	1		4.75	1.25	1.37	0.53	0.803
CPSS	1		4.43	2.14	2.27	0.69	0.701
FC	1		4	1.75	1.85	0.72	0.797
CPPCP	1		4.67	2.16	2.29	0.80	0.790

BDI: Beck Depression Inventory, PHAPS: Psychosocial Health Assessment in Pregnancy Scale CRPS: Characteristics of the Relationship between the Pregnant and the Spouse, CAS: Characteristics of Anxiety and Stress, CDV: Characteristics of Domestic Violence, CPSS: Characteristics of Psychosocial Support System, FC: Family Characteristics, CPPCP: Characteristics of Physical-Psychosocial Changes Related to Pregnancy.

Table 3. The relationship between BDI, PHAPS and subscales of the participants

Characteristics	BDI		PHAPS	
	r	*p*	r	*p*
CRPS	-0.316*	**<0.001**	0.740*	**<0.001**
CAS	-0.368*	**<0.001**	0.613*	**<0.001**
CDV	-0.486*	**<0.001**	0.668*	**<0.001**
CPSS	-0.516*	**<0.001**	0.797*	**<0.001**
FC	-0.168*	**0.040**	0.560*	**<0.001**
CPPCP	-0.383*	**<0.001**	0.700*	**<0.001**
PHAPS	-0.546*	**<0.001**		

Table 4. Factors affecting the PHAPS score

Variables	Unstandardised coefficients		Standardised coefficients	t	*p*
	β	S.E.			
Constant	1.234	.500		2.469	**.015**
Working status	-.060	.094	-.046	-.641	.522
Family income level	-.082	.072	-.077	-1.133	.259
Pregnancy planning status	.227	.076	.216	2.984	**.003**
Antidepressant use	-.102	.132	-.058	-.778	.438
Educational status	.040	.040	.097	1.011	.314
Duration of marriage	.037	.037	.071	.990	.324
BDI	.035	.005	.479	7.478	**<.001**

R=0.695, R2= 0.483, Adjusted R square 0.434, F=9.792, *p*<0.001, Durbin Watson=1.892
* *p*<0.05, Multiple linear regression

Table 5. Factors affecting the BDI score

Variables	Unstandardised coefficients		Standardised coefficients	t	*p*
	β	S.E.			
Constant	-10.605	2.855		-3.715	**<.001**
Family type	2.950	1.241	.163	2.377	**.019**
PHAPS	7.114	0.974	.524	7.306	**<.001**

R=0.581, R2= 0.337, Adjusted R square 0.319, F=18.448, *p*<0.001, Durbin Watson=1.832
* *p*<0.05, Multiple linear regression
* Pearson and Spearman correlation tests

associated with attention deficit and hyperactivity disorder.[13,14] For this reason, it is necessary for women to have good psychosocial health from the beginning of pregnancy and to control their depressive symptoms.[15] In the present study the BDI scores of the participants were found to be generally low.

A third of the participants in the cohort of the present study had some degree of depressive symptomology. There are studies in the literature showing depressive disorder during pregnancy.[15-17] In a study evaluating the relationship between antenatal depression, pregnancy and neonatal outcomes, it

was reported that 46.19% did not have depression, 35.28% had mild depression and 18.52% had severe depression.[17]

It can be considered that the low rate of depressive symptoms in the present study may be related to the fact that the majority of participants were young, the number of children was low, and pregnancy and the role of motherhood in the southeast region were recognized as pleasing.

According to the results of the study, significant and negative correlations were found between the BDI and the PHAPS total score and subscale scores . Similar to this study, in the study of Carolan-Olah et al., stress, anxiety, and depressive symptoms, which are dimensions of psychosocial health, were found to be at very high levels in pregnant women.[18]

According to the results of a prospective study; Psychosocial health during pregnancy, perceived stress, and psychosocial risk factors such as depression and anxiety have been reported to be important predictors of postpartum depressive symptoms.[19]

It was found that the "relations with spouses" of the pregnant women who participated in the study tended to be bad. The Characteristics of the Relationship Between Pregnant and Spouse (CRPS) sub-dimension score was poor (1.87±0.62). The low score of the Relationship Between Pregnant and Spouse (CRPS) sub-dimension suggests that the relationship between the spouses is not very good. There are similar studies in the literature.[5,20,21] Spousal support is among the most important factors in maternal mental health. Possibly because of the value given to pregnancy in our society, this finding may be interpreted as the replacement of spousal relations with parenthood and the decreased emotional closeness between the spouses during pregnancy.

Although the pregnancy period is a happy period for women, it is also a time when there is the possibility of encountering many stress and anxiety-inducing factors.[2] In the present study, Characteristics of Anxiety and Stress (CAS) sub-dimension score is 2.82±0.72, "anxiety and stress" levels were found to be at moderate levels. A cross-sectional study conducted with antenatal pregnant women in Virginia showed that high levels of perceived stress were associated with an increased likelihood of depression.[22]

There is evidence that the care received during the antenatal period and education about birth are important factors affecting fear and anxiety in the antepartum period and better quality antenatal care and education may reduce anxiety in this period.[20, 23]

"Characteristics of Domestic Violence (CDV) sub-dimension score is 1.37±0.53" was found to be at a "very poor" level in the present study. Da Cunha Coelho et al. found that lack of social support increased violence in their cohort of 828 pregnant women in Brazil.[24] In the study of Shrestha et al. conducted with 404 pregnant women, it was found that most of the violence against pregnant women was caused by husbands. More than half (65.6%) of those who were exposed to psychological violence reported that the biggest perpetrator was their husband. The only perpetrator of both physical and sexual violence is the husband.[25] In a study conducted by Zheng[26] with 127 pregnant women in China, the risk of domestic violence was found to be 1.85 times higher in pregnant women who had a stressful relationship with their mothers-in-law. In a study that was conducted in India, the presence of physical and sexual violence to the spouse, among psychosocial factors, and pregnancy-related anxiety were found to be important risk factors for antenatal depression.[27] This study showed that most of the time pregnant women were exposed to violence during pregnancy and domestic violence is a common and often neglected

psychosocial healthcare issue. It can be argued that violence is easier because of the controlling behaviors of the spouses in the region where the study was conducted, the psychological and physiological vulnerability of the participants, and the lack of adequate social support from their family and environment.

Providing social support during pregnancy also facilitates the adjustment of the mother and the establishment of easier relations with the baby.[2] Characteristics of the Psychosocial Support System (CPSS)" sub-dimension score was found to be "poor" (2.27±0.69). In the literature, it was reported in some studies that anxiety and depressive symptoms decreased from pregnancy to the postpartum period in pregnant women who received effective partner support before delivery.[28,29] In the present study, we are guessing that the spouses did not support their pregnant partners because they were working long hours and the nuclear family structure meant the support from families was also not provided. this lack of support contributed to poorer psychosocial health of the participants.The support of the spouse and family is an important factor in the psychosocial health of pregnant women.

Qiu et al. [29] reported that pregnant women whose pregnancy was accepted by spouses and who could talk about their problems with their spouses, complained less. In the present study, it was found that the sub-dimension of "characteristics of physical-psychosocial changes related to pregnancy" tended to be poor. Physiological and psychosocial changes may cause anxiety and stress in pregnant women.[30] Characteristics of Physical-Psychosocial Changes Related to Pregnancy (CPPCP) sub-dimension score was found to be "poor" (2.29±0.69). In the study, it can be argued that pregnant women could not adapt well to psychosocial and physical changes.

According to the research results; The Family Characteristics (FC) sub-dimension score, which shows family support and relationships with her family and spouse's family, was found to be "poor" (1.85±0.72).

In a study that was conducted in Pakistan, it was reported that predisposition to anxiety predicted fear of childbirth and depression positively, and marital satisfaction and perceived social support predicted fear of childbirth and depression negatively.[31] Similarly, it was concluded in a study that was conducted in Bangalore, India, that marital discord and lack of social support during pregnancy were associated with depression.[27]

A moderately negative, significant correlation was identified between the psychosocial health status of pregnancy and depression scores. As the mean score of the psychosocial health status increased during pregnancy, the mean score of depression decreased, in other words, the better the psychosocial health status during pregnancy, the lower the depression. Pregnancy, which is a sensitive period in women's lives, not only affect women physiologically. It also affects psychologically and socially. For this reason, the spouse of the pregnant woman should be included in the health screenings. Within the scope of monitoring and evaluations during pregnancy psychosocial health screenings should also be added. In addition, pregnant women and their spouses should be provided with counseling support on parenting roles and domestic violence.[12]

Conclusion

This study has shown that many factors affect psychosocial health during pregnancy in this specific study population. These factors are also associated with depressive symptoms

which was shown to be negatively correlated with better psychosocial health. Nurses, providing care to pregnant women should be aware of the psychosocial needs, as well as the physiological needs of pregnant women and must be included in care plans. Complications that might occur may be avoided or lessened by providing additional psychosocial support and early diagnosis may improve this further. These results have shown that many pregnant women receive inadequate social support from their familiesand appropriate initiatives should be taken to provide adequate social support.

Limitations

The limitation of the study was that it was conducted in a city in the southeast region of Turkey and only in two family healthcare centers.

Conflict of Interest

The author has no conflicts of interest.

Compliance with Ethical Statement

Ethics Committee approval for this research was obtained from the Ethics Committee University of SANKO (dated April 07, 2021 No:2021/04).

Author Contributions

Study idea/Hypothesis: RK, SPO; Design: RK, SPO; Data preparation: RK, SPO; Literature review: RK, SPO; Analysis: RK, SPO; Manuscript writing: RK, SPO; Critical review: RK, SPO

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