

Socio-Demographic and Obstetric Factors Associated With Depression During Pregnancy in Turkey

Nuriye Buyukkayaci Duman

Assistant Professor

Hitit University, The School of Health
Corum, Turkey

Abstract

***Aim:** This research which aimed at determining the effect of socio-demographic and obstetric factors during pregnancy period on depression levels of the pregnant women was a descriptive research.*

***Material and Methods:** The population of the research was made up of 160 pregnant women who were selected using simple random sampling method and Pregnant Women of Çorum State Hospital between March 2011 and June 2011. The data were assessed using percentages, arithmetic means, standard deviations, Student T test and One Way ANOVA test.*

***Results:** It was found out in the study that most of the women experienced depression (75.0 %). However; a statistically significant difference was found between mean depression scores and family type, number of the pregnancy, spontaneous abortion, desired pregnancy and harmony between spouses.*

***Conclusion:** There was a positive correlation between some socio-demographic and obstetric factors and depression during pregnancy.*

Key Words: Pregnancy, Socio-demographic and Obstetric Factors, Depression

Introduction

Pregnancy is a crisis or a critical period in women's live. During this period, physical changes as well as psychological and social changes are experienced. Adaptation to the conditions created by these new changes prevents negative emotions of the pregnancy and the perception about pregnancy as a crisis period while difficulty in adaptation may lead to irreversible psychological problems (Altınay, 1999; Heron, O'Connor, Evans, Golding, & Glover, 2004; Kelly, Russo, & Katon, 2001). It is reported that the most commonly seen psychological problems during pregnancy are depression, anxiety and anxiety disorders. It is suggested that increased anxiety and intense anxiety experienced during pregnancy aggravate depression and raise the risk of suicide. Besides; causing severe somatic problems, psychological symptoms may lead to miscarriage, preterm birth or other stress related pregnancy complications (Altınay, 1999; Heron, O'Connor, Evans, Golding, & Glover, 2004; Kelly, Russo, & Katon, 2001). Therefore; it may be said that adaptation to pregnancy is of high importance during this period in coping with psychological problems that may occur during pregnancy.

It is reported that psychological manifestations related to pregnancy are associated with individual and some other factors. These factors are generally as follows: socio demographic factors, emotional stability, attitudes towards femininity, relations with husbands and mothers, cultural attitudes, preparation for motherhood, previous psychological problems, presence or absence of a child, previous abortion and whether or not there are medically high risks for pregnancy (Akbaş, 2006; Chou, Avant, Kuo, & Fetzer, 2008; Heron, O'Connor, Evans, Golding, & Glover, 2004; Kaplan, Bahar, & Sertbaş G, 2007; Kelly, Russo, & Katon, 2001; Öztürk, & Şirin 2000; Sertbaş, 1998). When the studies that investigated psycho social aspect of the pregnancy were evaluated, it was seen that there was a limited number of studies that targeted at the relation of psychological problems in pregnancy (Akbaş, 2006; Altınay, 1999; Büyükkoca, 2001; Cebeci, Aydemir, & Göka, 2002; Okanlı, Tortumluoğlu, & Kırpınar, 2003); which was the determining factor in planning our study.

Our study aimed at determining the effect of socio-demographic and obstetric factors during pregnancy period on depression and anxiety levels of determining the effect of socio-demographic and obstetric factors during pregnancy period on depression levels of the pregnant women.

1. Material and Methods

1.1. Type of the Method

It is a descriptive type research made in order to determine the effect of multidimensional social support perceived during pregnancy period on depression levels of the pregnant women.

1.2. Place and Characteristics of the Research

The study was made at the Medical Monitoring Polyclinic of Pregnant Women of Çorum State Hospital. There are four medical monitoring policlinics for pregnant women at the hospital. Doctors work in shift at the policlinics and one nurse serves at each policlinic. Routine follow-ups and screenings of the pregnant women are performed at the policlinics and trainings and counselings are provided by the policlinic-nurses to the pregnant women according the gestational week of the pregnant women.

1.3. Population and Sample of the Research

The population of the research was consisted of the pregnant women who applied to the Medical Monitoring Polyclinic of Pregnant Women of Çorum State Hospital between March 2011 and June 2011. 160 pregnant women who were randomly selected using simple random sampling method made up the sample of the research.

1.4. Data Collection Tools

The data were collected using Descriptive Data Collection Form for the Characteristics of the Pregnant Women, State Anxiety Inventory (SAI).

1.4.1. Descriptive Data Collection Form for the Characteristics of the Pregnant Women

Descriptive Data Collection Form for the Characteristics of the Pregnant Women included 18 questions addressing some information about pregnant women's socio demographic characteristics (such as age, educational status, employment status, family type, income status, health insurance, harmony between spouses) and about obstetric information (such as number of the pregnancies, parity, time that elapsed between two pregnancies, abortion, spontaneous abortion, gestational month and whether or not they had illnesses during pregnancy and if any what diseases they had, whether or not it was a desired pregnancy, whether or not they received trainings before birth and the topics about which the trainings were provided).

1.4.2. Beck Depression Inventory (BDI)

BDI, developed by Beck (1960), is one of the most used inventories in clinics and researches and can be administered for individuals aged between 13 and 80. The scale is consisted of 21 statements and is used to objectively measure the degree of depression and physical, emotional, mental and motivational symptoms seen during depression. The Turkish adaptation of the inventory was performed by Hisli (1988) and its validity and reliability coefficients are rather good. It was found out that test-retest reliability coefficient was 0.65 and split-half reliability coefficient was 0.78 for students and 0.61 for depressive patients. Scores for the statements of the inventory range from 0 to 3. All of the scores are added and depression score is obtained. The highest score of the inventory is 63 (21 x 3). A higher total score means a higher level or severity of depression. Scores obtained from the inventory can be evaluated as follows:

Score Evaluation

0-9	Normal
10-15	Slight depression
16-23	Moderate depression
24-63	Severe depression

1.4.3. Evaluation of the Data

The data obtained from the research were assessed using SPSS 17.0 statistical package program. Percentages, arithmetic means and standard deviations were used in the data analysis.

Student T test was used for the paired-group comparisons of the parameters that followed normal distribution and One Way ANOVA test was used for the multi-group comparisons.

1.4.4. Ethical Considerations of the Research

The ethical suitability of the research was approved by Ethical Council of the Medicine Faculty of Erciyes University. The necessary official permission from the hospital management was obtained for the pre-test phase and implementation phase of the research which were performed at the Çorum State Hospital. All patients were informed of the purpose the study with written documents and were told that the information would not be disclosed and their oral consents were obtained. Thus, those volunteer for the research were included in the study.

2. Findings

Nearly half of the participant women were between the ages of 26 and 33 (43.0 %) and had high school graduates and above this educational level (41.2 %). Most of the women were housewives (82.5 %) and their family types were nuclear family (73.8 %). Nearly one in two women (50.6 %) had a total monthly income between 700 TL and 1000TL and nearly all of them had health insurance (90.6 %) (Table 1).

Table 1. Distributions of the Pregnant Women in Terms of Some Socio-Demographic Characteristics

Characteristics	N	%
Age		
18-25	50	31.2
26-33	70	43.8
≥ 34	40	25.0
Educational Status		
Primary School	61	38.2
Secondary School	33	20.6
High School and above	66	41.2
Employment Status		
Yes	28	17.5
No	132	82.5
Family Type		
Nuclear	118	73.8
Extended	42	26.2
Monthly Total Income (TL)		
700-1000	81	50.6
1001-1300	33	20.6
1301-1600	46	28.6
Health Insurance		
Yes	145	90.6
No	15	9.4
Harmony with the husband		
Yes	97	60.6
No	63	39.4
Total	160	100.0

When some of the findings about the fertility histories of the women were analyzed, it was seen that nearly one in three women (60.6 %) was multigravida and more than half (55.6 %) were multipara. The time that elapsed between the first and the second pregnancy of nearly one in four multigravida women was more than 5 years (28.8 %). 15.6 % of the participant women had abortion and 15.0 % had spontaneous abortion. Nearly more than half of the women (56.9 %) were at the second trimester of their pregnancies and two third of the women (66.3 %) had at least one health problem during the pregnancy period. The most commonly seen health problems during pregnancy were urinary infection (25.6 %) and hyperemesis gravidarum (20.6 %). Two in three pregnant women did not get training before the birth (65.6 %). It was noted that the topics of the training programs given to the pregnant women were mostly related to pregnancy periods (27.5 %) (Table 2).

Table 2. Distributions of the Pregnant Women in Terms of Fertility History

Characteristics	N	%
Number of Pregnancy	N= 160	
Primigravida	63	39.4
Multigravida	97	60.6
Parity Number	N= 160	
Primipara	71	44.4
Multipara	89	55.6
Time that elapsed between two pregnancies	n = 97*	
< 2 years	14	8.8
2-4 years	37	23.1
≥ 5 years	46	28.8
Abortion Status	N= 160	
Yes	25	15.6
No	135	84.4
Spontaneous Abortion Status	N= 160	
Yes	24	15.0
No	136	85.0
Gestational Month	N= 160	
First trimester	33	20.6
Second Trimester	36	22.5
Third Trimester	91	56.9
Whether or not the pregnant women had disease during pregnancy	N= 160	
Yes	106	66.3
No	54	33.8
Diseases during the pregnancy	n = 106**	
Urinary System Infections	41	25.6
Pre eclampsia	5	3.1
Gestational Diabetes	14	8.8
Hypothyroidis	3	1.9
Hyperemesis Gravidarum	33	20.6
Upper Respiratory Tract Infections	10	6.3
Wanted Pregnancy	N= 160	
Yes	106	66.3
No	54	33.8
Whether or not the pregnant women had trainings before birth	N= 160	
Yes	55	34.4
No	105	65.6
Training Topics	n = 55***	
Pregnancy	44	27.5
Birth	9	5.6
Puerperality	2	1.3

* answered by more than one pregnant women

** answered by the pregnant women who had disease during pregnancy. Percentages were calculated according to n because more than one item were marked.

*** answered by the pregnant women who had training during pregnancy

According to the mean scores of the participant women obtained from Beck Depression Inventory (cut-off point: 10); it was detected that most of the women experienced depression (75.0 %). When the depression degrees of them were assessed, it was noted that nearly one sixth of them half of the women suffered from slight depression (65.0 %), nearly one tenth of them suffered from severe depression (12.5 %) and one fourth of them from moderate depression (22.5 %) (Table 3.).

Table 3. Distributions of the Pregnant Women in Terms of Depression Status According to BDI Scores

Depression	N	%
	N=160	
Yes	120	75.0
No	40	25.0
Depression Levels	n=120*	
Slight Depression	78	65.0
Moderate Depression	27	22.5
Severe Depression	15	12.5

* Only those women who had depression.

When distribution of the affecting factors of BDI scores of the pregnant women was assessed, the analysis performed pointed out that there was not statistically significant difference between mean depression scores and age, educational status, employment status, health insurance monthly total income, parity number, time that elapsed between two pregnancies, abortion, gestational month, whether or not they had illnesses during pregnancy and whether or not they received trainings before birth ($p>0.05$). However; a statistically significant difference was found between mean depression scores and family type, number of the pregnancy, spontaneous abortion, desired pregnancy and harmony between spouses ($p<0.05$) (Table 4.).

Table 4. Distributions of the Factors Affecting BDI Scores of The Pregnant Women

Characteristics	X	SD	Test	p
Age				
18-25	36.2	6.0	F=0.786	0.567
26-33	36.0	5.9		
≥ 34	35.6	6.7		
Educational Status				
Primary School	35.2	5.5	F=0.582	0.852
Secondary School	36.5	6.5		
High School and above	35.1	6.6		
Employment Status				
Yes	36.5	6.7	t=0.256	0.942
No	35.4	5.7		
Health Insurance				
Yes	36.2	6.5	t=0.342	0.850
No	35.7	5.9		
Family Type				
Nuclear	35.2	5.5	t=2.442	0.250*
Extended	36.7	6.9		
Monthly Total Income (TL)				
700-1000	35.8	5.8	F=0.686	0.664
1001-1300	36.0	6.3		
1301-1600	35.0	6.5		
Number of Pregnancy				
Primigravida	37.2	7.6	t=2.021	0.330*
Multigravida	34.7	4.8		
Parity Number				
Primipara	36.0	6.4	t=0.612	0.765
Multipara	35.9	6.0		
Time that elapsed between two pregnancies				
< 2 years	35.0	6.0	F=0.572	0.780
2-4 years	36.2	6.2		
5 < years	35.6	6.4		
Abortion Status				
Yes	36.4	6.2	t=0.710	0.665
No	35.5	6.2		
Spontaneous Abortion				
Yes	38.2	7.8	t=2.034	0.210*
No	33.5	4.6		
Gestational Month				
First trimester	35.5	6.2	F=0.480	0.892
Second Trimester	36.0	6.0		
Third Trimester	35.3	6.4		
Diseases during the pregnancy				
Yes	36.2	6.3	t=0.712	0.668
No	35.7	6.1		
Wanted pregnancy				
Yes	31.5	6.8	t=3.004	0.108*
No	40.2	5.6		
Harmony with the husband				
Yes	34.2	4.4	t=2.023	0.220*
no	37.5	7.8		
Whether or not the pregnant women had trainings during pregnancy				
Yes	36.2	6.5	t=0.722	0.715
No	35.7	5.9		

F = Oneway ANOVA Test

t = Student T Test

* p<0.05

3. Discussion

Pregnancy period is an important process in which not only significant biological changes are experienced but also conflicts suppressed and unsolved in the early growth period again appear (Karaçam et al. 2004). Therefore, pregnancy period may be regarded as a crisis period during which new and different roles are necessary to be adapted (Altınay, 1999; Heron, O'Connor, Evans, Golding, & Glover, 2004; Kelly, Russo, & Katon, 2001). The studies conducted report that pregnancy period is at the top of the list of the stressful events (Heron, O'Connor, Evans, Golding, & Glover, 2004; Kelly, Russo, & Katon, 2001; Öztürk, & Şirin, 2000). Women may demonstrate emotional reactions like acceptance, resistance or fear, anxiety, depression as a psychological reaction during pregnancy in the face of stress depending on the behavioral patterns, personal or mental characteristics. The most important emotional reactions known against pregnancy is depression (Altınay, 1999; Heron, O'Connor, Evans, Golding, & Glover, 2004; Kelly, Russo, & Katon, 2001). Similar to the literature our study pointed out that nearly seven in ten pregnant women suffered from depression according to the BDI scores (75.0 %). Yet, when the findings regarding the depression levels of the participant women were evaluated, it was noted that these women had slight depression (36.95 ± 6.2). When the relevant studies were analyzed, the study of Akbaş (2006) revealed that the pregnant women had slight depression which were similar to our results whereas the study of Bhagwanani and Seagravesjk (1997) and the study of Kaplan, Bahar, & Sertbaş (2007) reported that pregnant women had severe depression.

The analysis made to cover the effect of women's socio demographic characteristics on their depression levels demonstrated that age, educational status, employment status and income status did not affect mean depression scores. Similarly, other studies also reported that age did not affect psychological problem experience such as anxiety and depression during pregnancy and post partum period (Akbaş, 2006; Büyükkoca, 2001; Gözüyeşil, 2003). When the relation between educational status and depression experience during pregnancy was analyzed, the findings of the studies differed from each other. Some reported that there was not any correlation between educational status and depression during pregnancy -as in our study- (Akbaş, 2006) while others reported -unlike our study- that anxiety scores decreased as the educational status increased (Sertbaş, 1998). Like our study, the study of Akbaş (2006) pointed out that employment status did not affect depression scores of the pregnant women. When studies that explored the findings regarding the effect of income status on depression levels were assessed. the study of Llewellyn, Stowe, & Nemeroff (1997) reported that depression levels of the women decreased as their income levels increased -which contradicted our findings- while the study of Heron, O'Connor, Evans, Golding, & Glover (2004) showed -like our study- that income level did not affect depression levels of the pregnant women. Our findings concurred with literature.

It was determined in our study that there was a positive correlation between family type and mean depression scores. Accordingly, women living in extended families had higher mean depression scores compared to those living in nuclear families. The psychological pressures possibly to be created by authority figures of the traditional family structure like mother-in-law and father-in-law may result in problems in self-expression and communication. Therefore; because nuclear family type is more open to intra-familial communication and spouse relations are warmer in the nuclear family compared to extended family type; it was concluded that pregnant women living in nuclear families suffered anxiety less.

When the effect of some of the characteristics of the pregnant women about the fertility histories on depression levels was analyzed. it was found out that the number of the alive children did not affect state anxiety levels but primigravida women's mean scores of state anxiety were higher than multigravida women; which -we thought- might be resulting from the fact that women may feel unprepared for the physical and psychological outcomes of the pregnancy experience or that they may fear and worry about the unknown situation. The relevant studies revealed different findings. Accordingly, some studies report that psychological problems during pregnancy increased as the number of the children increased (Gotlip, & Whiffen, 1987) whereas some suggested that the number of the children did not affect levels of state anxiety of the pregnant women -as in our study- (Akbaş, 2006). When the studies investigating the effect of the number of the pregnancies on psychological status of the pregnant women were analyzed, different results were seen. The state anxiety levels of the primigravida women were higher than multigravida women in study of Akbaş (2006) while -like our study- the study of Bhagwanani and Seagravesjk (1997).

The study of Kaplan, Bahar, & Sertbaş (2007) and the study of Sertbaş (1998) indicated that mean state anxiety scores of women who were pregnant for the first time were higher than those who were pregnant for more than once. Our findings were similar to the literature.

The relevant studies explored that abortion did not affect the level of depression of the pregnant women (Akbaş, 2006; Gözüyeşil, 2003) but it was reported that spontaneous abortion increased anxiety and depression scores of the pregnant women (Durat, 2003; Glasser, Barell, Shoham, Ziv, Boyko, & et al., 1998; Llewellyn, Stowe, & Nemerrof, 1997). Similar to the literature, our study showed that previous abortion did not affect mean depression scores of the pregnant women but mean depression scores of the women with spontaneous abortion history were higher compared to those with abortion history. Because spontaneous abortion occurs in an unpreventable, unplanned and involuntary way unlike abortion, women may have psychological problems due to the possibility to suffer the same problem in the future pregnancies; which -we thought- may have increasing effect on state anxiety scores.

According to the literature, psychological symptoms seen during the pregnancy period appear mostly in the first and third trimesters. Undesired pregnancy causes depression and anxiety disorders in the first trimester more and birth related fears and worries about baby's health lead to depression and anxiety more compared to the second trimester (Akbaş, 2006; Kuğu, & Akyüz 2001; Rofe, Blittner, & Lewin, 1993. Different from the literature, it was noted in our study that mean state anxiety scores showed similarity to the length of pregnancy. In other words, length of pregnancy did not affect depression scores.

It was explored in the study that trainings given before birth did not affect depression scores. The study of Kaplan, Bahar and Sertbaş (2007) reported that trainings about birth provided during pregnancy period reduced state anxiety scores while -similar to our study- the study of Akbaş (2006) and the study of Sertbaş (1998) reported that there was not any significant correlation between training given before birth and state anxiety scores of the pregnant women; which concurred with our findings.

According to the literature, social support is described as financial or spiritual assistance given to the individuals under stress by the surrounding people such as husbands, friends or family members. Social support mechanisms serve as an assistant in improving adaptation and emotional supports. It was reported that as the perceived social support increased, psychological problems created by stressful experiences reduced (Öztürk &, Şirin, 2000). It is husband-attitudes and psycho-social environment that affect psychological state of the pregnant women directly. In this sense, the most important support sources of the pregnant women are constituted by close family members –especially by husbands. A good communication with friends, relatives and husband affects transition to motherhood role positively. It is emphasized that women whose motherhood role is approved by the husbands and who can share problems with husbands suffer from problems less. The relevant studies report that lack of social support and inharmony between spouses are among the most important psychiatric disorders seen during pregnancy and postpartum period (Akbaş, 2006; Cebeci, Aydemir &, Göka, 2002; Okanlı, Tortumluoğlu, & Kırpınar, 2003; Sertbaş, 1998). It was found out in the study of Affonso, Lovett, Arizmendi, Nussbown, & Newman (1991) that the most important factor that increased depression risk was inharmony between spouses, poor marital relations and poor social support from the husbands.

Similar to the literature, our study indicated that there was a negative correlation between desiring the baby and harmony between spouses and mean depression scores. In other words, women who were inharmonious with husbands and became involuntarily pregnant had higher mean depression scores than those who were harmonious with husbands and became voluntarily pregnant. Different from our findings, the study of Akbaş (2006) suggested that desiring the baby did not affect the state anxiety levels whereas the study of Durat (2003) desiring the baby did not affect postpartum depression. Similar to our results, the study of Kaplan, Bahar and Sertbaş (2007) and the study of Sertbaş (1998) indicated that those who became involuntarily pregnant had higher state anxiety levels compared to those who had a wanted pregnancy. Also, the study of Akbaş (2006) pointed out that those who were inharmonious with husbands had higher mean state anxiety scores whereas the study of Gözüyeşil (2003) demonstrated that women inharmonious with husbands showed higher mean depression scores.

As a result, it was found out in the study that most of the women experienced depression (75.0 %). When distribution of the affecting factors of BDI scores of the pregnant women was assessed, the analysis performed pointed out that there was not statistically significant difference between mean depression scores and age, educational status, employment status, health insurance monthly total income, parity number, time that elapsed between two pregnancies, abortion, gestational month, whether or not they had illnesses during pregnancy and whether or not they received trainings before birth ($p>0.05$). However; a statistically significant difference was found between mean depression scores and family type, number of the pregnancy, spontaneous abortion, desired pregnancy and harmony between spouses ($p<0.05$).

The following recommendation may be presented in relation with these findings:

- It should be explored the risk factors that facilitate depression among the women who apply to the health institutions during pregnancy period and the necessary initiatives for those risky women. Such psycho social support systems as husbands, friends and families should be integrated with trainings and counselings during the pre-birth period should be provided in a planned way and collaboration should be made with these systems.
- The future researches should be designed with a control group and with a bigger sample so that the results may be more accurate.

References

- Akbaş, E. (2006). Gebe kadınlarda depresyon ve anksiyete düzeylerinin sosyal destek ile ilişkisi. Master Thesis, Gaziantep University Health Sciences Institute, Gaziantep Turkey.
- Affonso, D., Lovett, S., Arizmendi, T., Nussbown, R., & Newman L, 1991. Predictors of depression symptoms during pregnancy and postpartum. *J. Psychosom- Obstet-Gynecol*, 12, 255–271.
- Altınay, S. (1999). Gebelikte depresyon prevalansı. sosyodemografik özellikler. obstetrik risk faktörleri. kaygı düzeyi ve sosyal destek ile ilişkisi. Master Thesis, T.C. Ministry of Health Ankara Hospital, Ankara Turkey.
- Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., Erbaugh, J.(1960). An inventory for measuring depression. *Arch Gen Psychiatry*, 4, 561-571.
- Bhagwanani, S., & Seagravesjk, K. (1997). Relationship between prenatal anxiety and perinatal out come in nulliparous women. *Journal of the National Medical Association*, 89(2), 93-98.
- Büyükkoca, M. (2001). Algılanan sosyal destek ile postpartum depresyon arasındaki ilişkinin incelenmesi. Master Thesis, Dokuz Eylül University Health Sciences Institute, İzmir Turkey.
- Cebeci, S.A., Aydemir, Ç., & Göka, E. (2002). Puerperal dönemde depresyon semptom prevalansı: obstetrik risk faktörleri. kaygı düzeyi ve sosyal destek ile ilişkisi. *Kriz Dergisi*, 10(1), 11-18.
- Chou, F.H., Avant, K.C., Kuo, S.H., & Fetzer, S.J. (2008). Relationships between nausea and vomiting. perceived stress. social support. pregnancy planning and psychosocial adaptation in a sample of mothers: a questionnaire survey. *Int J Nurs Stud*, 45(8), 1185-1191.
- Chou F.H., Chen C.H., Kuo S.H., & Tzeng Y.L. (2006). Experience of taiwanese women living with nausea and vomiting during pregnancy. *J Midwifery Womens Health*, 51(5), 370-375.
- Durat, G. (2003). Sakarya ilindeki gebe kadınlarda doğum sonrası depresyon riskinin belirlenmesi ve yüksek riskli kadınlarda hemşirelik uygulamalarının etkinliği. Phd Thesis, İstanbul University Health Sciences Institute, İstanbul, Turkey.
- Eker, D., & Akar, H. (1995). Çok boyutlu algılanan sosyal destek ölçeğinin gözden geçirilmiş formunun faktör yapısı, geçerlik ve güvenilirliği. *Türk Psikiyatri Dergisi*, 10(34), 45-55.
- Glasser, S., Barell, V., Shoham, A., Ziv, A., Boyko, V., Lusky, A., & et al., (1998). Prospective study of postpartum depression in an Israeli cohort prevalence, incidence and demographic risk factors. *J Psychosom Obstet Gynaecol*, 19 (3): 155–164.
- Gotlib, I.H., & Whiffen, V.E. (1987). Prevalence rates and demographic characteristics associated with depression in pregnancy and the postpartum. *J Consult Clin Psychol*, 144, 188–293.
- Gözüyeşil, E. (2003). Gebe kadınlarda depresyon durumu ve bunu etkileyen etmenlerin incelenmesi. Master Thesis, Ege University Health Sciences Institute, İzmir Turkey.

- Heron, J, O'Connor, T.G., Evans, J., Golding, J., & Glover, V. (2004). The course of anxiety and depression through pregnancy and the postpartum in a community sample. *Journal of Affective Disorders*, 80, 65-73.
- Hisli, N. (1988). Beck depresyon envanterinin geçerliği üzerine bir çalışma. *Psikoloji Dergisi*, 6,22.
- Jesse, D.E., Walcott-McQuigg, J., Mariella, A., & Swanson, M.S. (2005). Risk and protective factors associated with symptoms of depression in lowincome African American and Caucasian women during pregnancy. *J Midwifery Womens Health*, 50(5), 405-410.
- Karaçam, Z., Öz, F., & Taşkın, L. (2004). Postpartum depresyon: önleme. erken tanı ve hemşirelik bakımı, *Sağlık ve Toplum*, 14 (3): 14-24.
- Kaplan, S, Bahar, A, & Sertbaş, G. (2007). Gebelerde doğum öncesi ve doğum sonrası dönemlerde durumluk kaygı düzeylerinin incelenmesi. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi*, 10(1), 113-121.
- Kelly, R.H., Russo, J., & Katon, W. (2001). Somatic complaints among pregnant women cared for in obstetrics: normal pregnancy or depressive and anxiety symptom amplification revisited?. *General Hospital Psychiatry*, 23, 107-113.
- Kuğu, N., & Akyüz, G. (2001). Gebelikte ruhsal durum. *Cumhuriyet Üniversitesi Tıp Fakültesi Dergisi* 23(1): 61-64.
- Llewellyn, A.M., Stowe Z.N., & Nemeroff C.B. (1997). Depression during pregnancy and the puerperium. *J.Clin Psychiatry* 58: 26-32.
- Mckee, M.D., Cunningham, M., Jankowski, K.R., & Zayas, L. (2001). Health-related functional status in pregnancy: relationship to depression and social support in a multi-ethnic population. *Obstet Gynecol*. 97(6), 988-993.
- Okanlı, A., Tortumluoğlu, G., & Kırpınar, İ. (2003). Gebe kadınların ailelerinden algıladıkları sosyal destek ile problem çözme becerileri arasındaki ilişki. *Anadolu Psikiyatri Dergisi*, 4, 98-105.
- Öner, N., & Le Compte, A. (1985). *Durumluk-Sürekli kaygı envanteri el kitabı*. İstanbul: Boğaziçi Üniversitesi Yayınları No.333, İstanbul Turkey.
- Özkan, S. (1993). *Psikiyatrik tıp konsültasyon-liyezon psikiyatrisi*. İstanbul: ROCHE Müstahzarları Sanayi A.Ş Yayınları, İstanbul Turkey.
- Özdemir, F., Bodur, S., Nazik, E., Nazik, H., & Kanbur, A. (2010). Hiperemesis Gravidarum Tanısı Alan Gebelerin Sosyal Destek Düzeyinin Belirlenmesi. *TAF Prev Med Bull*,9(5), 463-470.
- Öztürk, H, & Şirin, A. (2000). Doğum yapan annelerde algılanan sosyal destek faktörlerinin ve bunlara etki eden faktörlerin incelenmesi. *Ege Üniversitesi Hemşirelik Yüksek Okulu Dergisi*, 16(2-3), 31-40.
- Rofe, Y., Blittner, M., & Lewin, I. (1993). Emotional experiences during the three trimesters of a pregnancy. *J-Clin-Psychol*, 49(1), 3-12.
- Sertbaş, G. (1998). Gebelerde doğum öncesi ve doğum sonrası dönemlerde durumluk- sürekli kaygı düzeylerinin incelenmesi. *Türk Hemşireler Dergisi*, 48(6),16-19.
- Swallow, B.L., Lindow, S.W., Masson, E.A., & Hay, D.M. (2004). Psychological health in early pregnancy: relationship with nausea and vomiting. *J Obstet Gynaecol*, 24(1), 28-32.
- Zimet, G.D., Dahlem, N.W., & Zimet, S.G. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52, 30-41.