Nursing & Primary Care

Relationship of Psychological Symptoms Observed in Pregnant Turkish Women with Socio-Demographic and Obstetric Risk Factors

İlknur DEMİRHAN and Gul PINAR*

¹Department of Nursing, Faculty of Health Sciences, Yıldırım Beyazıt University, Ankara, Turkey.

²Director of Department of Nursing, Faculty of Health Sciences, Yildirim Beyazit University, Ankara, Turkey.

*Correspondence:

Assoc. Prof. Gul Pinar, Director of Department of Nursing, Faculty of Health Sciences, Yildirim Beyazit University, Ankara, Turkey, Tel (Job): +9 (0) 312 324 15 55.

Received: 17 January 2021; Accepted: 21 February 2021

ABSTRACT

Objective: The aim of an analytic cross-sectional study is to evaluate the relationship of psychological symptoms with socio-demographical and obstetric risk factors in pregnant Turkish women.

Methods: This descriptive and cross-sectional study was conducted in 2014 at a State Education and Research Hospital in Ankara, Turkey. Identification Form and Hospital Anxiety and Depression Scale were used in collection of the data.

Results: The study group consisted of 297 pregnant women. The prevalence of anxiety was 14.8% and depression was 28.6%. Anxiety or depression scores were found to be higher in those with low education and low income, those who are in the last trimester of pregnancy, those with non-planned pregnancy, those with pre-eclampsia, those who feel they are not ready for motherhood, those suffering fears and concerns related with giving birth, those with poor husband support and marital adjustment and those with inadequate knowledge on pregnancy-childcare (p<0.05).

Conclusion: It has been found that married pregnant women are under risk in terms of anxiety and depression, and affected from numerous socio-demographical and obstetric risk factors.

Keywords

Introduction

Pregnancy is a very important milestone for continuation of the human race, establishment of family integration and social life [1]. Although, it is generally considered that pregnancy is a time period in which the feelings of well-being and happiness are experienced, it is a period that requires adaptation to the physical, psychological and social changes. Recent studies indicate that depression and anxiety are the most frequent mental problems observed during pregnancy [2-4].

Today, the opinion that pregnancy depression is generally overlooked due to physiological changes and complaints seen in the pregnancy period having similar characteristics to symptoms of depression (sleep-appetite-weight changes, weakness-exhaustion etc.) is becoming dominant [5,6]. In addition to the woman's mental condition affecting the course of pregnancy, pregnancy itself can also create significant changes in emotional life [6]. It is reported that feelings of weepiness, sadness and loneliness are observed in some pregnant women [6,8]. It is stated that prevalence of depression during pregnancy is at a higher level compared to post-partum depression, and that depression during pregnancy is an important factor contributing to post-partum depression [9-11].

Some socio-demographic and obstetric factors may affect pregnancy depression. There are numerous factors that can contribute to development of depression during pregnancy such as the individual and cultural characteristics, past experiences, life philosophy, martial harmony, social status, support sources, family type, socioeconomic structure, readiness for motherhood, mental disorder background, pregnancy complications, adolescent pregnancies, multiparty, unplanned pregnancies, story of stillbirths and abortus of pregnant women, and these factors vary from culture to culture [12-15].

In studies investigating the prevalence of depression during pregnancy in different cultures, prevalence of depressive symptoms was determined as 17.9% in Hungary, 20% in USA, 25% in Canada and 30% in Finland [16-19]. It was determined that there are only a few studies investigating antenatal depression in Turkey. Accordingly, prevalence of antenatal depression is reported as 32.4% by Çakır and Can, 54.8% by Çelik et al., 27.3% by Çalışkan et al., and 31.8% by Ocaktan et al.. "Mother and child health" is specified among prioritized issues in the Millennium Development Goals of the World Health Organization, which foresee important advancements by the year 2015 [20]. In previous years, the mental aspects of health have been overlooked with only physical health of the mother and the child taken into consideration. Today, evidences indicate that the physical and mental health of the mothers and children constitute an inseparable whole and that progress cannot be made in one field without the other. For this reason, it is necessary to know the risk factors that may lead to onset of depression during pregnancy and to monitor these closely [21].

Aim
The aim of an analytic cross-sectional study is to evaluate the relationship of psychological symptoms with socio-demographical and obstetric risk factors in pregnant Turkish women.

Materials and Methods
Participants and Procedure
Pregnant women admitted to outpatient clinic Gynaecology and Obstetrics at a State Education and Research Hospital within one year have constituted the population of this study (N=1308). Its sampling size was calculated according to the sample size computation technique where population was known. In order to calculate the sample size, a simple random sampling method was used. The sample was completed with 95% confidence, 80% theoretical power analysis and as 297 were calculated. This descriptive and cross-sectional study was carried out between October and December 2014.

The study eligibility criteria is pregnant women who are minimum literate, married and volunteering to participate in the study and exclusion criteria is those with a history of mental disorder requiring use of medication, those with physical and mental disorders at a level that constitute an obstacle against understanding and answering the scales to be applied. The dependent variables are psychological symptoms of pregnant women and independent variables are socio-demographic characteristics, medical history and habits obstetric and gynaecological characteristics, characteristics related with current pregnancy, characteristics related with anxiety, social support and relationship with the spouse.

Data Collection
The main data collection tools are Identification Form and Hospital Anxiety and Depression Scale (HADS).

The Identification Form
This form was created by the authors based on the literature [8,22,23]. Form consisted of a total of 58 items in 5 sections, namely, socio-demographic characteristics (11 items), medical history and habits (10 items), obstetric and gynaecological characteristics (13 items), characteristics related with current pregnancy (15 items), anxiety, social support and relationship with the spouse (9 items).

The Hospital Anxiety and Depression Scale-HADS
This scale has been developed by Zigmond and Snaith. The reliability and validity testing of the scale in Turkish was performed by Aydemir et al. in 1996. The scale deals with the cognitive and emotional symptoms of anxiety and depression. HADS is a self-evaluation scale with 14 items, which consists of 2 sub-scales with 7 items for depression (even numbers) and 7 items for anxiety (odd numbers). Answers are evaluated with a 3-point Likert scale with 0-3 points [24]. A score of 11 or over is expected for anxiety and a score of 8 or over is expected for depression. The scale is not intended for diagnosis but for rapid scanning of anxiety and depression through evaluation of the changes in the emotional state of the patient [25]. The HADS to access the levels of anxiety and depression in pregnant women and the study that validated the HADS in pregnant women [25].

Data collection tools were applied by the authors with the face-to-face interview method in approximately 15-20 minutes at the breastfeeding training room at a convenient time for the married pregnant women. Preliminary application of married pregnant woman identification form was carried out with 15 married pregnant women in advance to determine the comprehensibility and usability of the form. The pregnant woman identification form was finalized with the necessary revisions made as a result of the preliminary application.

Ethical explanation
Written permissions were obtained from the Research and Ethics Board of Kecioren Education and Research Hospital for implementation of the study (Date of issue: September 25, 2013; Registration number: B.10.4.ISM.4.6.68.49) each participant was informed about the research nature of the study, ensuring the anonymity, and the possibility to refuse the participation in the study at any time. Furthermore, written consents were received from the pregnant women who accepted to participate in the study. Rules specified in the Helsinki Declaration were observed in the data collection phase.

Analysis

The data collected in this study was analysed with the SPSS 20.0 package program. The numeric and percentage distributions of data are provided. In the examination of the differences between the groups as a result of the test of normality, Mann Whitney U Test was used in the non-normally distributed variables in groups of two and Kruskal Allis H Test with Bonferroni correction was used in the non-normally distributed variables in groups of more than two. Level of $p \leq 0.05$ was accepted as the significance level in the examination of the difference between the groups.

Results

Women participating in the study were in 16-46 age group with a mean age of 27 ± 4.61 (min: 16, max: 46). It was determined that 89.9% of 297 pregnant women were in 20-34 age group, 45.5% had an education level of primary school or lower, 89.9% had social security, 66.3% had medium level of income, 83.2% were unemployed and 16.8% were employed in some kind of work (38% standing, 40% desk job, 22% on duty), and 56.5% were married for a period of 5 years or less. Examination of characteristics of pregnant women in terms of spouses revealed that the spouses were generally employed as workers (44.8%) or were self-employed (39.4%), and were in the young age group (65%) with senior high-school graduation (44.1%), (Table 1).

Table 1: Distribution of Findings Related with Socio-demographic Characteristics.

Socio-demographic Characteristics		N	%
Age (27±4.61)	16-19 years	9	3.0
	20-34 year	267	89.9
	≥35 years	21	7.1
Employment	Employed	50	16.8
	Unemployed	247	83.2
Education	≤ Primary School	135	45.5
	High School	115	38.7
	≥ University	47	15.8
Marriage Period	≤1 years	47	15.8
	2-5 years	121	40.7
	6-10 years	86	29.0
	≥11 years	43	14.5
Social Security	Yes	267	89.9
	No	30	10.1
Income	Low	70	23.6
	Average	197	66.3
	Good	30	10.1
Age of spouse	≤25 years	44	14.8
	26-34 years	193	65.0
	≥35 years	60	20.2
Profession of Spouse	Civil Servant	47	15.8
	Worker	133	44.8
	Self-employed	117	39.4
Education of Spouse	≤ Primary school	108	36.4
	High school	131	44.1
	≥ University	58	19.5
	Total	**297**	**100.0**

Although not included in the table, it was determined with the body mass index based on the weights before pregnancy that 8.4% of women were slim, 55.6% were normal and 36% were overweight; 6.7% smoked regularly, 84.2% did not smoke and 9.1% quitted at pregnancy; 99% did not consume alcohol; 12.5% had chronic illness (64.9% thyroid, 21.6% gastritis); and 97.6% did not have a history of mental illness in the family. The first pregnancy age was between 20-25 for 58.9% of pregnant women. It was the second pregnancy for 36.7% and 41.4% had minimum one child. Only a very small percentage of pregnant women had the history of macrosomia, low-birth weight (LBW), premature birth, dilation-curettage (D&C), and abortus. It was observed that 47.8% of pregnant women had normal vaginal birth (NVB) and 19.9% were related with their spouses (Table 2).

Table 2: Distribution of Findings related with Obstetric and Gynaecological characteristics.

Obstetric and Gynaecological Characteristics *		N	%
First Pregnancy Age	<20 years	64	21.6
	20-25 years	175	58.9
	≥26 years	58	19.5
Gravida	1	92	31.0
	2	109	36.7
	3	57	19.2
	≥4	39	13.1
Parity	0	112	37.7
	1	123	41.4
	2	48	16.2
	≥3	14	4.7
Still-birth	0	290	97.6
	≥1	7	2.4
D&C*	0	267	89.9
	≥1	30	10.1
Abortus	0	242	81.5
	≥1	55	18.5
Premature (≤ 7 months)	Yes	6	2.0
	No	291	98.0
LBW (≤ 2500 gr)*	Yes	22	7.4
	No	275	92.6
Macrosomia (≥ 4500 gr)	Yes	2	0.7
	No	295	99.3
Delivery type *	NVB	142	47.8
	C/S	52	17.5
	NVB+C/S	11	3.7
Consanguineous Marriage	Yes	59	19.9
	No	238	80.1
	Total	**297**	**100**

*LBW; Low-Birth Weight, NVB; Normal Vaginal Birth, C/S; Caesarean-Sections, D&C; Dilation and curettage

It was determined that more than half of the pregnant women participating in the study (64.3%) were in the last trimester (≥ 25 weeks) and had planned pregnancy (83.8%). Examination of other obstetric and medical characteristics of pregnant women revealed that 1.7% had in vitro fertilization, 25.9% had short intervals between pregnancies (≤ 2 years), 2.4% had multiple pregnancy, 8.8% had Rh incompatibility, 7.4% had vaginal bleeding, 9.8% had pre-eclampsia, 49.2% had anaemia and 6.7% had gestational diabetes, and 39.7% benefitted from antenatal care (ANC) as of the first months of pregnancy (Table 3).

Table 3: Distribution of Findings Related With Current Pregnancy.

Characteristics related with Current Pregnancy		N	%
Planned Pregnancy	Yes	249	83.8
	No	48	16.2
Gestational Age	I. trimester (≤12 weeks)	50	16.8
	II. trimester (13-24 weeks)	56	18.9
	III. trimester (≥25 weeks)	191	64.3
Multiple Pregnancy	Yes	7	2.4
	No	290	97.6
Rh Incompatibility	Yes	26	8.8
	No	271	91.2
Vaginal Bleeding	Yes	22	7.4
	No	275	92.6
Pre-eclampsia	Yes	29	9.8
	No	268	90.2
Anaemia (Hb ≤ 10 gr/dl)	Yes	146	49.2
	No	151	50.8
Gestational Diabetes	Yes	20	6.7
	No	277	93.3
In vitro fertilization	Yes	5	1.7
	No	292	98.3
Frequent childbirth (≤2 years)*	Yes	53	25.9
	No	172	74.1
Start of Antenatal Care	1. months	118	39.7
	2. months	145	48.8
	3. months and over	34	11.5
	Total	**297**	**100**

* Percentages based on n.

Although not presented in the table, 99.3% of pregnant women had various complaints related with their current pregnancy (81.7% nausea, 75.6% exhaustion, 74.2% vomiting, 73.6% back-pain, 65.8% pyrosis, 56.3% insomnia, 55.9% headache, 52.2% labour anxiety, 49.5% leg cramps, 38.3% constipation, 37.3% urinary tract infection (UTI), 36.6% dyspnoea, 35.9% feet/leg oedema, 25.1% distortion of the body image, 14.9% varicose, 14.2% genital infection, 13.6% diarrhoea, 13.6%. haemorrhoid). It was determined that 83.8% of pregnant women felt themselves ready for motherhood, 85.2% received adequate support from their spouses, 83.5% considered them as a compatible couple, and 80.1% stated that they received adequate support from their close environment. Furthermore, 72.1% of the pregnant women participating in the study stated that they had sufficient knowledge on pregnancy and childcare, and 67% stated that they had fears and concerns related with birth. It was determined that the reasons of fear and anxiety of pregnant women were "anxiety related with the baby's health" in 20.9%, "fear of cesarean-sections (C/S)" in 21.8%, and "fear of NVB" in 57.3%.

Mean anxiety point of pregnant women based on HADS was calculated as 6.32 ± 4.15 (min: 0-max: 21) while the mean depression point was found to be 5.59 ± 3.77 (min: 0-max: 18). Based on the study, it was determined that 14.8% of pregnant women suffered anxiety while 28.6% had depression (Table 4). Based on comparisons made, mean depression point is lower in the group with a good level of education and income (p<0.05). While in the last trimester (≥25 weeks) of pregnancy, the anxiety rate

of those with pre-eclampsia complaint and those with unplanned pregnancy were found to be high (p<0.05), the mean depression point was found to be high in those who stated that they did not have adequate knowledge on pregnancy and childcare (p<0.05). Furthermore, it is observed that the mean anxiety and depression points were lower (p<0.05) in pregnant women who had a harmonious marriage, who had adequate spouse support, who did not have fears and concerns related with birth, and who felt ready for motherhood (Table 5).

Table 4: Distribution of Mean HADS Scores.

HADS	N	Mean	Min	Max	SD
Anxiety	297	6.32	0	21	4.15
Depression	297	5.59	0	18	3.77
				N	%
Anxiety		None (0-10)		253	85.2
		Yes (≥11)		44	14.8
Depression		None (0-7)		212	71.4
		Yes (≥8)		85	28.6
		Total		**297**	**100.00**

Although not presented in the table, no significant relationship could be found between the age of the pregnant women, employment status, history of mental disorders in the family, characteristics related with the spouse and period of marriage, and the HADS mean points in the analysis carried out (p>0.05). Moreover, the anxiety and depression rates were found to be higher in pregnant women who smoked, who had a chronic illness, who used medication regularly, who started the antenatal care services late, and who had a history of adolescent pregnancy (19 years and under), multiparty (3 or more babies), obesity, abortus, NVB, vaginal bleeding, less than 2 years birth intervals and LBW; however, the difference in between is not statistically significant (p>0.05).

Discussion
Depression is a public health problem. It is the one of the primary disorders that is known to cause the highest competence loss and increase the mortality and morbidity. Increase in prevalence during pregnancy and adverse impacts on the fetus make it necessary to question the psychological symptoms during normal pregnancy inspections [26-28]. It is reported in some studies that the socio-demographic and obstetric factors may have an impact on the mental condition [22,29]. The conclusions, reached from our study that was conducted based on this opinion, have been discussed under the light of the literature.

The anxiety rate of pregnant women was found as 14.8% while the depression rate was found to be 28.6% based on HADS in our study. In another study, in which HADS was used, the anxiety rate of pregnant women was found as 17.7% in the first trimester and 16.2% in the third trimester while the depression rate was found as 25.4% in the first trimester and 20.95 in the third trimester [13]. Lee et al. reported that, for anxiety, 17.8% of all the pregnant women had antenatal anxiety at all three time points, 15.4% had antenatal anxiety at two time points, and 20.8% had antenatal anxiety at one time point only. For depression, 6.9%,

Table 5: Distribution of Mean HADS Scores by Certain Variables.

HADS		Anxiety (A)		Depression (D)		H/U Test*		Paired Comparison
		Mean	SD	Mean	SD	H/U	p	
Education	≤ Primary school	6.27	4.07	6.23	3.80	A. 0.596	0.742	-
	High School	6.18	4.19	5.06	3.61	D. 7.549	0.023	1-2
	≥ University	6.79	4.32	5.06	3.86			
Income	Low	6.77	4.45	6.59	4.22	A. 1.352	0.509	-
	Average	6.27	4.04	5.39	3.54	D. 6.542	0.038	1-3
	Good	5.53	4.19	4.63	3.81			
Planned Pregnancy*	Yes	6.06	4.03	5.41	3.72	A. 4786	0.028	
	No	7.67	4.55	6.54	3.94	D. 5.003	0.073	-
Gestational age	I. trimester	4.86	3.80	4.80	3.70	A. 12.701	0.002	1-3 2-3
	II. trimester	5.63	4.45	5.20	3.90			
	III. trimester	6.90	4.04	5.92	3.73	D. 5.265	0.072	-
Pre-eclampsia*	Yes	8.41	4.34	6.03	4.01	A. 2689	0.006	
	No	6.09	4.08	5.54	3.75	D. 3649	0.588	-
Spouse support	Yes	5.98	3.95	5.27	3.54	A. 9.354	0.009	1-2
	No	9.88	5.94	9.06	4.93			
	Partially	7.32	3.78	6.54	4.05	D. 11.258	0.004	1-2
Marital Satisfaction	Yes	5.94	3.97	5.19	3.51	A. 10.171	0.006	1-3
	No	8.31	4.33	7.23	3.68			
	Partially	8.17	4.68	7.75	4.67	D. 13.238	0.001	1-3
Knowledge on Pregnancy and Childcare	Yes	6.05	4.10	5.16	3.67	A. 3.440	0.179	-
	No	6.84	4.03	7.48	3.85			
	Partially	7.10	4.39	6.25	3.77	D. 12.788	0.002	1-2
Pregnancy- labour anxiety	Yes	7.43	4.09	6.33	3.84	A. 54.320	0.001	1-2 2-3
	No	3.43	3.03	3.93	3.20			
	Partially	5.81	3.37	4.54	3.02	D. 24.964	0.001	1-2
Readiness for motherhood	Yes	5.99	4.00	5.27	3.53	A. 8.176	0.017	1-3
	No	7.71	5.41	7.71	4.66			
	Partially	8.15	4.23	7.12	4.50	D. 8.262	0.016	1-2

Variables analyzed with U Test and others analyzed with KW H Test.

11.2%, 19% had depression at three, two, and one time point, respectively. More than half (54%) of the women had anxiety at least once, and more than a third (37.1%) were depressed at least once [4]. Park et al. reported that depressive symptoms were found in 22.6% (N=84) pregnant Korean women [30]. Marcus et al. stated that depression was observed in 20% of 3472 pregnant women applying to the obstetrics unit of Michigan University. Study of Tunç et al. reports that the anxiety and depression of pregnant women were significant at clinical level at a rate of 32% and 47% respectively. The other study used cross-sectional data originating from a rural community-based prospective cohort study of 720 randomly selected women in their third trimester of pregnancy from a district of Bangladesh. In the study, prevalence of depression was 18% and anxiety 29% [31]. In the study, the higher prevalence of antepartum anxiety (54%) and depressive (37%) symptoms was reported in Hong Kong [4]. Although the outputs of studies investigating prevalence of depression during pregnancy in various cultures are generally similar, this rate has been found as 17.9% in Hungary, 20% in USA, 25% in Canada and 30% in Finland [16-19]. The depression rates were reported as 32.4%, 54.8%, 27.3% and 31.8%, respectively, in the studies conducted on pregnant women in our country [23,32-34]. The percentages in the studies are coherent with those in literature.

Although, a statistically significant difference could not be found in our study between the age groups and the mean HADS scores, it was found that the mean depression score was higher in the advanced older group (p>0.05). Although a relationship could not be found between age of the pregnant women and depression rates in the study conducted by Yanıkkerem et al., it was reported in another study that one of the most important risk factors of pregnancy depression is age and that depression rate increased with age [35]. Although a statistically significant relationship could not be found between employment status and mean HADS scores of pregnant women participating in our study (p>0.05), it was determined that mean depression point was higher in unemployed women. Some studies report that the depression points of pregnant women who are housewives are higher than employed women, however, that there is no difference between them [22,26,36]. This output is in line with our findings.

The mean depression point was found to be lower in educated pregnant women in other studies (p<0.05). In other studies, it

was determined that depression decreased with the increase in education level [23,26]. In line with these findings, it is believed that women have greater effectiveness on their own life and are able to cope with problems better with higher education level, thus resulting in a reduction in depression rate.

Although a statistically significant difference could not be found between period of marriage and the mean HADS point of pregnant women (p>0.05), it is observed that the mean depression point increases with the period of marriage (6-10 years). In the study of Çakır and Can, the mean depression points were reported as 22.0% and 43.9% in women who had been married for 1-5 years and more than 5 years, respectively. A different result was found in our study despite the fact that the couples were expected to have a greater understanding and provide more psychological support as in a longer period of marriage.

In our study, the mean depression point is significantly higher in individuals with lower income compared to those with higher income (p<0.05). Although a relationship could not be found between income level and depression and anxiety in the study of Akbaş et al., it is reported in the study of Çakır and Can that depression and anxiety points decreased with the increase in monthly income, while it is reported in the study of Yanıkkerem et al. that depression points increased with the decrease in the income level of the family. Findings of our study indicate that having lower socio-economic conditions may have an impact on the mental condition during pregnancy.

Although a statistically significant difference could not be found between the first pregnancy age of pregnant women participating in the study and the mean HADS scores (p>0.05), mean anxiety and depression points are higher in those with adolescent (under 19) pregnancy. In a randomized study conducted by Figueiredo et al. in the Netherlands, it was determined that prevalence of depression was greater in pregnant adolescent women. Adolescence is stormy period in which a series of rapid psychological, emotional, physical and biological changes are experienced during the transition from childhood to adulthood [37]. At the same time, the individual goes through one of the most special processes in terms of both psychological and social life with pregnancy during this sensitive transition period. As a result of all of these transformations, the pregnant adolescent individual is subject under the risk of mental problems along with pregnancy and its related complications. For this reason, motivation of the pregnant adolescent individuals to receive appropriate antenatal care so as to cover the family individuals is very important [38]. Within this scope, lack of information on the pregnancy of adolescent expectant mother should be overcome in order to avoid and control various complications that may arise during and after pregnancy.

Despite the fact that a statistically significant difference cannot be found between multiparty and mean HADS score (p>0.05), the mean anxiety and depression points increase with the increase in pregnancies and number of children. It is reported in a study that prevalence of depression increases with number of children while there is no significant difference in anxiety, and that those with their first pregnancy have greater anxiety [23]. Other studies have shown that there is a positive relationship between depression during pregnancy and number of pregnancies and children [32,33]. In addition to the happiness and joy brought to the family by the new baby, this may result in mental and emotional changes in a substantial percentage of women. Especially in mothers who lack supporting resources, depressive symptoms such as sleeping problems, crying fits, exhaustion, headaches, concentration difficulties, confusion, aggressiveness, lack of appetite etc. [6,7]. Accordingly, adequate social support should be given by medical professionals and relatives of pregnant in order to facilitate the pregnant women's process of coping with anxiety and transition to the role of maternity.

Although a statistically significant difference is not seen between D&C and abortus condition and the mean HADS score (p>0.05), mean anxiety and depression points are higher in individuals with a history of abortus and abortion. A significant difference is not observed between number of abortions or abortus and the anxiety and depression points in other studies [22,23]. It is considered that events like abortus, D&C, stillbirths etc. during pregnancy may be detrimental in terms of confidence and stress, anger, anxiety, self-accusation trends and depressive behaviours may occur in individuals as a natural result.

A statistically significant difference is observed between planned pregnancy and the mean anxiety point in our study (p<0.05). Mean anxiety point is higher in individuals with unplanned pregnancy compared to those with planned pregnancy. Although, a significant difference is not observed between planned pregnancy and mean depression point in our study (p>0.05), mean depression point is higher in those with unplanned pregnancy. A significant difference could not be found between unplanned pregnancy and depression and anxiety in the study of Akbaş et al.. In a study conducted with 1264 pregnant women in Brazil, it was observed that unplanned pregnancy resulted in an increase in depression risk [39]. In line with our study and findings from other studies, it is believed that willingness towards continuation of the pregnancy period and family planning counselling are important in terms of having a negative impact on the course of pregnancy.

A statistically significant difference is observed between the week of pregnancy and the mean anxiety score (p<0.05). Mean anxiety point is significantly higher in pregnant women in their last trimester. In the study of Costa et al. it is reported that mean state anxiety point of pregnancy women, which is 37.0 in the first trimester, increases to 38.4 and 40.6 points in the second and third trimesters, respectively. When depression points are examined on the basis of pregnancy trimesters in the study of Yanıkkerem et al., the highest depression point was found in the third trimester, which was followed by the second trimester, with the lowest point being in the first trimester. All of the above conclusions are in line with the findings of our study. In this context, offering consultancy to pregnant women in accordance with their trimesters and post partum follow up of pregnant women are considered to reduce their concerns and facilitate psychological adaptation process.

Certain problems encountered during pregnancy can trigger anxiety and depression [22]. Although a statistically significant difference is not seen between history of vaginal bleeding and mean HADS score (p>0.05), mean anxiety and depression points are higher in those who have experienced vaginal bleeding. A statistically significant difference is seen between pre-eclampsia and mean anxiety point (p<0.05). Accordingly, mean anxiety point is significantly higher in individuals with pre-eclampsia. Kurki et al. reported that depression increased the risk of pre-eclampsia 2.5 times while depression and anxiety increased said risk 3.1 times. Although a statistically significant difference is not observed between gestational diabetes and mean HADS point in our study (p>0.05), mean anxiety and depression points are higher in individuals with gestational diabetes. In the study conducted by Kozhimannil et al. to investigate the relationship between diabetes with pregnancy and post-partum depression, the prenatal and postpartum depression rates of women who had diabetes before pregnancy or gestational diabetes, were found to be higher than the group without diabetes. It is considered that the health problems experienced during the pregnancy period may create an extensive stress, which lead to psychological changes.

Although a statistically significant difference is not found between those with chronic illness and the mean HADS score (p>0.05), the mean anxiety and depression scores are higher in individuals with a chronic illness. Similarly, it is reported in a study that individuals with a history of a clinical illness have a higher rate of anxiety and depression compared to those who did not have any clinical illness, despite the fact that a significant difference was not observed between history of chronic illness and the anxiety and depression scores [23]. In this context, chronic illnesses can cause depression as a result of anxiety related with the health of the baby to be born and functional limitations along in addition to biological impacts in pregnant women. Chronic diseases of pregnant women should be monitored, controlled and their effect on life quality should be reduced in order to protect pregnant women against negative impacts of anxiety and depression.

Statistically significant differences are observed between spouse support and marital harmony and mean HADS scores (p<0.05). Prevalence of anxiety and depression is lower in pregnant women who have sufficient support from their relatives, however this is not statistically significant (p>0.05). The study of Sorias indicates that women who share their important problems with their spouses and whose motherhood role is approved by their spouses adapt themselves to the new role easier. In the study of Gözüyeşil et al., mean depression point of pregnant women in harmony with their spouses and who receive the support of their spouses more than anyone else, was found to be lower. The findings of our study are similar to others. In this context, it is believed that support given by the spouses in housework and childcare results in harmony and effective communication between the couple, which can constitute an important factor in reducing the prevalence of anxiety and depression in pregnant women. According to the "Buffer Theory" of social support theories, social support functions as a buffer, which protects the individuals from the stressors in life. The studies

conducted have determined that individuals with powerful social support systems are more successful in overcoming psychological problems while those deprived of social support feel themselves in danger and have anxiety [40]. In a different study, there were significant relationships between antenatal depression, spousal communication, and marital satisfaction (p<0.05), indicating that spousal interactions play a greater role in antenatal depression than socio-demographic and obstetric variables [30]. Nasreen et al. (2011) found that the associated factors of anxiety were illiteracy, poor household economy, lack of practical support, and interaction between poor household economy and poor partner relationship.

Mean anxiety and depression points are significantly lower in individuals who do not have any fears of concerns related with birth (p<0.05). Study of Çelik et al. (2013) has found that prevalence of depression symptoms is higher (57.3%) in pregnant women who have concerns and anxiety related with birth. Mean HADS scores are higher in pregnant women who do not feel ready for motherhood (p<0.05). Differences could not be found in the depression and anxiety levels of those who feel ready for motherhood and who don't in the study conducted by Akbaş et al. (2008). In line with the findings, it is observed that women who do not feel ready for motherhood experience depressive symptoms as a result of feeling under pressure.

Most anxiety, depression and emotions experienced by pregnant women remain undetected by health professionals. It has been known for decades evidently that prenatal stress has been associated with the risk of a wide range of outcomes. Stress hormones in the mother's body do reach the baby. When a pregnant woman is chronically stressed or experiences extreme stress, the baby may be exposed to unhealthy levels of stress hormones, which can alter the development of the fetus as well as psychological functioning and behaviour. This then goes on to affect the child in the longer term and into adulthood [41]. A longitudinal study demonstrated that children of mothers who were depressed during pregnancy were more likely to be difficult to soothe as babies and to be hyperactive by 4 years of age [42].

In addition, depressed or stressed mothers may feel overwhelmed and, experience sleep problems and fatigue. All of these factors may help explain how maternal stress during pregnancy can have long-term effects on the unborn child. Hao et al. conducted a retrospective survey investigating the association between prenatal stress and risk factors of Autism Spectrum Disorders (ASD) in Chinese mothers (N=28) of children diagnosed with ASD. The authors analysed that mothers with ASD children also showed higher incidence of maternal mental problems, including premature deliveries, birth complications, advanced maternal age. These findings related to unfavourable fetal outcomes have been shown to be associated with prenatal stress. Importantly, studies are beginning to examine what factors might help buffer the effects of stress during pregnancy. One important factor seems to be the mother's level of social support. Other protective factors may include: gaining some control of stressful situations, consistent prenatal care, and healthy maternal habits.

Conclusion and Recommendations

It is determined in this study that socio-demographic and obstetric factors were associated with depression and anxiety in pregnancy. It is further important to ensure improvement of the socio-cultural level of women aiming at prevention of the risk undiagnosed or untreated depression or anxiety on the mother and the infant and pregnant women receiving regular antenatal care service of sufficient quantity. In this scope, health providers need to be more aware and provide more emotional support; it is necessary for sensitive postnatal care to counteract the effects of prenatal stress. More public health education should be given on this issue, and pregnant women must be encouraged both to look after themselves emotionally, and to seek help if needed. Moreover, it is recommended that the pregnant woman and her family, namely the spouse, are informed on the sensitivity and need for support of pregnant women, and arrangement of weekly phone calls, house visits and information meetings for the pregnant women by the health professionals are further advised to increase the social support of and indentify the needs of the pregnant woman. Further studies examining potential relationships between potential indicators of socio-demographic, obstetrics and others medical and prenatal stress may be warranted.

References

1. Andersson L, Sundström-Poromaa I, Wulff M, et al. Depression and anxiety during pregnancy and six months postpartum a follow-up study. Acta Obstet Gyneco. 2006; 85: 937-944.

2. Fair brother N, Young AH, Janssen P, et al. Depression and anxiety during the perinatal period. BMC Psychiatry. 2015; 15: 206.

3. Karimova GK, Martin CR. A psychometric evaluation of the Hospital Anxiety and Depression Scale during pregnancy. Psychol Health Med. 2003; 8: 89-103.

4. Lee AM, Lam SK, Sze Mun Lau, et al. Prevalence course risk factors for antenatal anxiety and depression. J Obstet Gynaecol. 2007; 110: 1102-1112.

5. Agampodi SM, Agampodi TC. Antenatal depression in Anuradhapura Sri Lanka and the Factor Structure of the Sinhalese Version of Edinburgh Post-Partum Depression Scale among Pregnant Women. PloS One. 2013; 8: 1-6.

6. Cohen LS, Sichel DA, Faraone SV, et al. Course of panic disorder during pregnancy and the puerperium a preliminary study. Biol Psychiatry. 1996; 39: 950-954.

7. Martin CR. Perinatal Mental Health A Clinical Guide. M&K Update Ltd. 2012.

8. Marakoğlu K, Şahsıvar MŞ. Depression during Pregnancy. Turkish Clinics J Med Sci. 2008; 28: 525-532.

9. Anderson C, Roux G, Pruitt A. Prenatal depression violence substance us and perception of support in pregnant middle-class women. J Perinat Educ. 2002; 11: 14-21.

10. Freeman MP. Antenatal depression navigating the treatment dilemmas. Am J Psychiatry. 2007; 164: 1162-1165.

11. Gonsalves L, Schuermeyer I. Treating depression in pregnancy practical suggestions. Cleve Clin J Med. 2006; 73: 1098-1104.

12. Biaggi A, Conroy S, Pawlby S, et al. identifying the women at risk of antenatal anxiety and depression a systematic review. J Affect Disord. 2015; 191: 62-77.

13. Chan CY, Lee AM, Lam SK, et al. Antenatal anxiety in the first trimester Risk factors and effects on anxiety and depression in the third trimester and 6-week postpartum. Open Journal of Psychiatry. 2013; 3: 301-310.

14. Bowen A, Muhajarine N. Antenatal depression. Can Nurse. 2006; 102: 26-30.

15. Sarah LB, Barbara LP, Jill MC. Et al. Psychiatry and the Reproductive Process. Comprehensive Textbook of Psychiatry. 8th edition. Ankara Güneş Bookstore. 2007; 3: 2305-2314.

16. Bödecs T, Horvath B, Kovacs L, et al. Prevalence of depression and anxiety in early pregnancy on a population based Hungarian sample. ORV Hetil. 2009; 150: 1888-1893.

17. Da Costa D, Larouche J, Dritsa M, et al. Psychosocial correlates of pre partum and postpartum depressed mood. J Affect Disord. 2000; 59: 31-40.

18. Kurki T, Hiilesmaa V, Raitasalo R, et al. Depression and anxiety in early pregnancy and risk for preeclampsia. Obstet Gynecol. 2000; 95: 487-490.

19. Marcus SM, Flynn HA, Blow FC, et al. Depressive Symptoms among Pregnant Women Screened in Obstetrics Settings. J Women's Health. 2003; 12: 373-380.

20. Apter G, Devouche E, Gratıer M. Perinatal mental health. J Nerv Ment Dis. 2011; 199: 575-577.

21. Diego MA, Field T, Hernandez-Reif M, et al. Prenatal depression restricts fetal growth. Early Hum Dev. 2009; 85: 65-70.

22. Akbaş E, Vırıt O, Kalenderoğlu A, et al. Relationship of socio-demographic variables with anxiety and depression levels. Archives of Neuropsychiatry. 2008; 45: 85-91.

23. Çakır L, Can H. Relationship of socio-demographic variables with anxiety and depression levels. Turkish Family Physician. 2012; 3: 35-42.

24. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand. 1983; 67: 361-370.

25. Aydemir Ö, Güvenir T, Küey L, et al. Validity and reliability study of the hospital anxiety and depression scale. Turkish Psychiatry Journal. 1997; 8: 280-287.

26. Gözüyeşil EY, Şirin A, Çetinkaya Ş. Study of depression condition of pregnant women and the affecting factors. Fırat Health Services Journal. 2008; 3: 13-17.

27. Reron A, Huras H, Madejski Z. Assessment of Prenatal Care in Pregnant Women. PrzeglLek. 2003; 60: 107-110.

28. Vırıt O, Akbaş E, Savaş HA, et al. Relationship between Social Support and Depression and Anxiety Levels. Neuropsychiatry Archive. 2008; 45: 9-13.

29. Robertson E, Grace S, Wallington T, et al. Antenatal risk factors for postpartum depression a synthesis of recent literature. Gen Hosp Psychiatry. 2004; 26: 289-295.

30. Park CM, Seo HJ, Jung YE, et al. Factors associated with antenatal depression in pregnant Korean females the effect of bipolarity on depressive symptoms. Neuropsychiatr Dis Treatment. 2014; 10: 1017-1023.

31. Nasreen HE, Kabir ZN, Forsell Y, et al. Prevalence and associated factors of depressive and anxiety symptoms during pregnancy a population based study in rural Bangladesh. BMC Women's Health. 2011; 11: 22.

32. Çalışkan D, Öncü B, Köse K, et al. Depression scores Turkey. J Psychosom Obstet and Gynecol. 2007; 28: 195-200.

33. Çelik F, Nadirgil Köken G, Yılmazer M. Prevalence of depression symptoms during pregnancy and factors affecting onset of depression. Anatol J Clin Investig. 2013; 7: 110-117.

34. Ocaktan ME, Çalışkan D, Öncü B, et al. Antepartum and postpartum depression in a primary healthcare center area. Journal of Ankara University School of Medicine. 2006; 59: 151-157.

35. Figueiredo B, Pacheo A, Costa R. Depression during pregnancy and the postpartum period in adolescent and adult Portuguese mothers. Arch Womens Ment Healt. 2007; 10: 103-109.

36. Yanıkkerem E, Atlan E, Demirtosun P. Depression Condition of Pregnant Women living in the Region of Manisa Health Centre No 1 Journal of Gynaecology. 2004; 2: 301-306.

37. Öztürk OM. Mental health and disorders. Ankara Nobel Medical Bookstores. 2004; 75-106.

38. Kütük S. Risks and problems of adolescent pregnancy. Turkish Journal of Family Practice. 2012; 16: 31-34.

39. Silva R, Jansen K, Souza LD, et al. Depression during pregnancy in the Brazilian public healthcare system. Rev Bras Psiquiatr. 2010; 32: 139-144.

40. McKee MD, Cunningham M, Jankowski KR, et al. Health-related functional status in pregnancy Relationship to depression and social support in a multiethnic population. Obstet Gynecol. 2001; 97: 988-993.

41. Huizink AC, Robles de Medina PG, Mulder EJH, et al. Stress during pregnancy is associated with developmental outcome in infancy. J Child Psychol Psychiatr. 2003; 44: 810-818.

42. Sharma V, Pope CJ. Pregnancy and bipolar disorder a systematic review. J Clin Psychiatry. 2012; 73: 1447-1455.