The frequency of depressive mood and associated factors in pregnant women in a semi-urban region

Yarı kentsel bir bölgede gebe kadınlarda depresif duygudurum sıklığı ve ilişkili faktörler

Antepartum depressive mood and associated factors

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Öz

Amaç: Ülkemizin başkentinde yarı-kentsel bir bölgede gebelikte depresif duygu durum sıklığı ve ilgili risk faktörlerinin belirlenmesi. Gereç ve Yöntem: Çalışmaya gebeliğin son trimesterinde olan 600 gebe dahil edildi. Depresyon skorları "Edinburgh Depresyon Skalası" ile belirlendi. 13 ve üzerinde alanlar depresif Kabul edildi. Depresif olan ve olmayan gebeler, sosyo-demografik özellikleri, ailesel ve medical özellikleri açısından karşılaştırıldı. Bulgular: Çalışmaya alınan altıyüz gebeden 153'ü depresif bulundu (25.5%). Düşük/ileri yaş, eşin/gebenin düşük eğitim seviyesi ve/veya işsiz olması, istem dışı yapılan evlilik, eşin akrabaları ile birlikte yaşama, planlanmamış gebelik ve kronik hastalık varlığı depresif duygu durum sıklığını arttıran faktörler olarak bulundu (p<0.001). Tartışma: Gebeliğin son trimesterinde depresif duygu durumun sık görüldüğü göz önünde tutulmalı ve depresyon taraması rutin gebelik takibi programlarının bir parçası haline getirilmelidir. Depresif duygu durum tanısı alan gebeler için de ileri tanı ve tedavi hizmetleri mutlaka sağlanmalıdır.

Anahtar Kelimeler

Gebelik; Depresif Duygu Durum; Risk Faktörleri

Abstract

Aim: To determine the antenatal depressive mood frequency and associated risk factors in a semi-urban region in the capital of our country. Material and Method: Six hundred pregnant women within their third trimester were included. Depression levels were evaluated according to the "Edinburgh Postnatal Depression Scale". Those scoring 13 and over were considered as depressed. Depressed and non-depressed pregnant women were compared according to socio-demographic characteristics, family, and medical features. Results: One hundred and fifty-three patients out of 600 were found to be depressive (25.5%). Low/advanced maternal age, low education level and unemployment of the women/husband, involuntary marriage, living with spouse's relatives, unplanned pregnancy, and existence of a diagnosed chronic disease were found to increase the frequency of depression (p<0.001). Discussion: Because of its high frequency among women in the third trimester, depression screening should be included in prenatal care routine programs and accessible diagnosis and treatment services should be provided for pregnant women diagnosed with depressive mood.

Keywords

Pregnancy; Depressive Mood; Risk Factors

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Introduction

Depression is the most frequently observed psychological disorder during pregnancy and is an important public health issue because it is the most important risk factor for postnatal depression, it may also cause complications and negative fetal results during pregnancy, and its prevalence is even higher than in the postnatal phase [1,2]. Antenatal depression causes a reduction in mother's self-care and therefore may cause insufficient nutrition, alcohol-drug use, insufficient prenatal care, and even suicide attempts. Studies show that mothers experiencing depression during pregnancy have higher premature birth rates and give birth to infants with lower birth weights and lower APGAR scores [3,4]. It is also known that such mothers' children have a higher probability ofdeveloping behavioral and emotional problems/disorders in the future [5].

It has been reported that approximately 50% of women undergoing depression during pregnancy also suffered from postnatal depression [6]. There are many factors contributing to development of antenatal depression such as previously experienced depression attacks, marital problems, lack of spouse and social support, negative life experiences, domestic violence, low socio-economic level, unintended pregnancy, and pregnancy at younger ages; these factors vary among different cultures [7,8]. Research studies conducted regionally in Turkey on smaller populations report antenatal depression frequency between 27.9%-33.0%[9-11]. Despite this high frequency of antenatal depression and the importance of prenatal care in Turkey, psychological support during this stressful period does not have any standard care procedure. In this study, we intend to determine the frequency of depressive mood during pregnancy and the associated risk factors in order to contribute to preventative care that can be implemented in this area.

Material and Method

This descriptive study was conducted from February to July 2012 at the antenatal clinic of a major maternity hospital in Ankara, Turkey, a semi-urban region. Of the five Gynecology and Obstetrics polyclinics existing in the study hospital, one was randomly selected. Pregnant women within their third trimester visiting this outpatient polyclinic were included each day in the study. 600 pregnant women were included in the study within a period of six months. Pregnant women were divided into two groups as depressed or non-depressed according to their EPDS results. The study was approved by the Ethics Committee and all pregnant women were informed about the study and an informed written consent was obtained.

After collecting the socio-demographic characteristics and fertility features of patients by face-to-face interview using a questionnaire, depressive symptoms were determined with the Edinburgh Postnatal Depression Scale, the most widely used screening instrument used for antenatal depression in research. Although developed by Cox et al. for determination of postnatal depression, the scale is often used during pregnancy as well [12,13].The scale contains 10 Likert-type questions in total and provides 4subscale measurements. Total score is from 0-30. For each item, women are asked to select one of four responses that most closely describe how they have felt over the past 7 days.

The scale was adapted to Turkish by Engindeniz et al. in 1996, its validity and reliability was demonstrated by the same team, sensitivity and selectivity was determined as 84.0% and 88.0%, respectively, and the cut-off score was shown to be ≥13 [14]. The EPDS was filled out by each patiental one in a private and quiet room.

According to sampling volume formulas, the minimum required sample size was calculated as 545 subjects for this study, assuming a depression frequency of 15.0%, accepting an error margin of ±0.03 and with a reliability of 95.0%.

Women with depressive symptoms were referred to a psychiatrist for further evaluation and treatment.

Statistical analysis was performed using Statistical Package for Social Sciences version 17 (SPSS Inc. Chicago. IL). Differences between two groups were assessed using Chi-square test, Fisher's Exact test, and Mann–Whitney U-test for categorized variables, Student's t-test for continuous variables, and Multiple Logistic Regression Analysis as multidimensional analysis during the statistical evaluations. $p<0.05$ was considered as significant.

Results

Average pregnancy week of the subjects was 31.81±2.16 (range,26-36 weeks). One hundred and fifty-three patients out of 600 were found to be depressive (25.5%) in our study group. Socio-demographic findings related to depressive moodare given in Table 1. Lower and advanced age, low educational level

Table 1. Distribution of socio-demographic characteristics of individuals

Features	Depressed n (%)	Normal n (%)	Total n (%)	p
Age				p=0.009
≤19	25 (34.2)	47 (65.3)	72 (12.0)	
20-24	41 (21.5)	150 (78.5)	191 (31.8)	
25-29	48 (26.8)	131 (73.2)	179 (29.8)	
30-34	17 (17.0)	83 (83.0)	100 (16.7)	
≥35	22 (37.9)	36 (62.1)	58 (9.7)	
Education Level				p=0.002
Elementary school or lower High school	106 (30.3) 41 (21.4)	244 (69.7) 151 (78.6)	350 (58.3) 192 (32.0)	
University	6 (10.3)	52 (89.7)	58 (9.7)	
Employment Status				p=0.000
Employed	140 (29.3)	337 (70.7)	477 (79.5)	
Unemployed	13 (10.6)	110 (89.4)	123 (20.5)	
Health Insurance				p=0.000
Yes	137 (24.0)	435 (76.0)	572 (95.3)	
No	16 (57.1)	12 (42.9)	28 (4.7)	
Education level of spouse				p=0.007
Elementary school or lower	90 (30.5)	205 (69.5)	295 (49.2)	
High school	52 (22.8)	176 (77.2)	228 (38.0)	
University	11 (14.3)	66 (85.7)	77 (12.8)	
Employment of spouse				p=0.000
Employed	105 (20.2)	416 (79.8)	521 (86.8)	
Unemployed	48 (60.8)	31 (39.2)	79 (13.2)	
Monthly Income (Turkish Lira)				p=0.000
≤3000	66 (47.1)	74 (52.9)	140 (23.3)	
3001-6000 ≥6001	73 (23.2) 14 (9.6)	241 (76.8) 132 (90.4)	314 (52.4) 146 (24.3)	

of the women/spouse, unemployment, lack of health insurance, and lower monthly income were found to be effective on depression rate (p<0.01).

Correlation between fertility features, chronic conditions, and depressive mood is shown in Table 2. Increased total number of pregnancies, live births, unplanned pregnancy, previous prenatal/postnatal depression diagnosis, depression history in immediate family members, and having a diagnosed chronic disease were found to be correlated with high depression frequency (p<0.01).

Familial factors such as lack of a civil marriage, involuntary marriage, living with spouses' families and the increased number of cohabitants, failure in sharing problems with and receiving support of the spouse/close relatives or friends, and discord/uneasiness within the family were found to be correlated with high depression frequency (p<0.01) (Table 3).

In logistic regression analysis, involuntary marriage, living with spouse's relatives, unplanned pregnancy, existence of a diagnosed chronic disease, not being able to share problems with the spouse and/or with immediate family members/friends were determined as the factors increasing depressive mood risk (Table 4).

Discussion

Frequency of depressive mood within the study group was found as 25.5%. Studies conducted in various countries reported an antenatal depression prevalence of 5.6% in Japan [15], 14.2% in Brazil [8], 17.0% in Sweden [16], and 20.0% [17] in the USA. Various studies performed in Turkey reported an antenatal depression frequency between 27.9%-33.1%, similar to the results of this study [9-11]. These figures are quite high compared to the rest of the world, which are also affected by factors such as getting pregnant at very young ages and even during adolescence, short intervals between pregnancies, economic challenges, low education levels, family problems, and lack of social support.

Among the study results, the effect of socio-demographic factors on depressive mood is significant which is consistent with previous studies where younger-older age, low education level, unemployment, and lack of health insurance were found to be significant predictors of clinical depression [6,7,16]. It can be said that pregnant women tend to get away from the submissive and desperate approach as their educational level increases and they actively participate in work life and education and employment, all of which help in dealing with stress. Social and economic power, better communication and overall supportiveness of the spouses, and higher educational levels are believed to have a positive impact on depression. Association between psychological disorders and economic income is already known. Many studies report that as the income level decreases, the frequency of antenatal and postnatal depression increases, and income level is a significant risk factor for antenatal depression [6,18]. Lack of partner's support, weak communication and lack of harmony with the partner, and marital problems are found to be correlated with pregnancy and depression and marital problems are indicated to be a potential risk factor for prenatal depression [18].

Table 2. Distribution of the reproductive history and chronic conditions of individuals

	Depressed n (%)	Normal n (%)	Total n (%)	p
Number of pregnancy				p=0.000
1	36 (17.7)	167 (82.3)	203 (33.8)	
2-3	78 (25.4)	229 (74.6)	307 (51.2)	
≥4	39 (43.3)	51 (56.7)	90 (15.0)	
Live Birth				p=0.004
0	50 (20.2)	198 (79.8)	248 (41.3)	
1-2	90 (27.8)	234 (72.2)	324 (54.0)	
≥3	13 (46.4)	15 (53.6)	28 (4.7)	
Planned pregnancy				p=0.000
Yes	46 (10.4)	396 (89.6)	442 (73.7)	
No	107 (67.7)	51 (32.3)	158 (26.3)	
Depression History				p=0.000
Yes	62 (74.7)	21 (25.3)	83 (13.8)	
No	91 (17.6)	426 (82.4)	517 (86.2)	
Previous prenatal/ postnatal depression diagnosis				p=0.000
Yes	28 (87.5)	4 (12.5)	32 (8.8)	
No	125 (37.5)	208 (62.5)	333 (91.2)	
Depression history in first degree relatives				p=0.000
Yes	71 (68.9)	32 (31.1)	103 (17.2)	
No	82 (16.5)	415 (83.5)	497 (82.8)	
Diagnosed Chronic Disease				p=0.000
Yes	56 (44.4)	70 (55.6)	126 (21.0)	
No	97 (20.5)	377 (79.5)	474 (79.0)	

Table 3. Distribution of family features of individuals

Features	Depressed n (%)	Normal n (%)	Total n (%)	P
Legally valid marriage				p=0.000
Yes	140 (23.9)	445 (76.1)	585 (97.5)	
No	13 (86.7)	2 (13.3)	15 (2.5)	
Voluntary Marriage				p=0.000
Yes	101 (18.7)	440 (81.3)	541 (90.2)	
No	52 (88.1)	7 (11.9)	59 (9.8)	
Number of individuals living at home				p=0.000
2	20 (11.4)	155 (88.6)	175 (29.2)	
3-4	74 (24.7)	226 (75.3)	300 (50.0)	
≥5	59 (47.2)	66 (52.8)	125 (20.8)	
Association of individuals at home				p=0.000
Elementary family	62 (14.6)	362 (85.4)	424 (70.7)	
With spouse's relatives*	84 (59.6)	57 (40.4)	141 (23.5)	
With own relatives*	7 (20.0)	28 (80.0)	35 (5.8)	
Sharing problems with spouse				p=0.000
Always	30 (7.6)	363 (92.4)	393 (65.5)	
Sometimes	47 (41.2)	67 (58.8)	114 (19.0)	
Rarely	76 (81.7)	17 (18.3)	93 (15.5)	
Discord/uneasiness within the family				p=0.000
Always	48 (100.0)	0 (0.0)	48 (8.0)	
Sometimes	61 (52.6)	55 (47.4)	116 (19.3)	
Rarely	44 (10.1)	392 (89.9)	436 (72.7)	
Sharing problems with relatives/friends				p=0.000
Always	23 (7.3)	293 (92.7)	316 (52.7)	
Sometimes	41 (27.5)	108 (72.5)	149 (24.8)	
Rarely	89 (65.9)	46 (34.1)	135 (22.5)	

*In addition to spouse and other children

Table 4. The results for the factors associated with depression in logistic regression analysis

Risk Factors	p	OR	%95 CI
Association of individuals at home			
Elementary family			
With spouse's relatives*	0.706	0.779	0.212-2.860
With own relatives*	0.000	3.731	1.881-7.401
Voluntary marriage			
Yes			
No	0.002	5.642	1.879-16.943
Planned pregnancy			
Yes			
No	0.000	6.348	3.207-12.566
Chronic disease			
No			
Yes	0.001	3.310	1.632-6.712
Sharing problems with spouse			
Always/often			
Sometimes	0.000	3.672	1.784-7.556
Rarely/never	0.000	16.708	6.949-40.175
Sharing problems with relatives / friends			
Always/often			
Sometimes	0.008	2.755	1.297-5.855
Rarely/never	0.000	4.445	2.004-9.860

OR: odds ratio; 95%CI: 95% confidence intervals. *In addition to spouse and other children

Depressive mood rates were found to be higher in women living with their spouses' families and depression rates increase as the number of cohabitants increase. In the literature it is indicated that antenatal depression is less frequently observed among pregnant women living with their spouses in a harmonious marriage and that depression frequency increases when there are more cohabitants who are not part of the elementary family [9]. The group with the highest depressive mood risk is pregnant women who live in the same house with their mothers-in-law and who indicate that their relation is uneasy with a non-supportive mother-in-law [19,20]. In our society, living with the spouse's family is quite common, as this factor has a high percentage within the study group as well. Depression frequency does not increase among pregnant women who live with their own families, which could be related to better communication and sharing levels with their own relatives.

A significant correlation was found between existence of a previous antenatal/postnatal depression diagnosis and observed depression. Moreover, having immediate family members diagnosed with depression also increases depression risk. Depression is known to be a disorder with genetic predisposition, and the existence of depression cases within the family increases depression risk; similar to the results we obtained in this study, there are many research studies in the literature reporting an increase in depression among pregnant women who have family members with a depression history [19,20]. In general, these research studies have concluded that diagnosis of depression or any other psychiatric disorder sometime in the past constitutes a risk factor for antenatal depression, similar to our findings in this study.

An association between chronic diseases and psychiatric disorders, especially depression, has been previously reported [21]. Similarly, studies conducted in Brazil with 326 pregnant subjects with chronic diseases and 2398 subjects with chronic high blood pressure revealed high depression rates, consistent with the results of this study [22,23].

Failure in sharing problems with and receiving support of the spouse, close relatives, or friends significantly increases depression scores. Many studies have shown that depression rates are considerably lower among pregnant women who indicate they have a good relationship and can easily share their problems with their spouses, close relatives, or friends [7,12,18]. It is already known that women can adapt to the concept of maternity more easily in marriages where women can comfortably share significant problems with their spouses and where spouses approve of the maternity role. However women are more inclined to depression in marriages with a poor communication level where the husband fails to show interest and care during and after pregnancy [18].

An association between an unplanned pregnancy and depression during pregnancy has been well-documented [8-10,18]. In a study conducted in Australia on 8556 pregnant women during pregnancy and 6 months after pregnancy, observance of antenatal depression was reported to be higher among subjects with unplanned pregnancy. However, depression was regressed during the postnatal follow-up period [24].

Despite a few studies in the literature showing that the increase in number of pregnancies and births is not a risk factor for antenatal depression and that, in fact, multiparity has apositive protective effect [25], the general view is the existence of a positive relation between number of pregnancies and depression during pregnancy, which is also consistent with the results of this study [7,11]. The increase in number of births and living children also increases the burden on women's shoulders andtires them both physically and psychologically and thus may prepare the grounds for antenatal depression.

Despite this high frequency depression levels observed in Turkey and the importance of the issue, no relevant approach has yet to be developed. Depression must be given a high priority and diligently checked during prenatal healthcare services and diagnosis and treatment approaches should be developed accordingly. All risk factors influencing the development and progress of depression should be carefully interpreted, policies versatile in terms of protection should be introduced, and correct messages should be addressed to society. Among preventive approaches countering depression, priority should be given to increasing women's education levels so women will be provided with employment opportunities where they can develop themselves and ensure their economic independence. Also,income levels, a significant determinant of health, should be improved in line with the foregoing and health insurance and social security should be ensured for everyone. Social awareness should be raised against early and involuntary marriages and common traditional perspectives should be corrected.Men particularly-should be educated to improve their approach to and perception of women. Since depression frequency among women increases as the number of pregnancies and births increases,it should be ensured that families have children through conscious choices,

by evaluating the present socio-economic conditions and without neglecting the potential mother's choices and desires. Family planning services should be accessible and approaches that could guide the society in the wrong way should be avoided. Particularly, the negative characteristics of traditional family type which trivializes women should be changed and social awareness should be raised regarding this issue. Depression scanning should be introduced to routine prenatal care programs, it should be possible to make the required interventions, and accessible diagnosis and treatment services should be in place for pregnant women diagnosed with depression.There must be psychiatry units in healthcare centers providing prenatal care programs, due to the fact that the pregnant women, considered to experience depression according to the scale applied in our study, were observed not to apply to relevant healthcare centers for treatment.

The cross-sectional nature of this study and the use of the EPDS screening tool, which is not a diagnostic tool, are limitations of this study in interpreting the results. Large and prospective studies are needed to clarify the risk factors that can cause depression in the antenatal period.

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Competing interests

The authors declare that they have no competing interests

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