Risk Factors for Postpartum Depression in a Group of Teenage Mothers

Bir Grup Ergen Annede Doğum-Sonrası Depresyon İçin Risk Faktörleri

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ABSTRACT Objective: In urban areas of Turkey, teenage marriage is approved by parents and many of teenagers willingly go into this marriage. Sociodemographic features of teenage pregnancy may differ from western countries. However there is no data about postpartum depression (PPD) in teenage mothers in Turkey. We aimed to evaluate PPD incidence, and its association with gestational and sociodemographic features in a group of teenage mothers. **Material and Methods:** This study was performed on 135 teenage mothers in their first month of postnatal period. A structured questionnaire and the Turkish version of the Edinburg Postpartum Depression Scale (EPDS) were administered to determine presence of PPD. A cut-off point of 13 for the detection of depression risk was used in the study. Chi-square test and logistic regression analysis was used for statistical analysis. **Results:** The mean age of the mothers was 17.7 ± 1.8 (15-18 years), and the mean marital age was 16.2 ± 1.1/years. Of the adolescent mothers, 41.4% had a score of 13 or higher on the EPDS. In the logistic regression analysis, EPDS scores were significantly related with maternal age, economic status, living with a small family, prenatal care of baby, and mode of delivery. **Conclusion:** Early age at pregnancy and poor economic status seem to be closely associated with PPD in adolescent mothers. Therefore, adolescent pregnancies should be delayed for almost all young people until a reasonable age. Family members or public health nurses should help the adolescent mothers about infant care and motherhood during postpartum period.

Key Words: Depression, postpartum; adolescent psychology

ÖZET Amaç: Türkiye'nin kırsal kesimlerinde "teenage" evlilikler aileler tarafından onaylanmakta ve bu evliliklerin çoğu istemli olarak geçekleşmektedir. Ülkemizdeki "teenage" gebeliklerin sosyodemografik özellikleri batı ülkelerinden farklıdır. Bununla birlikte "teenage" annelerdeki postpartum depresyon (PPD) hakkında yeterli bilgi yoktur. Biz bu çalışmamızda, bir grup "teenage" annelerdeki PPD prevalansını ve PPD'nin gestasyonel ve sosyodemografik özelliklerle ilişkisini değerlendirdik. **Gereç ve Yöntemler:** Bu çalışma doğum sonrası periyodun ilk bir ayında olan 135 "teenage" anne üzerinde gerçekleştirildi. Ölçümler yapılandırılmış bir anket formu ile Edinburg Postpartum Depresyon Skalası (EPDS) ölçeğinin Türçe versiyonu ile yapıldı. EPDS ölçeğine gore 13 puan ve üzeri değerler kesim noktası olarak değerlendirildi. İstatistiksel ölçümler için ki-kare testi ve lojistik regresyon analizi uygulandı. **Bulgular:** Adölesan annelerin ortalama yaşı 17.7 ± 1.8 /yıl (15-18), ortalama evlenme yaşı 16.2 ± 1.1/yıl olarak tespit edildi. Adölesan gebelerin % 41.4'ünde EPDS skoru 13 ve üzerinde tespit edildi. Lojistik regresyon analizinde, EPDS skoru maternal yaş, ekonomik durum, çekirdek ailede yaşam, prenatal gebelik bakımı almış olma ve doğum şekliyle anlamlı olarak ilişkili bulundu. **Sonuç:** Erken gebelik yaşı ve düşük ekonomik seviye adölesan annelerdeki PPD ile yakından ilişkili görünmektedir. Bu nedenle adolesan gebeliklerin makul bir yaşa kadar geciktirilmesi uygun olacaktır. Postpartum dönemde aile üyeleri veya toplum sağlığı görevlileri adölesan gebelere annelik ve bebek bakımı hakkında yardımcı olmalıdır.

Anahtar Kelimeler: Depresyon, doğum sonrası; ergen psikolojisi

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Teenage pregnancy in many developing or developed countries is seen in varying ratio. Pregnancy and birth as a physiologic process may result in biological, developmental and psychological changes in a mother's life. In the postpartum period, some forms of emotional distress have been detected in one out of four adult women.[1,2] PPD is one of the important public health problems affecting maternal and child health. The prevalence of PPD varies between 7% and 61%, and it is stated that PPD is seen with higher ratio in adolescent mother than adult mother.[3,4] PPD is usually a problem of developed countries due to the sociocultural pattern, and various sociodemographic, social, obstetric, biological and psychological factors may play a role in the occurrence of PPD.[5] Cultural conflicts in less-developed countries-poverty, unemployment, lack of social services, and imbalance in income distribution may lead to various psychosocial problems.

High rates of depression have been reported by adolescent mothers in the transition to parenthood.[2,6] Partner absence and difficulties in the relationship, and increased violence are also reported in younger mothers.[7,8] Many psychosocial risk factors such as stress, poor body image, and parent-adolescent conflict have been implicated in the development of depression during adolescence.[9] In Turkey, teenage marriage is generally approved by parents and many of these teenagers go into this marriage willingly. In addition, the decision of having a child is taken together with their husbands and families. From this point of view, some sociodemographic features of teenage pregnancy may differ from western countries. Therefore, it may be expected that risk factors associated with PPD in adolescent period may be different from these countries. However there is no enough data about PPD in teenage mothers in Turkey. In this report, we aimed to evaluate PPD incidence, and its association with gestational and sociodemographic features in a group of teenage mothers.

MATERIAL AND METHODS

The study group was consisted of 135 teenage mothers aged ≤18 years with alive baby. The participants were selected from consecutive women who attended the antenatal obstetric service of the Faruk Sükan Maternity and Children Hospital in Konya Province between February 2006 and December 2007. Data of the study were collected by face-to-face interview using a sociodemographic and obstetric questionnaire, and the Edinburg Postpartum Depression Scale (EPDS). After obtaining the approval of Regional Health Directorate and the administrators of the health centers, sociodemographic and obstetric data were collected in the hospital within 48 hours after delivery. In addition, the women were informed about the aim and procedure of the study, and a verbal consent was obtained from each woman.

Prior to the study, the researchers were told about the questionnaire, and given the opportunity to ask questions. The first author (K.A) and her research assistants met with the adolescent mothers to administer the questionnaires. A detailed verbal and written study description was provided by the researchers for the adolescents. The participants were advised to ask any questions if they had concerning the proper completion of the measures. The researchers collected the data about the demographic and prenatal features within 48 hours after delivery. At 4 weeks after delivery, a home visit was performed to complete the questionnaires. The knowledge of having a previous psychiatric illness in the family was obtained from the patients and their family members.

The EPDS was developed by Cox et al. and it was based on this 10-item scale; a score from 0 to 30 is given to each respondent, the higher scores implying greater psychological distress.[10] Although this instrument does not assure a clinical diagnosis of depression, a score higher than 13 indicates the probable presence of a depressive episode. The Turkish version of the EPDS designed for population-based screenings was used to investigate depression with a sensitivity of 0.84% and a specificity of 0.88%.[11] A cut-off point of 13 for the risk of depression was used in the study. EPDS was performed to the participitant during home visits after postpartum 4 weeks.

Data were expressed as mean ± SD for continuous variables and as numbers or a percentage for categorical variables. Descriptive statistics, chi square and Fisher's exact were used for statistical analysis of the data. Logistic regression analysis was also used to determine risk factors related to PPD. The strength of associations was expressed as odds ratios (ORs) with 95% confidence intervals (95%CI). Two-sided p values < 0.05 were considered to indicate statistical significance.

RESULTS

Sociodemographic features and their relationship to PPD are shown in Table 1. The mean age of the mothers was 17.7 ± 1.8 (15-18 years). All the women were married and the mean marital age was 16.2 ± 1.1 years. All teenage mothers did not have any professional occupation and 58% of them had low educational level. Economic status of 77.8% was in low level. The presence of psychiatric illness in past-medical and family history was detected in 4.4% and 3.7% of the mothers, respectively. Number of people in the household were 3 in 24.4% of the mothers (Table 1). Fourty-one percent of the adolescents (n= 56) had a score of 13 or higher on the EPDS after the four-week postnatal period. According to the mother's sociodemographic features, the ratio of PPD ranged between 27% and 58%.

TABLE 1: Sociodemographic characteristics and their relationship to postpartum depression after 4 weeks postpartum in teenage mothers (n= 135).

		EPDS*		
Sociodemographic characteristics	**n (%)**	**> 13**	**< 13**	**p****
Marital age				
<17	56 (41.4)	27	29	0.48
18	79 (58.5)	29	50	
Level of education				
Illiterate	7 (5.2)	5	2	0.27
Primary school	78 (57.8)	30	48	
High school	50 (37)	21	29	
Women's occupation				
Outside work	0			0.34
Housewife	135 (100)	56	78	
Husband's occupation				
Employed	83 (61.5)	37	46	0.51
Unemployed	52 (38.5)	19	33	
Economic status				
Low	105 (77.8)	48	57	0.58
Middle	30 (22.2)	8	22	
High	0			
Household number				
3	33 (24.4)	18	15	0.19
>3	102 (75.6)	38	64	
Previous psychiatric illness				
Yes	6 (4.4)	2	4	0.86
No	129 (95.6)	54	75	
Family history of psychiatric illness				
Yes	5 (3.7)	3	2	0.27
No	130 (96.3)	53	77	

*EPDS: Edinburgh Postpartum Depression Scale;

p**: Chi square test.

Maternity and infant characteristics are displayed in Table 2. Of 135 mothers, 10 teenagers (7.4%) did not marry willingly. Unplanned pregnancy was detected in 26 mothers (19.3%). Fear or worry about their pregnancy was noted in 22 mothers when they first knew about their pregnancy. 25 mothers (18.5%) did not have an antenatal care during pregnancy. Vaginal delivery was detected in 63.7% of the mothers. There were health problems in 8.1% of the babies (Table 2). The ratio of PPD ranged between 33% and 60% according to maternity and infant characteristics. Fifteen independent variables were evaluated, only having low numbers (≤ 2) antenatal care visits was found to be correlated with the elevated scores on the EPDS (Table 2).

The results of the logistic regression analysis to predict the likelihood of PPD are listed in Table 3. Five risk factors were detected as predictive factors in PPD. There were 56 mothers (41.5%) less than 18 years-old. Mother who married earlier than 17 years of age had a higher risk of depression (p= 0.006). Most of the mothers (77.8%) had poor economic status. A significant relationship was detected between the risk of PPD and the low income (p= 0.013). Mothers with low income had more than three times higher risk of depression than those with middle or high income.

Of 135, 102 (75.6%) mothers were living with more than 2 household that are mother's or husband's parents. Mother who lived only 2 household (her husband and a child) had a higher risk of depression than those with large family (p= 0.004). A significant increase in the risk of depression was found in mother who had a normal birth (p= 0.013). Prevalence of delivery, planned pregnancy, baby's health problem, level of education, husband's occupation, previous psychiatric illness, or psychiatric illness in family did not correlate significantly with the risk of depression (p> 0.05).

TABLE 2: Maternity and infant characteristics and their relationship to postpartum depression after 4 weeks postpartum in teenage mothers

		EPDS*		
Sociodemographic characteristics	**n (%)**	**> 13**	**< 13**	**p**
Willing to marriage				
Yes	125 (92.6)	52	73	ns
No	10 (7.4)	4	6	
Planned pregnancy				
Yes	109 (80.7)	46	63	ns
No	26 (19.3)	10	16	
First feelings about pregnancy				
Fear or worry	22 (16.3)	12	10	ns
Happiness or gladness	113 (83.7)	44	69	
Parity				
1	116 (85.9)	47	69	ns
2	19 (14.1)	9	10	
Antenatal care				
< 2 times	79 (58.5)	39	40	0.045
> 3 times	56 (41.5)	17	39	
Type of delivery				
Vaginal	86 (63.7)	39	47	ns
Caesarean	49 (36.3)	17	32	
Baby's health problem				
Yes	11 (8.1)	5	6	ns
No	124 (91.9)	51	73	

*EPDS: Edinburgh Postpartum Depression Scale.

TABLE 3: Logistic regression: prediction of likelihood of postpartum depression (n= 135).

Parameter	Unadjusted OR (95% CI)	P
Marital age	3.91 (1.48-10.33)	0.006
Level of education	0.79 (0.36-1.74)	0.56
Economic status	3.79 (1.32-10.89)	0.013
Husband's occupation	1.64 (0.71-3.81)	0.24
Household number	4.35 (1.62-11.71)	0.004
Previous psychiatric illness	1.53 (0.20-11.50)	0.68
Family history of psychiatric illness	0.25 (0.03-1.98)	0.19
Willing to marriage	1.00 (0.21-4.76)	0.99
Planned pregnancy	1.52 (0.77-3.01)	0.22
First feelings about pregnancy	1.34 (0.44-4.06)	0.59
Parity	2.77 (0.82-9.35)	0.09
Antenatal care	0.39 (0.16-0.93)	0.03
Type of delivery	3.39 (1.29-8.89)	0.013
Baby's health problem	0.82 (0.21-3.17)	0.78

DISCUSSION

Postpartum affective disorders are typically divided into three categories: postpartum blues, PPD, and puerperal (postpartum) psychosis. Postpartum or "baby blues" is the most common observed puerperal mood disturbance, with estimates of prevalence ranging from 30% to 75% within a few days of childbirth.[12,13] Postpartum (or puerperal) psychosis is the most severe and uncommon form of postnatal affective illness, with rates of 1–2 episodes per 1000 deliveries. The clinical onset is rapid, with symptoms presenting as early as the first 48-72 h postpartum, with the majority of episodes developing within the first 2 weeks after parturition.[14] PPD is the most common complication of childbearing, affecting approximately 13% of women of childbearing age.[15] Estimates of prevalence in teenage mothers are much higher at 26%.[16]

In Turkey, the first birth average median age is 23 years-old in urban areas and 15%-40% of adult mothers suffer from PPD symptoms.[17,18] Although teenage marriage has been prohibited in Turkish law system, it is seen generally in rural areas of Turkey as a traditional pattern. However teenage marriage and mothers are rarely seen in urban areas of Turkey. In the present study, we evaluated early PPD in teenage mothers from the middle part of Turkey after one month postnatal period. We detected that more than 41% of teenage mothers had a PPD in their first month of postnatal period. The related factors with PPD were living with a small family, mother's age, mode of delivery, economic status and having low numbers antenatal care visits during pregnancy.

There is limited knowledge about specific factors that contribute to development of PPD in adolescent pregnancies.[19,20] Adolescent mothers appear more prone to develop postpartum depressive symptoms and the rate of PPD has been reported from 29 to 53% in several studies.[21,22] The present study detected the rate of PPD in these mothers as 41%. The differences between cultures and societies in the organization of family structures, expectations of women and in social responses to a new birth, it may be expected, that there will indeed be significant differences between cultures in rates of occurrence of depression.[23] However, we detected similar PPD rate with the findings of previous studies, and there were no significant differences between PPD prevalences. These findigs suggest that whatever their language and cultural backgrounds, women need supportive postpartum care and attention to women's physical health in the community after the birth.

Studies of young mothers indicate that they commonly experience depression and depression may be more common among young mothers than older mothers. Deal and Holt found that adolescent mothers were twice as likely as adult mothers to be depressed.[6] It was shown that depressed adolescent mothers also had higher risk for depression in adulthood.[6] The first postpartum years, particularly first month, is a challenging period for the adolescent mothers. Many social and gestational factors associated with PPD have been researched by several previous studies. Two previous studies detected that younger maternal age was a related factor for PPD.[2,18] The present study also determined the maternal age as a predictive factor associated with PPD. This may be due to more experiences of older adult mothers about pregnancies and maternity after births.

Another factor associated with presence of depressive symptoms is economic status. A study investigating the postpartum depressive symptoms of adolescent mothers reported that anticipated infant care emotionality and socioeconomic status were significantly predictors of postpartum depressive symptoms.[20] Dindar et al also showed an association between poor economic status and presence of PPD.[17] Likewise, socioeconomic status was found as an important factor related with PPD in the present study. Another study consisting of adult women showed the incidence of PPD as 25.6%. They found that economic status, smoking, relationship problems with husband and mother-in-law and baby gender or health problems of baby were associated with PPD.[8] It was reported that the patients with a previous psychiatric illness had 25% increased risk for PPD.[24] Differently, history of previous psychiatric illness was not a predictive factor of PPD in adolescent mothers of our study population.

Several studies have found that from 10% to 34% of adult mothers report clinical levels of depressive symptoms.[25,26] A recent study from our country performed in a near region to our study population detected that 31.5% of the women had a score of 13 or higher on the EPDS. This study also consisted of adult women and it was shown that PPD was associated with economic status, support from family, and emotional distress during pregnancy, health problems during pregnancy, baby care after delivery, whether the pregnancy was planned, and mental disorder before pregnancy. Ayvaz et al performed a study to investigate the incidence of PPD and they found the incidence as 28.1%.[27] History of hiperemesis gravidarum and reported depression after previous pregnancies were determined as predictors of PPD.

There are several limitations to the present study. First, a cutt-off point of original version of EPDS was used, and any cutt-off point for Turkish version of EPDS could not determined. Second, our findings are limited by the cross-sectional nature of the design, and these findings do not reflect the general population.

CONCLUSION

The present study suggests that an adolescent mother is more prone to be depressed during postpartum period. Lower maternal age, poor economic status, and prenatal care for pregnancy seem to be closely associated with PPD in adolescent mothers. Therefore, adolescent pregnancies should be delayed for almost all young people until a reasonable age. Family members or public health nurses should help to improve the adolescent mother' emotions and expectations about infant care and motherhood during postpartum period.

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