

Prenatal attachment, anxiety and depression in pregnant adolescents and the emotional availability of their parents

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ABSTRACT

Objective: Adolescent pregnancy is a common sociological problem in undeveloped and developing countries. An adolescent is not able to reach neither physical nor psychosocial maturity regarding marriage, founding a family and having a child. For this reason, not only girls but also their children born are exposed to many negative consequences as a result of adolescent pregnancies. This study aimed to investigate the prenatal attachment and the anxiety/depression levels of pregnant adolescents. We also examined the emotional availability of their parents. **Methods:** Fifty-five pregnant adolescents and 61 non-pregnant adolescents were included. Prenatal Attachment Inventory, Hospital Anxiety and Depression Scale and Lum Emotional Availability of Parents were filled out by the participants. **Results:** The education of pregnant adolescents ends earlier than control group. The mothers' age of marriage and age of having the first child in the case group were lower ($p<0.05$). Depression levels and parents' emotional availability were similar in two groups. However, HADS anxiety scores were 7.4 ± 3.8 in the case group and 9.1 ± 4.1 in the non-pregnant adolescent group and it was statistically significant. There was a significant correlation between prenatal attachment and depression and parents' emotional availability scores in the case group. **Discussion:** Adolescent pregnancies cause early termination of girls' education. In addition, as our study findings have shown, daughters of early married women are at risk for adolescent pregnancies. The higher anxiety scores in non-pregnant adolescents suggest that these girls continue their education and may have more future anxiety. The preventive and comprehensive programs need to be developed to struggle with adolescent pregnancies. (Anatolian Journal of Psychiatry 2020; 21(2):124-132)

Keywords: adolescent pregnant, prenatal attachment, depression, anxiety, parents' emotional availability

Ergen gebelerin prenatal bağlanmaları, anksiyete/depresyon düzeyleri ile anne-babalarının duygusal erişilebilirliği

ÖZ

Amaç: Ergen gebelik, gelişmemiş ve gelişmekte olan ülkelerde yaygın bir toplumsal sorundur. Bir ergen evlilik, aile kurmak ve çocuk sahibi olmak için ne fiziksel, ne de ruhsal-toplumsal olgunluğa erişemez. Bu nedenle, sadece kız çocukları değil aynı zamanda ergen gebelik sonucunda doğan çocuklar da birçok olumsuzluklara maruz kalmaktadır. Bu çalışmada gebe ergenlerin prenatal bağlanmaları ile anksiyete ve depresyon düzeylerini araştırmayı amaçladık. Ayrıca bu ergenlerin anne-babalarının duygusal erişilebilirliklerini de inceledik. **Yöntem:** Çalışmaya 55 gebe ergen ve 61 gebe olmayan ergen alındı. Katılımcılar tarafından Prenatal Bağlanma Ölçeği, Hastane Anksiyete ve Depresyon Ölçeği (HADÖ) ve Ebeveynin Duygusal Erişilebilirliği Ölçeği (EDEÖ) dolduruldu. **Bulgular:** Ergen gebelerin eğitim düzeyi kontrol grubuna göre daha düşüktü. Olgu grubunda ergenlerin annelerinin evlilik yaşı ve ilk çocuğa sahip olma yaşı daha düşüktü ($p<0.05$). İki grupta depresyon düzeyleri ve anne-babalarının duygusal erişilebilirliği benzerdi, fakat anksiyete düzeyleri olgu grubunda 7.4 ± 3.8 , gebe olmayan ergen grubunda ise 9.1 ± 4.1 ;

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bu sonuç istatistiksel olarak anlamlıydı. Ayrıca olgu grubunda prenatal bağlanma ile depresyon ve anne-babaların duygusal erişilebilirlik puanları arasında anlamlı bir ilişki vardı ($p<0.01$). Sonuç: Ergen gebelikler, özellikle kız çocukların eğitimlerinin erken sonlandırılmasına neden olmaktadır. Çalışmamızın bulgularına göre, erken yaşta evlenen kadınların kızları da ergen gebelikler için risk altındadır. Gebe olmayan ergenlerdeki yüksek anksiyete puanlarının bu kişilerin eğitimlerini sürdürmeleri ve daha fazla gelecek kaygısı yaşıyor olabildiğini düşündürmüştür. Ergen gebelikler ile mücadele için önleyici ve kapsamlı programlar geliştirilmelidir. (Anadolu Psikiyatri Derg 2020; 21(2):124-132)

Anahtar sözcükler: Ergen gebeliği, prenatal bağlanma, depresyon, anksiyete, anne-babanın duygusal erişilebilirliği

INTRODUCTION

Adolescent pregnancy is defined as pregnancies observed between 10 and 19 years of age. Annually, approximately 16 million young girls under the age of 18 become pregnant.¹ The great majority of adolescent pregnancies (90%) are observed in undeveloped and developing countries.^{2,3} The fact that adolescent pregnancy has become an important issue is not only because of its high incidence but also because it may lead to psychological, social, economic and educational problems.^{4,5}

In the world, adolescent pregnancies often result from sexual abuse, early marriage or voluntary unprotected sexual intercourse. Especially in developing countries, as in Turkey, the early marriage of girls is one of the most frequent causes of the occurrence of adolescent pregnancies, and this can be the result of a cultural understanding. Girls who are married off at an early age are expected to have a child immediately by being kept under social pressure, so this causes them to fall under the parental burden without completing their psychosocial development yet. The education of girls who are married off at an early age also ends earlier. Girls who cannot attend school and are usually not allowed to work are convinced that they will gain a social status when they have a child. Thus, girls with a very limited social life desire to have a child with the motivation of gaining a respectable place in society. Adolescent marriages and adolescent pregnancies are frequent and highly observed in the Southeastern Anatolia Region of Turkey. According to the 2016 data of the TurkStat (Turkish Statistical Institute), the ratio of girls who get married between the ages of 16 and 19 to total married people is 16.8% in Turkey, and this ratio was 27.1% in the province where the present study was carried out.⁶ While the birth rate between the ages of 16 and 19 years is 5.7% throughout Turkey, it was 8.1% in the region where this study was carried out.⁶ One of the factors that pave the way for early marriages is the low educational levels of families. It has

been observed that early marriages are more common in families with a low educational level and a weak sociocultural structure.⁷

The prenatal attachment can be described as the parent's emotions, perceptions and behaviors that are related to the unborn child.⁸ Maternal-fetal attachment is known to predict postnatal mother infant relation and infant attachment security.^{9,10} Moreover, prenatal attachment is related to pregnancy health behaviors.¹¹ Therefore, adolescent pregnant may be at risk for adverse development of prenatal attachment.

The conflicts between requirements for their own psychosocial development and parental duties they have to fulfill for their babies may cause adolescent mothers to have more depression and low self-esteem.¹² Upon considering both the children born and adolescent mothers, adolescent pregnancies with many risks and social consequences pose a significant sociological problem. Although there are many studies on adolescent mothers and their babies in the literature, studies on adolescent pregnant are very limited. In this study, adolescent pregnant constituted the study group, and it was aimed to investigate the prenatal attachment, anxiety and depression levels of adolescent pregnant and their parents' emotional availability.

METHODS

Design and setting

Participants in the current study consisted of girls who applied to the Obstetrics and Gynecology outpatient unit. The inclusion criteria of the case group were planned to be as follows; (1) being under 19 years of age, (2) being pregnant. Fifty-five pregnant adolescents who met these criteria were included in the study. Sixty-one non-pregnant adolescent girls under 19 years of age were included in the control group. Participants who met the inclusion criteria and their families were interviewed, they were informed about the study, and written consent was received from those who wanted to participate in the study and

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their families. The sociodemographic data form of the adolescent pregnant who came for antenatal follow-up were recorded by the physicians carrying out the study. The adolescent pregnant filled out the Prenatal Attachment Inventory, the Hospital Anxiety and Depression Scale (HADS) and the Lum Emotional Availability of Parents (LEAP). The control group filled out the HADS and LEAP. The scales for illiterate participants were read and completed by the researchers. Ethics committee approval was obtained for the study.

Measures

The Prenatal Attachment Inventory (PAI): The PAI was developed by Müller and consists of 21 items describing the affectionate maternal thoughts, feelings, attitudes, behaviors to the fetus.¹³ Cronbach's alpha of original scale was 0.81. Higher scores sign greater attachment. The Turkish version of the scale was adapted by Dereli Yılmaz and Beji, and Cronbach's alpha was found to be 0.84.¹⁴

Hospital Anxiety and Depression Scale (HADS): The HADS was developed by Zigmond and Snaith.¹⁵ The validity and reliability studies of Turkish version on adolescents were carried out by Erkan.¹⁶ Cronbach alfa coefficient for anxiety subscale was 0.82 and for depression subscale was 0.79. The scale consists of a total of 14 questions. Seven of them (odd numbers) measure anxiety, and the other seven questions (even numbers) measure depression.

The Lum Emotional Availability of Parents (LEAP): The scale was developed by Lum and Phares.¹⁷ It consists of 15 items and asked to be answered by participants to consider their parents. Higher scores show higher level of emotional availability of parents. Cronbach's alpha for mother form was 0.98 and for father form it was 0.98. Turkish validity and reliability study was carried out by Gökçe.¹⁸ The Cronbach's alpha coefficient of internal consistency for Turkish form is 0.95 (mother), and 0.97 (father).

Sociodemographic Data Form: This form was prepared by the authors on the basis of the literature to collect information about the sociodemographic characteristics of adolescents. The form includes 15 questions investigating information related to age, educational status, pregnancy and marital status and family.

Statistical analysis

Data analyses were performed using the Statistical Package for Social Science (SPSS

23.0 for Windows). The continuous variables were presented as mean±standard deviation, and the categorical variables were presented as percentage and number. The Kolmogorov-Smirnov test was used to evaluate distribution of numeric variables. According to the distributions of variables, comparison of normal distribution of numeric variables were evaluated using the Student's t test, and non-normally distributed numeric variables were evaluated using Mann-Whitney U test. Chi-square analyses and Fisher's exact tests were performed for dichotomous variables. Spearman's Correlations were run to determine associations between anxiety/depression levels, parents' emotional availability, and prenatal attachment. The value of statistical significance was determined as $p < 0.05$.

RESULTS

The mean age of the case and control group was found to be 17.0 ± 0.9 years 16.7 ± 0.6 years respectively. There was no statistical difference in terms of age between two groups. 18.2% ($n=10$) of pregnant adolescents were illiterate, 58.2% ($n=32$) of them were primary school drop-outs or primary school graduates, and 23.6% ($n=13$) of them were high school graduates. In the control group, one of the participants was a primary school graduate, the others were continuing their high school education, and there was a statistical difference in terms of education between the two groups ($p < 0.05$).

The pregnant adolescents' characteristics related to pregnancy and marriages are presented in Table 1. Since one of the pregnant girls became pregnant as a result of sexual abuse, she was not included in the husband and marriage characteristics in the table.

In the case group, 28 (50.9%) of the pregnant adolescents stated that they had any complaints related to pregnancy (fatigue, nausea-vomiting etc.), while 27 (49.1%) could not describe.

The number of siblings of adolescent pregnant were higher and the age of marriage and having the first child of the mothers of these children were statistically significantly smaller ($p < 0.05$) (Table 2).

The anxiety depression levels of the participants were evaluated by the HADS, the anxiety levels were found to be higher in the control group, and there was no difference in terms of depression levels. The cutoff scores for the HADS anxiety subscale and the depression subscale were

Table 1. Pregnant adolescents' characteristics related to pregnancy and marriage

		n	%
Gestational week (week)	22.3±11.1		
Age of marriage (year)	16.2±1.1		
Age of husband (year)	23.5±3.5		
Number of pregnancies	First pregnancy	42	76.4
	Second pregnancy	11	20.0
	Third pregnancy	2	3.6
Number of births	No birth	44	80.0
	1 birth	10	18.2
	2 births	1	1.8
Duration of marriage	Less than 1 year	31	56.4
	One-two year	14	25.5
	Three years and above	7	12.7
Type of marriage	Flirting	17	30.9
	Prearranged	34	61.8
	Elopement	1	1.8
	Bride exchange*	1	1.8
Were you asked for your opinion about the marriage decision?	Yes	52	94.5
	No	1	1.8
Consanguineous marriage	Yes	32	58.2
	No	23	41.8

* A family gives their own daughter as a bride to a family to get a bride from that family because of poverty in general

Table 2. Number of the siblings of participants and their mothers' age of marriage and age of having the first child

	Case group mean±SD	Control group mean±SD	z	p*
Number of siblings	7.1±2.7	4.7±1.9	-4.84	<0.001
Mothers' age of marriage	17.8±3.0	18.8±2.6	-2.09	0.037
Mothers' age of having the first child	19.1± 3.6	20.6±2.6	-2.66	0.008

*: Mann-Whitney U test

taken as 10 and 7, respectively. When they were evaluated according to the cutoff score, the anxiety level was determined to be high, and no difference was determined in terms of depres-

sion in the control group. Furthermore, there was no difference when they were evaluated in terms of the emotional availability of mothers/fathers (Table 3).

Table 3. Anxiety/depression levels of the groups and emotional availability of their parents

	Case group mean±SD	Control group mean±SD	z	p*
HADS anxiety	7.4±3.8	9.1±4.1	-2.60	0.022
HADS depression	6.9±3.5	6.3±3.9	-0.46	0.270
Mother's emotional availability	70.4±20.8	70.5±18.7	-0.29	0.769
Father's emotional availability	60.7±23.1	63.1±23.7	-0.61	0.545

*: Mann Whitney U test

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Mother's emotional availability	70.4±20.8	70.5±18.7	-0.29	0.769
Father's emotional availability	60.7±23.1	63.1±23.7	-0.61	0.545

*: Mann Whitney U test

Table 4. Bivariate correlations between study variables in pregnant adolescents

	(1)	(2)	(3)	(4)	(5)
(1) HADS anxiety	1				
(2) HADS depression	0.569**	1			
(3) Mother's emotional availability	-0.099	-0.308*	1		
(4) Father's emotional availability	-0.140	-0.346*	0.848**	1	
(5) Prenatal attachment	-0.322*	-0.440**	0.615**	0.615**	1

Spearman's correlation analysis , * p<0.05, ** p<0.01

Table 5. The comparison of anxiety/depression levels, parents' emotional availability and prenatal attachment in the groups with and without pregnancy complaints

	Pregnancy complaints		z	p*
	yes (n=28)	no (n=27)		
HADS anxiety	8.2±3.5	6.6±4.1	-1.21	0.174
HADS depression	8.1±3.4	5.6±3.3	-2.69	0.021
Mother's emotional availability	63.6±24.1	77.4±14.1	-2.19	0.034
Father's emotional availability	53.2±25.8	68.6±17.3	2.22	0.025
Prenatal attachment	44.7±14.8	53.6±14.9	-1.89	0.041

*: Mann-Whitney U test

In the case group, depression levels were shown to be associated with emotional availability of parents. There was also a statistically significant correlation between prenatal attachment and HADS anxiety/depression scores and emotional availability of parents.

There were statistically significant differences between HADS anxiety, depression scores, emotional availability of parents, and prenatal attachment scores in the pregnant adolescents with and without pregnancy complaints (fatigue, nausea-vomiting etc.) (Table 5).

DISCUSSION

Adolescent pregnancies are a significant social problem that may cause negative consequences

both for mothers and their babies to be born. The marital information, anxiety/depression levels and parental emotional availability of adolescent pregnant living in the Southeastern Anatolia Region of Turkey were investigated in this study.

It was determined that the education of the participants in the case group was disrupted, and most of them had an education level of primary school and below. In the literature, it has been determined in the studies, which were carried out in various regions of the world, that especially the low level of education is one of the most important risk factors for adolescent pregnancies.¹⁹⁻²¹ Some studies emphasize that unplanned pregnancies may interrupt the school life. However, in the region where our study was

conducted, it is generally accepted that girls in families with low sociocultural levels are not allowed to have further education after basic education and these girls are married during adolescence. For girls who are not allowed to attend school or work, their marriage is accepted as the only option offered to them. For this reason, 94% of pregnant adolescents stated that their ideas were taken while making a marriage decision. Due to the gaps in the civil code in our country, girls who start to live with their partner may get pregnant quickly because the civil marriage is legally allowed under 17 years of age.

In the present study, it was determined that the number of siblings in the case group was significantly higher and these families were more crowded. The fact that a decrease in economic burden is also one of the reasons for the early marriage of girls in the relevant regions was mentioned in previous studies.^{22,23} Dagne determined that the age of marriage of girls who grow up at a higher level of welfare is approximately three years later.²⁴

We found that mothers' age of marriage and having the first child in the case group were lower. This result shows that the tradition of making girls married and becoming mother at an early age is transferred between generations. Although such a result was not previously found in the literature, this result suggests that the girls of individuals who become a mother at an early age may be at risk for early marriage and maternity.

Another issue investigated in this study was the participants' anxiety and depression levels. In the literature, although there are various studies determining that adolescent pregnant have a higher level of depression compared to adult pregnant, there are also studies determining no difference.²⁵⁻²⁷ In the studies in which pregnant adolescents were compared with non-pregnant adolescents, the depression level was also determined to be higher in pregnant adolescents.²⁸ In our study, no difference was determined in terms of depression levels. This result suggests several possibilities. The first one may be the effort of the pregnant adolescents to show themselves good psychologically. Because some of the pregnant adolescents applied to the clinic with the aim of preparing a judicial report to be able to get a marriage licence. Another possibility may be related to the acceptance of their existing situation due to their lower levels of education and the forms of upbringing. Furthermore, some studies in the literature have determined that adolescents experience more depression

during the transition to parenthood.^{29,30} Therefore, the fact that the depression levels of the case group are similar to the control group does not cause us to conclude that there is no risk, thus, it suggests the need for a postpartum evaluation. In this study, anxiety levels were higher in the control group in contrast to the literature findings.²⁸ The determination of a higher level of anxiety in the control group, in addition to the possibilities mentioned above, gives rise to the thought that the young in the control group continued their education life, were preparing for university entrance exams because they were high school students and could have more future anxiety. Furthermore, it can be thought that the adolescents whose educational life and social life together with their peers continue can realize and express their feelings more easily.

We also investigated the emotional availability of parents. Emotional availability, which is a concept derived on the basis of the attachment theory, basically focuses on the fields of parental responsiveness, sensitivity and affective-commitment.³¹ The results related to the emotional availability of mother and father were found to be similar in groups. It was shown that parental emotional availability is related to child's well-being.^{31,32} Our finding that showed a significant negative association between the depression levels and the emotional availability of the parents, was consistent with previous studies.

In the case group, there was a significant relationship between prenatal attachment and depression and emotional availability of parents. Our results show that as the level of depression increased, the prenatal attachment of the pregnant adolescent decreased. Consistent with our findings, it has been reported that a negative correlation between anxiety and depression and prenatal attachment in pregnancy.³³⁻³⁶ Additionally, in our study, there was a strong correlation between prenatal attachment and emotional availability of parents. Secure attached women, who experienced early sensitive, warm and responsive relationships with their mothers, have been shown to be sensitive and affectionate towards their children, even during pregnancy.^{37,38} Furthermore, these findings significantly support the attachment intergenerational transmission theory advanced by Bowlby, showing how mothers' attachment to their parents, especially their mothers, plays an important role in their future parenthood.³⁸⁻⁴⁰

Finally, in the case group, when we compared those with and without pregnancy-related com-

plaints, the depression was higher, the parents' emotional availability and prenatal attachment were lower in the group with complaints. In some studies, it was reported that an association between depression and nausea vomiting (hyperemesis gravidarum), fatigue and had a negative impact on quality of life.⁴¹⁻⁴³ Cinar et al. reported that negative correlation between depressive symptoms and fatigue and prenatal attachment.⁴⁴ When the findings of our study are considered, it is suggested that the warm relationships with the parents may be related to the less pregnancy complaints and depressive symptoms during pregnancy and it may be related to good prenatal attachment. Furthermore, it also reinforces the idea that the quality of the parent-child relationship is inter-generational transmission.

While the results of the study are evaluated, the existing limitations should be taken into account. During the study, the face-to-face psychiatric interview was not held with the participants; only the self-report scales were used. For this reason, it was necessary to make inferential interpretations while evaluating the inconsistencies between the results. Furthermore, participants only consisted of the young who applied to the clinic, the young who could not get health services could not be included in the study. In addition, since it was thought that some of the participants would be non-objective while filling

out the scales due to the fact that they applied to the hospital within the preparation of the report required for a marriage license and the judicial process, it is possible that this situation may constitute one of the most difficult limitations of the study.

Regarding this issue that has an important sociological dimension around the world, adolescent pregnancies can frequently be observed for many reasons, mainly for cultural reasons in Turkey, which is a developing country. In the present study, the results determined in relation to the age of marriage and the age of becoming a mother of the mothers of adolescent pregnant bring a new perspective on possible risks for adolescent pregnancies and draw attention to the interaction between generations. Moreover, differently from the studies in the literature that were mostly carried out by making a comparison with adult pregnant, it is thought that the fact that this study was carried out with non-pregnant adolescents constitutes the strong aspects of the study. Another important aspect of this study is that it investigated the relationship of the pregnant adolescents with their parents and their unborn child at the same time. Finally, it is absolutely necessary to determine adolescent pregnancies and to regularly follow them physically and psychologically both during their pregnancy and postpartum period.

Authors' contributions: D.E.: designed and coordinated the study, collected and analyzed the data, writing of the manuscript; M.E.: collected and analyzed the data, wrote and revised the content of the manuscript.

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