Ankara Med J, 2017;(3): 151-9
DOI: 10.17098/amj. 340100

An Evaluation of Sociodemographic Characteristics and Pregnancy-Related Psychological Problems in Pregnant Adolescents

Gebe Adölesanlarda Sosyodemografik Özelliklerin ve Gebelikle İlgili Ruhsal Sorunların Değerlendirilmesi

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Abstract
Objectives: Pregnancy in adolescence may involve more psychological problems and socioeconomic difficulties compared to pregnancies in adulthood. The purpose of this study was to identify socioeconomic characteristics and psychological problems that may give rise to such difficulties.
Materials and Methods: This case-control study was performed with pregnant women presented to the Istanbul Bakırköy Dr. Sadi Konuk Training and Research Hospital Gynecology and Obstetrics Department. The study group consisted of 85 pregnant adolescents aged 13-19 and the control group consisted of 50 pregnant adults aged 20 or over. Subjects were evaluated by face-to-face interviews using an information form prepared by specialist psychiatrists.
Results: The study group and their partners had lower levels of education compared to the control group. The members of the study group had more siblings than the control group. Adolescent pregnants were found to be as ready for motherhood as adults and desire to become pregnant as much as adult pregnants. There was no significant difference between the control group and the study group in terms of suicidal ideation and suicide attempt. The study group described no increase in psychological problems and difficulties during pregnancy. Indeed, periods of intense unease and distress during pregnancy were significantly less than the control group.
Conclusion: Adolescent pregnancies are affected by large families and lower levels of education. Contrary to expectation, pregnant adolescents in Turkey reported no greater incidence of psychological problems. This may be due to a sociocultural perception of the functional value of motherhood in the country and to a positive attitude towards adolescent pregnancies.
Key words: Adolescent pregnancy, risk factors, family characteristics, education

Öz
Amaç: Adölesan dönemde yaşanan gebelik yetişkinlik dönemi gebeliklerine oranla daha çok ruhsal soruna ve sosyoekonomik zorluklara sahip olabilir. Çalışmamızın amacı, gebe adölesanlarda bu sorunlara neden olabilecek sosyodemografik özellikleri ve ruhsal sorunları tanımlamaktır.
Materyal ve Metot: Çalışmamız İstanbul Bakırköy Dr. Sadi Konuk Eğitim ve Araştırma Hastanesi Kadın Hastalıkları ve Doğum Kliniği'ne başvurmuş gebeliğe sahip hastalar ile yürütülen vaka-kontrol çalışmasıdır. Çalışma grubu 13-19 yaş aralığında gebeliğine sahip 85 adölesan gebeden, kontrol grubu 20 yaş ve üzeri gebeliğe sahip 50 yetişkin gebeden oluşmaktadır. Katılımcılar psikiyatri uzmanları tarafından hazırlanmış bilgi formu ile karşılıklı görüşmeler yapılarak değerlendirilmiştir.
Bulgular: Çalışma grubunun ve eşlerinin kontrol grubuna kıyasla daha düşük eğitim düzeyine sahip olduğu görüldü. Çalışma grubunun kontrol grubundan daha fazla sayıda kardeşe sahip olduğu saptandı. Adölesan gebelerin kendilerini erişkin gebeler kadar anneliğe hazır hissettikleri ve erişkin gebeler kadar gebeliği arzu ettikleri saptandı. Kontrol grubu ile çalışma grubu arasında intihar düşüncesi ve intihar girişimi açısından anlamlı fark saptanmadı. Çalışma grubunda gebelik dönemi ruhsal sorun ve sıkıntı tanımlarında artma olmadığı, hatta gebelikte yoğun sıkıntı ve bunaltı hissedilen dönemlerin kontrol grubundan anlamlı düşük olduğu görüldü.

Sonuç: Adölesan dönemi gebelikleri kalabalık aileler ve düşük eğitim seviyesi durumundan etkilenir. Beklenenin aksine adölesan gebelerde ruhsal sorun tanımının daha yüksek olmadığı görüldü. Bu durum, sosyo-kültürel olarak anne olmanın işlevsel değerli algılanmasıyla, ergen gebeliklere olumlu yaklaşımla ilişkili olabilir
Anahtar kelimeler: Adölesan gebelik, risk faktörleri, aile özellikleri, eğitim

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Date of submission: 08.05.2017
Date of admission: 12.09.2017

Introduction

While adolescence is defined as a time of transition from childhood to adulthood, it has been difficult to determine its dimensions and limits exactly because of its biological, psychological and social characteristics.[1] Although various age ranges such as 15-24 years[2] or 11-22 years have been suggested for adolescence, the World Health Organization has defined the years between 10 and 19 as adolescence in its own statements on adolescent health.[3,4] The development of new perspectives in human relations and improved coping and decision-making skills are some important features of this period. While risk-taking is a normal part of this time, risk-taking in sexual behaviors is known to cause serious impairing in the adolescents' future health and well-being.[5] Developmentally, basic needs in adolescence include the development of individuality and sociality by becoming independent from the family, the regulation of sexual impulses, development of sexual identity through the determination of sexual orientations and thus character formation.[6] Adolescents make up 20% of the world population, the great majority of whom live in developing countries.[7] Despite the decrease in recent years, the United States is one of the countries with the highest adolescent fertility rates in developed countries. The adolescent birth rates were found to be 61.8/1000 in 1991, 40.5/1000 in 2005 and decreased to 39.1/1000 in 2009.[8] According to Turkey Demographic and Health Survey figures for 2013, 16% of all females in Turkey are adolescents and fertility rates are 28/1000 in urban areas, 45/1000 in rural areas and 31/1000 in total.[9] Studies have shown that fertility rates in this period are closely associated with levels of education and well-being, and also with a rural or urban lifestyle.[9,10] Lower levels of education, socioeconomic status and self-esteem and a higher risk of depression have also been determined in girls having sexual intercourse during this period.[11] Mental and physical health are known to be affected in adolescent pregnancies, with one study reporting psychological problems or suicidal ideation in 23% of the subjects and another reporting the serious impact of depression, suicidal ideation or attempted suicide on the health of the baby.[12,13]

Pregnancy in adolescence affects the physical and mental health of both the mother and the baby and presents a major societal problem. The purpose of this study was therefore to assess the sociodemographic characteristics of pregnant adolescents and their anxieties concerning pregnancy.

Materials and Methods

The study was planned as a prospective, observational, case-control research. Following the receipt of approval from the ethical committee, 135 patients presented to the Gynecology and Obstetrics Clinic Bakırköy Dr. Sadi Konuk Education and Research Hospital in Turkey between 15.10.2014 and 01.12.2015 and providing informed consent forms were included in the study. The date of approval and decision number of the ethics committee is 13.10.2014, 2014/13/04. Pregnant adolescents aged 13-19 (n=85) presented to the pregnancy clinic for routine examination and pregnant adults aged 21-41 (n=50) both with no psychiatric disorder were included in the study.

Table 1. Descriptive characteristics of the groups and their thoughts about pregnancy and motherhood

		Study Group (n=85)	**Control Group (n=50)**	**Test statistics**	**p**
Education Level n (%)	Literate	22(25.88)	5(10..)	χ2=34.017	[a]0.001**
	Primary school	11(12.94)	9(18.00)		
	Middle school	43(50.59)	12(24.00)		
	High school	9(10.59)	12(24.00)		
	University or higher	0(0)	12(24.00)		
Education Level of Partner n (%)	Literate	9(10.59)	5(10.00)	χ2=13.617	[a]0.009**
	Primary school	11(12.94)	13(26.00)		
	Middle school	33(38.82)	6(12.00)		
	High school	25(39.41)	17(34.00)		
	University or higher	7(8.24)	9(18.00)		
Family economic status n (%)	We have trouble making ends meet	10 (11.76)	3 (6.00)	χ2=1.781	[b]0.638
	We are just able to make ends meet	36(42.35)	26 (52.00)		
	We have no economic problem	35 (41.18)	19 (38.00)		
	Our economic status is good	4 (4.71)	2 (4.00)		
Number of Siblings	Min-Max (Median)	0-13 (6)	0-12 (3.5)	Z=-3.102	[c]0.002**
Feelings of Readiness for Motherhood n(%)	I am very ready	33 (38.82)	15 (30.00)	χ2=1.435	[b]0.440
	I am quite ready	51 (60.02)	34 (68.00)		
	I am not ready at all	1 (1.18)	1 (2.00)		
Worries Concerning the Baby's Health n (%)	Yes	26 (30.59)	19 (38.00)	χ2=0.480	[d]0.488
	No	59 (69.41)	31 (62.00)		
Was Pregnancy Desired?	Yes	57 (67.86)	31 (63.27)	χ2=0.430	[a]0.803
	No	12 (14.29)	9 (18.37)		
	Somewhat	15 (17.86)	9 (18.37)		
Support from the Baby's Father	Good-adequate	78 (91.76)	45 (90.0)	χ2=0.121	[a]0.727
	Low-inadequate	7 (8.24)	5(10.00)		

[a]Pearson Chi-Squareare Test
[b]Fisher's Freeman Halton Test
[c]Mann Whitney U Test
[d]Yates Continuity Correction
*p<0.05 **p<0.01

An information form structured by specialist psychiatrists consisting of multiple choice options and questions was prepared in order to determine the cases' sociodemographic and clinical characteristics. The form was completed by the patients. Subjects who were unable to read and understand the form due to a low level of education or physical disease were excluded from the study.

Statistical analyses were performed on Number Cruncher Statistical System (NCSS) 2007 (NCSS, LLC Kaysville, Utah, USA) software. In addition to descriptive statistical methods (mean, standard deviation, median, frequency and ratio) during data analysis, compatibility with normal distribution was evaluated using the Kolmogorov-Smirnov test. Mann Whitney U test was used for comparison of quantitative data. Pearson's chi-square test, Yates Continuity Correction and the Fisher Freeman Halton test were used to compare the qualitative data. Results were analyzed at a 95% confidence interval, with significance set at $p<0.05$.

Results

The study was performed with 135 cases at the Gynecology and Obstetrics Clinic of Bakırköy Dr. Sadi Konuk Training and Research Hospital. Ages ranged between 14 and 41, with a mean age of 21.80±6.46. One hundred fifteen (87.8%) subjects were married, 4 (3.1%) were single, while 12 (8.2) were in 'imam-authorized', but non-civil relationships. Sixty-seven (81%) of the adolescents were married, 4 (5%) were single and 11 (14%) were in 'imam-authorized' relationships. In the control group, 48 (98%) subjects were married, 1 (2%) was single and 1 (2%) was in an 'imam-authorized' relationship.

As shown in Table 1, a statistically significant difference was determined between the study and control groups in terms of education levels. By two-way comparisons, higher levels of simple literacy ($\chi^2=4.020$, $p=0.045$) and middle school level education ($\chi^2=8.150$, $p=0.004$) were present in the study group, while levels of university or postgraduate education were significantly higher in the control group ($\chi^2=22.390$, $p=0.001$). Although levels of high school education did not differ significantly between the groups, it was still noticeably high in the control group ($\chi^2=3.350$, $p=0.067$). A significant difference was observed among the participants' partners in terms of education levels. Similarly, regarding two-way comparisons, the level of graduation from middle school was significantly higher in the study group compared to the control group ($\chi^2=9.759$, $p=0.002$). No statistically significant differences were determined in terms of feelings of readiness for motherhood, worries concerning the baby's health, contentedness with pregnancy or families' economic levels ($p>0.05$). However, a significant difference was observed between numbers of siblings in the study and control groups ($Z=-3.102$, $p=0.002$). Sibling numbers in the study group were significantly higher than those in the control group. Sixty-six percent of the participants reported that their pregnancies were planned, while only 15% described them as unplanned (unwanted). Seventy-eight (92%) members of the control group reported receiving sufficient support from the baby's father, compared to the 45 (90%) members of the study group. Seven (8%) members of the study group and 5 (10%) of the control group reported receiving insufficient support from the fathers. No statistically significant difference was determined between the study and control groups in terms of support from the fathers ($\chi^2=0.121$, $p=0.727$). No significant difference was also determined in terms of levels of desired pregnancies ($p>0.05$).

As shown in Table 2, there were no significant differences between the study and control groups in responses concerning how subjects felt about giving birth and how they felt when they learned they were pregnant, in terms of physical disorders resulting from pregnancy, attempted suicide or periods of intense unease and distress before pregnancy (p>0.05).

Table 2. Evaluation of Pregnancy-Related Psychological Problems by Groups

		Study Group (n=85)	Control Group (n=50)	Test statistics	p
How do you feel about giving birth? n(%)	It seems difficult It seems quite normal I am very afraid I am not afraid I am very happy	15 (17.65) 37 (43.53) 21 (24.71) 5 (5.88) 7 (8.24)	14 (28.00) 19 (38.00) 13 (26.00) 0 (0.00) 4 (8.00)	χ2=4.538	[b]0.346
How did you feel when you learned you were pregnant? n(%)	Stunned and panicked	15 (17.65)	13 (26.00)	χ2=5.353	[b]0.358
	Wanted to be mum like mine	15 ((17.65)	4(8.00)		
	Delighted and wanted to tell people right away	43(50.59)	27(54.00)		
	Felt that my problems would increase	1(1.18)	2(4.00)		
	I wanted to step out of my family by building my own family	2 (2.35)	0 (0.00)		
	I felt that I was an adult	9 (10.59)	4 (8.00)		
Did you have any physical or mental disorders due to pregnancy? n(%)	I had physical problems I had mental disorders I had no problem	18 (21.18) 8 (9.41) 59 (69.41)	18 (36.00) 7 (14.00) 25(50.00)	χ2=5.097	[a]0.078
Were there times before pregnancy when you felt intense unease and distress ? n(%)	Yes No	39(45.88) 46(54.12)	25(50.00) 25(50.00)	χ2=0.214	[a]0.644
Were there times during pregnancy when you felt intense unease and distress ? n(%)	Yes No	23(27.06) 62(72.94)	23(46.00) 27(54.00)	χ2=4.420	[d]0.040*
Have you ever attempted to commit suicide?n(%)	Never I have suicidal thoughts I have attempted suicide	58 (68.24) 18 (21.18) 9 (10.59)	34 (68.00) 11 (22.00) 5 (10.00)	χ2=0.021	[a]0.990

[a]Pearson Chi-Squareare Test
[b]Fisher's Freeman Halton Test
[c]Mann Whitney U Test
[d]Yates Continuity Correction
*p<0.05

The study group also showed physical or mental disorders no more than the control group. It was found to be significantly lower than control group (χ^2=5.047, p=0.025). However, a significant difference was determined between the groups in terms of levels of intense unease and distress periods during pregnancy (χ^2=4.420 p=0.040). Times of intense unease and distress during pregnancy were significantly fewer in the study group compared to the control group.

Discussion

Compared to adulthood, adolescent pregnancies are known to be more risky for both the mother and the baby in terms of physical and psychological health. In addition to pregnancy-related problems such as anemia, premature birth, intrauterine development retardation, premature membrane rupture, early and late baby death[1], fetal distress, and unsuccessful induction of labor, increases are also observed in psychological problems such as feelings of anxiety, depression and suicidal ideation.[7,11,12,14] These factors all together mean that adolescent pregnancies are a significant health problem.

In agreement with previous findings, education levels among pregnant adolescents and their partners were significantly lower compared to those of the control group in this study.[15] Several studies have reported that pregnancy restricts employment and educational opportunities among adolescent women and that women may have to interrupt their education due to pregnancy.[16-19] Higher levels of pregnancy have been observed among adolescent women who do not wish to go to school and who wish to be pregnant compared to those who continue in school and do not wish to be pregnant.[20] Additionally, pregnancy hinders education in this period and lack of education emerges as a cause of adolescent pregnancy. Further studies are needed in order to determine whether this is a cause or effect.

Coming from extended and large families is now regarded as a risk factor for adolescent pregnancy.[21] In agreement with this finding, we also concluded that pregnant adolescents came from larger families.

An increased risk of depression has been reported in pregnant adolescents, and suicidal ideation or attempted suicide will also affect the health of the baby.[13] Identification and early treatment of psychiatric problems is therefore important for the health of the mother and baby. Freitas et al. determined feelings of anxiety in 23%, depression in 20% and suicidal ideation in %16 of pregnant adolescents, compared to 9.4% known mental disorders in our survey.[22] We determined no difference between the groups in terms of suicidal ideation and attempted suicide. Lack of parental interest and supervision and a low perception of support have been reported to be associated with increased pregnancies among adolescents.[23] Adolescent pregnancy is at risk because of physical difficulties, nutritional status, socioeconomic factors, partner abuse and emotional overload. Adolescent births are considered high risk pregnancies, and the potential risk of having negative consequences for the mother is increasing. In addition to psychiatric difficulties, many physical illnesses are more frequent in adolescent pregnancies.[24,25] However, in our study, there was no difference between the groups in terms of physical problems. The rates of having no physical and mental disorders in our study were higher in the adolescent pregnancies. This result was contrary to what was expected. Adolescents with good familial relations and who

perceive their parents as supporting them are known to exhibit safer sexual behaviors, such as having fewer sexual partners, using contraception and engaging in sexual relations at a later age.[26] These supportive attitudes may be thought to prevent adolescent pregnancies. However, adolescent marriages in Turkey generally take place with the support of the families. Studies in Turkey have determined that families regard daughters marrying at an early age as a proper cultural tradition, and the acceptance of early marriage in environments in which daughters are raised and the family playing the determining role in the decision for marriage to take place are known to increase marriages at early ages.[27-28] We concluded that this sociocultural characteristic increases levels of adolescent pregnancies, but that psychological distress and suicidal ideation in pregnancy decrease if the adolescent is supported. Similar studies have also reported that familial support affects physical and mental well-being in young couples during pregnancy.[29] The acquisition of individuality, sexual identity and character formation are important function that take place during adolescence.[6,30] These adolescents are thought to complete their identity formation through a model of motherhood. This may protect pregnant adolescents against psychological anxiety. Although developing oneself through a model of motherhood may be regarded as successful development of identity in the short term, it is thought that such subjects may experience difficulties in developing themselves in the long term.

The presence of periods of intense unease or distress during pregnancy was significantly lower in the pregnant adolescents in this study compared to the control group. This finding is counter to expectation. At the same time, anxieties over the baby's health, feeling ready for motherhood or worries over giving birth were not as high among adolescents as anticipated. We attribute this to the structure of adolescence and to attitudes toward adolescent pregnancy in Turkish society as discussed above. Adolescence is a time when individuals are less fearful and exhibit more inattention, carelessness and risky behavior. One study determined that exhibition of risk-taking behavior varies depending on economic and education levels.[31] Considering that the pregnant adolescents in our study also had low levels of education, it may be inferred that education and the risk-taking behavior seen in adolescence were also responsible for this situation.

Thirty-five percent of adolescent pregnancies are unplanned and unwanted and result from non-stable relationships.[16] Unwanted pregnancy can be harmful to both mother and baby, and also increases levels of depression and anxiety.[17] One study investigating the extent to which pregnancies in adolescence were desired determined that 24% of participants wanted their pregnancy or were uncertain about becoming pregnant in the following year, that the desire for pregnancy increased with age and that this desire decreased in the event of a relationship lasting less than 6 months or of an elevated perception of stress.[20] In our study, 12 (14%) pregnant adolescents and 9 (18%) members of the control group reported that their pregnancies were unplanned and unwanted. We determined no significant difference in terms of desired pregnancy levels between the study and control groups. Our participants reported high levels of marriage and desire for pregnancy. The absence of marriages of couples and the absence of marriage partners are associated with increased mental disorders.[32] The high levels of marriage in this study show that the pregnancies resulted from stable

relationships. This then increased levels of wanted pregnancies and also reduced the risk of psychiatric diseases caused by unwanted pregnancies.

Although studies have reported that individuals undergoing adolescent pregnancies also have low economic conditions, in our study, and contrary to expectation, we observed no significant difference in economic circumstances. [33] We attributed this to many of the patients presenting to our hospital being at a low socioeconomic level.

There are a number of limitations to this study, including the fact that it did not include pregnant women from differing socioeconomic levels and that it did not inquire into the reasons why adolescents were less affected by pregnancy.

In conclusion, that pregnant adolescents had lower levels of education and came from larger families, but pregnancy was seen to cause no additional psychological distress. We think that this is attributable to adolescent marriages being planned and favored by families due to sociocultural factors in Turkey. These findings now need to be supported by multi-center and wider-ranging studies involving pregnant women from different socioeconomic levels.

Acknowledgments

We thank the patients and their families for their participation.

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