

## **Evaluation of Adolescent Pregnancies in Family Medicine Adolesan Gebeliklerin Aile Hekimliğinde Değerlendirilmesi**

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### **Summary**

**Objective:** Adolescent pregnancy is a risk factor for maternal and infant health. In this study, it was aimed to examine the factors that are effective in pregnancies occurring at adolescence.

**Material and Method:** This prospective, descriptive study included 142 women who were registered at the Family Health Center and agreed to answer a 32-question questionnaire from women who had children at the age of adolescence. Destructive, Chi-square and Man-Whitney U tests were used;  $p<0.05$  was considered statistically significant

**Results:** The mean age at marriage was  $15\pm 1.06$  years. The number of women; who did not know about family planning before getting married, was 100 (70%). Adolescents informed about reproductive health were more knowledgeable about family planning methods ( $p<0.001$ ) and had fewer pregnancies ( $p<0.001$ ). 88% of the women, who got married in the adolescent age, conceived within a year and 21.8% of them did not apply to any health centre during the pregnancy.

**Conclusion:** It is known that adolescent pregnancies have various short and long-term negative consequences on health. Adolescent pregnancies are more likely in girls; who are not informed about family planning. Family physicians should give advice on family planning and give importance to family planning services in order to prevent pregnancies in the adolescent age group.

**Key words:** Adolescent, family planning, pregnancy

### **Özet**

**Amaç:** Adolesan yaşta gebelik, anne ve bebek sağlığı için bir risk faktörüdür. Bu çalışmada adolesan yaşta meydana gelen gebeliklerde etkili olan faktörlerin incelenmesi amaçlanmıştır.

**Gereç ve Yöntem:** Prospektif, tanımlayıcı tipteki bu araştırmaya Aile Sağlığı merkezine kayıtlı olan ve adolesan yaşta çocuk sahibi olan kadınlardan 32 soruluk anketi cevaplamayı kabul eden 142 kadın dahil edildi. Tanımlayıcı, ki-kare ve Man-Whitney U testi kullanıldı;  $p<0,05$  istatistiksel olarak anlamlı kabul edildi

**Bulgular:** Evlenme yaş ortalaması  $15\pm 1,06$  yaş idi. Evlenmeden önce aile planlaması konusunda bilgi sahibi olmayan 100 (%70) kadın vardı. Üreme sağlığı konusunda eğitim alan adolesanların aile planlaması yöntemleri hakkında daha fazla bilgi sahibi olduğu ( $p<0,001$ ) ve daha az sayıda gebelik yaşadığı tespit edildi ( $p<0,001$ ). Adolesan çağda evlenenlerin %88'i evlendikten sonra ortalama bir yıl içerisinde gebe kalmaktaydı ve %21,8'i gebeliği süresince hiçbir sağlık merkezine başvurmamıştı.

**Sonuç:** Adolesan gebeliklerin sağlık üzerinde kısa ve uzun vadede çeşitli olumsuz sonuçları olduğu bilinmektedir. Adolesan gebelikler aile planlaması hakkında bilgisi olmayan kızlarda daha olasıdır. Aile hekimlerinin adolesan yaş grubunda gebeliklerin önüne geçilmesi için aile planlaması hakkında tavsiyelerde bulunmalı ve aile planlaması hizmetine önem vermelidir.

**Anahtar kelimeler:** Adolesan, aile planlaması, gebelik

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### **Introduction**

Adolescence is the transition period for the individual from childhood to adulthood and it is characterized by biological, psychological, and social changes. The World Health Organization

(WHO) accepts the ages between 10 and 19 as the adolescent period. Today, one out of every five girls and one out of every three girls in undeveloped regions give birth under the age of 18 (1).

Studies have shown that many factors (age of the first menstrual period, the frequency of sexual intercourse, race, ethnic status, marital status, family structure, the communication between the couple, the education level and the employment status of the couple, the socioeconomic level, and the availability of resources for social support) are involved in becoming pregnant in adolescence (2,3).

In this study; it was aimed to understand the socio-demographic characteristics of women, who married and got pregnant in adolescence, along with their knowledge level, attitudes, and behaviours about pregnancy and family planning.

## **Material and Methods**

The approval of ethics committee was obtained from the Clinical Research Ethics Committee of Health Sciences University of Şişli Hamidiye Etfal Training and Research Hospital HARC (approval no 1415, dated 21.02.2017). Study was conducted on patients who were registered to the Istanbul Esenyurt Central Family Health Center and the Educational Family Health Center of Department of Family Medicine, Şişli Hamidiye Etfal Training and Research Hospital Health Practice and Research Center, from April 2017 to September 2017.

IBM SPSS 25.0 program (SPSS Inc. Chicago, Illinois, USA) was used for statistical analysis. The universe of this descriptive, prospective study comprised 224 women out of 951; who were in the age range of 15-49 years, and who married and got pregnant in adolescence. Of these women; 142, who agreed to answer the survey, were included in the study. The 32-question survey was developed by the researchers specifically in order to collect sociodemographic data of the participants and information about their pregnancies. Descriptive data were summarized in numbers and percentages for the categorical variables, while they were expressed as mean-and-standard deviation for the numerical variables. When comparing independent groups, categorical data were evaluated by the Chi-square test and numerical data were evaluated by the Mann-Whitney U test since the data did not conform to a normal distribution. The statistical significance level was accepted as  $p < 0.05$ .

## **Results**

A total of 142 women; who met the study inclusion criteria and agreed to answer to the survey questions, were included in the study. The mean age of marriage was  $15 \pm 1.06$  years. The mean age of the spouse was  $21 \pm 4.2$  years at the time of marriage. Of the women included in the study, 30 (21%) got pregnant at 10-14 years of age and 112 (79%) had a pregnancy at 15-19 years of age. Sociodemographic data of the group shown in table 1.

The most common contraceptive method used after marriage was coitus interruptus ( $n=47$ ; 33.1%). Of the participants, 68 women (47.9%) were informed about family planning methods by the family physician after marriage (Table 2).

The knowledge levels and the utilized methods of family planning were not different between the groups of women, who had a pregnancy in early adolescence at the ages of 10-14 years and who had a pregnancy in the late adolescence at the ages of 15-19 years ( $p > 0.05$ ). The adolescents with a higher level of educational status were more knowledgeable of family planning methods ( $p < 0.05$ ) (Table 3).

It was found out that the mean time to become pregnant after getting married was 6 months and that pregnancy occurred in the study participants at the latest within a year. Those with more than one pregnancy had a mean of a 29-month gap between two pregnancies. The mean number of children that the participants had was 3. Table 4 shows the pregnancy features of the study group.

Time to get pregnant after marriage was not different between the early and late adolescent age groups ( $p > 0.05$ ). While the majority of women had their follow-ups in the hospital (32.4%;  $n=46$ ) during their pregnancy, 31 (21.8%) women did not present to any healthcare institutions at all. The rate of adolescent pregnant women; who were followed up by family physicians and by physicians at secondary-care healthcare facilities, was 22.5% ( $n=32$ ). While the rate of using iron supplements from 16th week of pregnancy was 71% ( $n=101$ ) among the regular attendees of follow-up visits, the rate of regular medication use was higher in adolescent pregnant women, who were educated ( $p < 0.05$ ).

**Table 1.** Sociodemographic data of the group

<b>Sociodemographic data</b>		<b>n</b>	<b>%</b>
<i>Education level</i>	Illiterate	69	48,6
	Primary school and higher	73	51,4
<i>Education level of mother</i>	Illiterate	125	88,0
	Primary school and higher	17	12,0
<i>Education level of father</i>	Illiterate	87	61,3
	Primary school and higher	55	38,7
<i>Marriage ages of the sisters</i>	10-18 years old	58	51,8
	18 yaşın üstünde	54	48,2
<i>Income of the family</i>	Under the minimum wage	136	95,7
	Over the minimum wage	6	4,3
<i>Marriage age</i>	10-14 years old	30	21,1
	15-19 years old	112	78,9
<i>Bride price</i>	Yes	70	49,3
	No	72	50,7
<i>Smoking status</i>	Yes	28	19,7
	No	114	80,3
<i>Kinship status</i>	Yes	29	20,4
	No	113	79,6
<i>Marriage type</i>	Willingly	139	97,9
	Forced	3	2,1

**Table 2.** Knowledge and behaviours about contraceptive methods

<b>QUESTIONS</b>	<b>ANSWERS</b>	<b>n</b>	<b>%</b>
Did you get information about contraceptive methods when you are married?	Yes	42	29,6
	No	100	70,4
Which contraceptive method did you use after the marriage?	IUD	17	12,0
	Condom	17	12,0
	Coitus Interraptus	47	33,1
	Oral Contraceptives	23	16,2
	Monthly/three months injections	2	1,4
	Others*	36	25,3
Where did you get the information about contraceptive methods?	Family Physician	68	47,9
	Mother and relatives	26	18,1
	Gynecology and Obstetrics Polyclinics	10	7,0
	Others**	38	27,0
<b>TOTAL</b>		<b>142</b>	<b>100</b>

A total of 103 (72.5%) women gave birth via normal spontaneous vaginal route. The delivery type did not differ between the early and late adolescent age groups ( $p > 0.05$ ). It was learned that the participants were provided with information about the delivery types mostly by the secondary-care healthcare institutions. Educated adolescent pregnant women were more knowledgeable about the types of giving birth ( $p < 0.05$ ).

Of the participants, 50 (35.2%) were not assisted for baby care after birth. It was found out that the adolescent mothers were assisted mostly by the mother and the mother-in-law. While there were 23 (16.2%) women, who did not complain about the age they got married; 87 (61.3%) reported that they were satisfied with their families, that they loved their spouse, and that they would marry the same spouse if they were given another chance.

**Table 3.** Comparison of pregnant adolescents regarding the education level

Features		Educated (going to school)		Uneducated (not going to school)		P
		n	%	n	%	
Knowing Family Planning Methods	Yes	31	73,8	11	26,2	
	No	42	42	58	58	
Taking Medicine During Pregnancy Period	Yes	60	59,4	41	40,6	<0,05
	No	13	31,7	28	68,3	
Information About Birth Types	Yes	23	69,7	10	30,3	
	No	50	45,9	59	54,1	
TOTAL		73	100	69	100	

**Table 4.** Features of Adolescent Pregnancies of the Study Group

QUESTIONS	ANSWERS	n	%
When did you get pregnant after the marriage?	In first month	67	47,2
	2-12 months	58	40,8
	after 12 months	17	12
Number of pregnancies	1	14	9,9
	2	28	19,7
	3 and over	100	70,4
Where did you go for your follow ups during pregnancy?	Hospital	46	32,4
	Primary Care Center	33	23,2
	Hospital and Primary Care Center	32	22,5
	No follow up	31	21,8
Did you take medicine during your pregnancy?	Yes	101	71,1
	No	41	28,9
Did you know delivery types during your pregnancy?	Yes	33	23,2
	No	109	76,8
Delivery type	C/S	39	27,5
	NSVR	103	72,5
TOTAL		142	100

C/S: Cesarean Section NSVR: Normal Spontaneous Vaginal Route.

## Discussion

Marriages at the adolescent age result in several untoward consequences on women's health. Adolescent marriages trigger risk factors for getting pregnant in adolescence (4).

According to the report of Turkey Demographic and Health Survey (TDHS) in 2018, the rate of marriage before the age of 18 was 15% in the 20-24 years age group (3). This rate is 44% in South Asia, 40% in Uganda, 23% in Kenya, and 21% in Pakistan (5). In Niger, marriage before the age of 18 has the highest rate (77%) in the world in women of 20-24 years of age (6). In this study, women who were followed up in the

years from 2017 to 2018, the rate of marriage before the age of 18 was 18% in women between the ages of 20-24 years and it was higher than the rate reported in TDHS 2018.

Several factors are involved in making marriage at an adolescent age. In a study conducted in Malaysia; where the rate of early marriage is high, it has been shown that early marriage is perceived as fate, that the failure to continue education and the low income level of the family are the potential two factors leading to early marriage, and that conflicts with parents indirectly result in marriage at early ages (4). In the presented study, the rate of adolescent marriages was found higher compared to

the rate reported for Turkey. One can suggest that this high rate might have resulted from social and cultural factors. Early marriage is normal in the society and the traditional structure in the geographical area; where study population lives in. Also, the mothers or sisters of the study participants got married at early ages; which is a supporting factor for their children's early marriages. The social learning theory of Bandura may explain the motives behind treading in the footsteps of adolescent marriages (7). Bandura's theory suggests that most human behaviours are learnt by observing and modelling other people's behaviour and that the observations give an idea of how the observed behaviours would occur (7). Furthermore; the provision of consent to their marriage by the majority of the study participants and the low rate of forced marriages are the findings of the study, which indicate that adolescent marriages are considered normal. Those factors are especially important in the period from childhood to adulthood, as well as being very important for the health and economic development of the society (8).

Adolescent marriage is known as a triggering factor for getting pregnant in adolescence (4). Although adolescent pregnancies are accepted to constitute a serious public health problem globally, they are frequently seen in developing countries (9). Adolescent pregnancies most commonly occur in Sub-Saharan African countries in the world, followed by Brazil and the Caribbean as the second leading regions (10). The prevalence of adolescent pregnancies in Turkey is high in the East, South, and Central Anatolia. The contributing factors include living in rural areas, low-income levels, and discontinuing education (3). Study findings firstly suggested that the high number of adolescent pregnancies was related to the higher adolescent marriage rate in the study population compared to that of Turkey. Secondly, study findings suggested that the socio-cultural values, low-income levels, discontinuing from school, and lack of information about birth control methods resulted in adolescent pregnancies.

It is prudent to examine the family as the smallest unit of society to gain an understanding of social values. The study by Wall–Wieler et al. from Canada showed that girls with mothers having children before the age of 19 had a 51%

more likelihood of becoming pregnant in adolescence (11). This rate was found to be 61% in the study conducted in America (12). This study showed the same results.

Many factors play a role in the increased likelihood of getting pregnant in adolescence. Starting sexual intercourse at an earlier age and early menarche are the major factors. Other risk factors include the socio-economic level, values in the society, cultural values, and beliefs (13). The World Health Organization (WHO) states that going to school reduces the rate of adolescent pregnancies significantly and that the rate of early marriages decline as the education level gets higher (14). In the study, the education level of the mothers the father's was low. In a study conducted in Africa; of the women having adolescent pregnancies 14.7% completed the primary education. The rate of those women, who never went to school, was 73.93% (6). In a study conducted in Turkey in Van; while 72.54% of the women had attended the elementary school, 27.46% were literate only (15). A study from Istanbul reported that illiterate women comprised 51% of the women who got pregnant at an adolescent age (16). The TDHS 2018 report informs that the rates of never going to the school or not completing the primary school education are the highest in the eastern regions of Turkey (3).

The contraceptive prevalence rate in the adolescent period is quite low compared to the use in adulthood. Also, the rates vary by the country (14). Living in rural areas and low socioeconomic levels are associated with the increase in the rates of the use of traditional methods in any region (17). The most important reason for the differences between countries in the use of contraception is the success of sexual education in childhood (18). In the study, it was found that adolescents did not know about contraception methods when they got married. However, the time of getting pregnant after the marriage did not vary by the age or being literate. It was thought that; following the marriage at adolescent age, the society's pressure on the girls about the necessity of having children might have contributed to this finding. This pressure shortens the period between marriage and getting pregnant.

It was observed that information about family planning was mostly obtained from family health center (FHC). The study by Oztas et al. reports that; for obtaining information about any method FHC (15.7%) (19).

The vast majority of adolescents use ineffective methods of contraception. Demirgoz et al. report that adolescents have a higher risk of failure in family planning compared to adults even when they use effective contraceptive methods (2). In the study, most commonly used method of contraception after marriage was found out to be coitus interruptus; which is an ineffective method. According to the TDHS report in 2018, the most commonly used methods in Turkey are coitus interruptus (%20) and male condoms (19%). The study by Şantaş et al. demonstrated that the prevalence of the use of family planning methods was the lowest in uneducated women or in women, who did not finish primary school. However, this rate was shown to be the highest among women; who completed their secondary school education or a higher level of education (20). Being unaware of the family planning methods and using ineffective methods of contraception, these individuals face early pregnancies along with economic problems at a phase of development when their psychological development has not been completed.

It is recommended that pregnant adolescents should be followed up in multidisciplinary adolescent pregnancy follow-up centres (13). Pregnancy follow-ups by FHC and outpatient obstetrics clinics can partially provide this service. In the study, the rate of pregnant women; who applied to both the outpatient obstetrics clinics and FHC for their follow-up was low.

Adolescent pregnancies are likely to cause nutritional risks; because they occur in societies with lower socioeconomic status. For this reason, Centers for Disease Control and Prevention (CDC) recommends the provision of folic acid-containing multivitamin supplements and dietary counselling (21). In the study, only half of adolescents used folic acid preparations during their pregnancy.

The information in the literature about the delivery types in adolescent pregnancies is variable. Although the reasons behind the need for interventions during childbirth have not been clearly established, the problems of cooperation in the second phase of the birth and the underdeveloped pelvic floor are considered as possible causes (22). While some studies have

reported an increased risk of interventions during labour (23), others have reported low rates for intervention delivery types (24,25). In the study, the rate of caesarean section is low. It is known that the caesarean section rate is lower in adolescent pregnancies compared to other pregnancies (23,26). The study by Songur et al. found out that the rate of caesarean section in adolescent pregnancies was lower than the rate reported for adult primipara women (27).

## **Conclusion**

The major reasons underlying the high prevalence of adolescent pregnancies include low economic status, school absenteeism, adolescent marriages, and lack of information about contraception methods. It is important to ensure that women getting married before adulthood should have granted access to health services and they should be provided with counselling about family planning and services for the prevention of early pregnancies. In order to increase the knowledge of young people about safe sex life, education campaigns and mass media should be utilized to reach those individuals.

### Conflicts of interest

There is no conflict of interest between the authors of this study.

### Funding

There is no funding for this study.

### Informed consent

Informed consent was obtained from all participants for this study.

### Approval for publication

This work has been authorized by the authors to be published in this journal.

### Availability of data and material (data transparency)

Data supporting the findings of this study can be obtained from the relevant author upon reasonable request.

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## References

1. WHO. Early Marriages, Adolescent and Young Pregnancy, Report by the Secretariat, Sixty Fifth World Health Assembly Provisional agenda item13,4.16 March 2012.
2. Demirgöz M. Adölesan Gebelikler. Sos Polit Çalışmaları Derg 2008;13(13):37–44.
3. Türkiye Nüfus ve Sağlık Araştırması 2018, Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü, Ankara 2019.
4. Kohno A, Dahlui M, Nik Farid ND, Safii R, Nakayama T. Why girls get married early in Sarawak, Malaysia - An exploratory qualitative study. BMC Womens Health 2020;20(1):1–13.
5. Johnson CD. Pancreat Diseas: Progress and Prospects 1991;369-71.
6. Winfred AA, Oluwaseyi SD. Early marriage, cohabitation, and childbearing in West Africa. J Environ Public Health 2019; Art.ID: 9731756
7. Laland KN, Rendell L. Social learning: Theory. Encyclopedia of Animal Behavior 2019;380-6.
8. Petroni S, Steinhaus M, Fenn NS, Stoebenau K, Gregowski A. New Findings on Child Marriage in Sub-Saharan Africa. Ann Glob Heal 2017;83(5-6):781–90.
9. Ochen AM, Chi PC, Lawoko S. Predictors of teenage pregnancy among girls aged 13-19 years in Uganda: A community based case-control study. BMC Pregnancy Childbirth 2019;19(1):1–14.
10. Monteiro DLM, Dos Santos Martins JAF, Rodrigues NCP, De Miranda FRD, Lacerda IMS, De Souza FM, et al. Adolescent pregnancy trends in the last decade. Rev Assoc Med Bras 2019;65(9):1209-15.
11. Wall-Wieler E, Roos LL, Nickel NC. Adolescent pregnancy outcomes among sisters and mothers: A population-based retrospective cohort study using linkable administrative data. Public Health Rep 2018;133(1):100–8.
12. Meade CS, Kershaw TS, Ickovics JR. The Intergenerational Cycle of Teenage Motherhood: An Ecological Approach. Heal Psychol 2008;27(4):419-29.
13. Keskin U, Military G, Academy M, Kinci MF. Adölesan Dönemi ve Gebelikler 2018;September.
14. WHO. Adolescent pregnancy fact sheet. Adolesc Pregnancy Fact Sheet 2014. Available from: www.who.int/reproductivehealth
15. Kurdoğlu M, Kurdoğlu Z. Van Yöresinde Adölesan Gebeliklerin Analizi. Van Tıp Derg 2009;16(4):124–7.
16. Seçkin KD, Yücel B, Karşlı MF, Özdemir Ç, Togrul C, Çelik E, et al. Demographic Characteristics and Maternal-Fetal Outcomes of Adolescent Births: A Case-Control Study in a Reference Hospital in Istanbul. Med J Okmeydanı Train Res Hosp 2016;32(1):14–8.
17. Darroch JE, Woog V, Bankole A. Adding It Up : Costs and Benefits of Meeting the Contraceptive Needs of Adolescents. New York Guttmacher Inst. 2016;(May):1–16.
18. Özgü E, Yakut Hİ. Adölesan Kontrasepsiyon Adolescent Contraception Erkek Kondomu Kadın Kondomu ve Diyafram Kombine Oral Kontraseptifler Abstinans Geri Çekme Sadece Progesteron İçeren Haplar (POP). Obstetrik J 2015;2014–6.
19. Öztaş Ö, Baydar Artantaş A, Üstü Y, Uğurlu M. 18-49 Yaş Grubu Evli Kadınların Üreme Sağlığı ve Kontrasepsiyon Hakkındaki Bilgi, Tutum ve Davranışları. Ankara Med J 2015;15(2):67–76.
20. Çelik Y, Şantaş F. Türkiye de Gebeliği Önleyici Modern Yöntem Kullanımı. Acibadem Univ Sağlık Bilim Derg 2018;9(3):255-65.
21. Gavin L, Moskosky S, Carter M, Curtis K, Glass E, Godfrey E, et al. Providing Quality Family Planning Services Recommendations of CDC. 2014;63:54.
22. Maurice L, Gideon K. Thieme. American Journal of Perinatology. American Journal of Perinatology 1991;227–32.
23. Lao TT, Ho LF. The obstetric implications of teenage pregnancy. Hum Reprod 1997;12(10): 2303–5.
24. Jolly MC, Sebire N, Harris J, Robinson S, Regan L. Obstetric risks of pregnancy in women less than 18 years old. Obstet Gynecol 2000;96(6): 962–6.
25. van der Klis KAM, Westenberg L, Chan A, Dekker G, Keane RJ. Health Inequalities: Teenage pregnancy: Trends, characteristics and outcomes in SA and Australia. Aust NZ J Public Health. 2002;26(2):125–31.
26. Melekoğlu R, Evrüke C, Kafadar T, Misirlioğlu S, Büyükkurt S, Özgünen FT. Adölesan Gebeliklerin Perinatal Sonuçları. Turk Jinekoloji ve Obstet Derg 2013;10(4):213–9.
27. Songur DS, Karbancıoğlu CF. Adölesan gebelikler. Bozok Tıp Derg 2018;1(1): 9–13.

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