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The sociodemographic factors related with the adolescent pregnancy

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ABSTRACT

Objective: The adolescent pregnancy is one of the most important problems in the 21st century. The adolescent pregnancies pose more health risks to both mothers and babies when compared with the adult pregnancies. Of all the births in the world, 11% are given by the adolescents. The aim of the study was to determine the sociodemographic factors concerning with the adolescent pregnancy. **Methods:** This study was conducted at 18 primary health care centers in Mersin, Turkey. The adolescent group was comprised of pregnant women younger than 19 years, the adult group was comprised of pregnant women aged between 20–29 years. The questionnaire was conducted with face-to-face interviews. **Results:** Respondents included 107 pregnant adolescents and 110 pregnant adults. The median age of adolescent group and adult group was 18 and 26 years, respectively. About 61.7% of the pregnant adolescents and 94.5% of the pregnant adults were officially married. In the adolescent group, the family frequency without social security was more than that in the adult group. In the adult group, the frequency of opposing the adolescent pregnancy for their families was more than that in the adolescent group. The adolescent pregnancy among sisters and friends of the adolescent pregnant women was more frequent compared with that in the adult group. **Conclusions:** The family frequency without social security was more in the adolescent group. This situation is certain to cause more problems for the adolescents in benefiting from the health care services. We are absolutely think that efforts should be made so as to improve the society in terms of social and cultural aspects.

1. Introduction

The adolescent pregnancy is one of the most important problems in the 21st century. More than 14 million adolescent girls give birth each year. Although these births occur in all societies, 12.8 million take place in the developing countries. In some societies, girls marry and start their families before their own childhoods have ended. In other countries, the majority of the births given by the young mothers occur without marriage[1].

The rate of the adolescent pregnancies varies from country to country. The highest levels of adolescent pregnancies are in Africa. There are also high rates in India, Bangladesh, Latin America and the Caribbean. The average rate of births per 1 000 women aged between 15–19 years is 115 in Africa, 75 in Latin America and the Caribbean, and 39 in Asia.

In the developed countries, this is given to be 25 births per 1 000 women. Among all of the births over the world, more than 10% are given by the adolescents[1,2]. According to Turkey Demographic Health Survey (TDHS)–2008, the average rate of births per 1 000 women aged between 15–19 years is 35[3].

Marriages at early ages lead to gestations in the early ages. Moreover, the interval between the next gestations is shorter in the adolescent pregnant women. This usually leads to more births throughout the lifespan[2,4]. When the birth is given at an early age, there is a close association between the risks in terms of health problems for the mother and child. Many of the risks that will arise will be due to the fact that they are primiparas. Adolescent gestations terminate earlier and low birth weighted babies are more commonly born. Especially in the adolescents younger than 16 years of age, there is a risk of having lengthened and prohibited birth due to small pelvis structure and inappropriate baby position. These carry great risks for neonatal, perinatal and maternal mortality. Besides having risks in terms of

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health, social risks for the adolescent and her baby like discontinuation of education, becoming unemployed and poverty are also present^[4,5]. The aim of the study was to determine the sociodemographic factors concerning the adolescent pregnancies.

2. Materials and methods

This population-based study was conducted at 18 primary health care centers (all of them in the city center) in Mersin, Turkey. Study was carried out between January and May 2010. The research protocol was approved by the Ethical Commission of the Medical Faculty at Mersin University, and permission to conduct the study was obtained from Mersin Local Health Authority.

The adolescent group was comprised of pregnant women younger than 19 years and the adult group was comprised of pregnant women aged between 20–29 years. According to TDHS–2008 statistics^[3], 9.6% of the adolescents aged between 15 to 19 years old were married and 6% of them had either given birth or were pregnant. According to the annually record of Mersin Local Health Authority in 2007, 20 398 women aged between 15 to 19 years live in Mersin city center. A total of 1 958 of these women were anticipated to be married and 118 of them have been pregnant or have given birth. The target population was estimated to be 120 according to this data. Totally, 110 adolescent pregnant women were attained (ratio of attainability was 91.6%) and 107 of them (97.3%) accepted to be enrolled into the study. The adult group was formed from one adult pregnant woman for each adolescent woman from the same region. The selected adult pregnancies were women who did not experience adolescent pregnancy.

According to the records of primary healthcare centers, adolescent and adult pregnant women were randomly selected. Women were invited to the health care centers. After the aim of the study was explained, volunteered participants signed the informed consent prior to completing the questionnaire. The questionnaire was conducted with face-to-face interviews. The sociodemographic features of the attendants (age, spouses' ages, age at marriage, the participant's spouses' mothers' and fathers' level of education, professions of the participants' spouses' mothers' and fathers', monthly income, number of siblings, number of people living in the house, civil marriage, marriage with a relative, social security) were questioned in the first part of the questionnaire. The second part questioned the previous abortion, desire for the present gestation, the timing of the first antenatal care received and number of antenatal care, presence or absence of adolescent pregnancy in her mother, siblings or friends, rigour within the family, support of the

family during pregnancy, the stand of the family against adolescent pregnancy, knowledge about family planning and emergency contraception and gestational risk factors.

We categorized the women's and mothers' socioeconomic position into employed and unemployed. The women's husbands' and fathers' socioeconomic positions were categorized into blue-collar worker, white-collar worker, self-employed/farmer and unemployed. The education levels were categorized into "less than primary school", "primary school", "secondary school" and "high school/university". According to the Ministry of Health of Turkey, Mother and Child Health and Family Planning General Directorate's "Antenatal Care and Management Guide"^[6], the first medical monitoring should start before the 14th week of gestation. The second examination should be accomplished between 18–24 weeks, the third between 30–32 weeks and the fourth should be accomplished between 36–38 weeks. According to this guide, the women enrolled in this study were asked about the timing a frequency of the medical monitoring received up till now. The number of medical follow up they received was grouped as "adequate" and "inadequate" according to their duration of gestation.

Data are presented as mean±SD or the median (min–max) and in percentages. Continuous variables were compared with the Student's *t* test or Mann–Whitney U test, as which was appropriate. Categorical data were compared with the Chi-square test. Logistic regression models were constructed by forward stepwise entry to identify the predictors of adolescent pregnancy. The dependent variable was adolescent pregnancy and the co-variables were sociodemographic variables. A *P* value <0.05 was considered to be statistically significant.

3. Results

The adolescent group was comprised of 107 pregnant adolescents and the adult group was comprised of 110 pregnant women. In the adolescent group, the median age was 18 (14–19) years among which 33 (30.8%) were ≤17 years, 32 (29.9%) were 18 and 42 (39.3%) were 19 years old. In the adult pregnant group, median age was 26 (20–29) years. The median age at marriage was 17 years among the adolescents and 21 years among adult women (*P*<0.001). When the participants were asked "At what age would you prefer to get married and give birth?", the adolescents replied as they would prefer to be married at average of 20 years and give birth at an age of 21 year, whereas the adults preferred to be married at 22 years and give birth at 24 years of age (*P*<0.001 and *P*<0.001, respectively).

In the adolescent group, 66 (61.7%) were officially married

in comparison with 104 (94.5%) of the adults ($P < 0.001$). In the adolescent group, the frequency with no social and health security was more than that in the adult group (25.2% and 12.7%, respectively) ($P = 0.019$). A statistically significant difference was found between adolescent and adult pregnant women in regard to their education levels, husbands' education level, husbands' and fathers' employment status. Sociodemographic variables of the two groups are compared in Table 1.

In the adult group, it was found out that 20.9% did not want this pregnancy, compared with 9.3% of the adolescents ($P = 0.018$). In the adult group, opposing the adolescent pregnancy for their families were more than that in the adolescent group ($P < 0.001$). The adolescent pregnancy among sisters and friends of the adolescent pregnant women was more frequent in comparison with that in the adult group ($P = 0.004$ and $P = 0.003$, respectively). Adolescent pregnant women received more family support than the adults (87.9% and 70.9%, respectively) ($P = 0.002$). In both groups, most of the pregnant women initiated prenatal care in the first trimester and most of them received adequate number of antenatal visits. It was found out that 28.0% of adolescents knew modern family planning methods, compared with 53.6% of the adults ($P < 0.001$). In the study group, heard of emergency contraceptive methods were less than that in the control group (13.1% and 36.4%, respectively) ($P < 0.001$) (Table 2).

The factors identified in the bivariate analysis as being significantly associated with pregnancy were incorporated into a multivariate logistic regression analysis. The results of the analysis were as follows: the risk of adolescent pregnancy was 9.3 times higher among women who had families unopposed adolescent marriage than in those opposed families; 3.3 times higher among women who received family support than in those who did not; 2.7 times higher among women who did not know emergency contraception than in those who knew; 2.5 times higher in cases without social and health security than in those who had and 2.0 times higher among women who did not know modern family planning methods than in those who had adequate knowledge (Table 3).

4. Discussion

In Turkey, the earliest legal age for marriage for both the males and females with the approval of the parents is 17 years. In our study, the lowest age for marriage was 11 in the adolescent group and 14 in the adult group, and the median age was 17 and 21, respectively. In the study of Gökçe *et al.*[7], the median ages are similar with our study. In his

report, the median age for marriage was found to be 17.0 years in the adolescent group and 21.9 years in the adult group[7]. According to an investigation by the TDHS–2008[3] in Turkey, 43.2% of women between 25–49 years of age get married before the age of 20, and 24.3% gets married until the age of 18. Marriage generally occurs earlier in the developing regions than in developed regions. More than half of adolescent girls in many countries of sub-Saharan Africa are either married or have entered a formal union by the age of 18 while 20%–40% of adolescents in Latin America and the Caribbean enter an union. In North Africa and the Middle East, the proportion is 30% or less. Across Asia, 73% of adolescent girls in Bangladesh are married by the age of 18 and do so 40% of all women aged between 15–19 years in India[2,5]. When we asked the pregnant women about their present opinions on marriage and giving birth, the adolescents replied that they would prefer to get married at the age of 20 and give birth at 21 years, whereas the adults replied as 22 and 24 years respectively.

Early marriage and childbearing are encouraged in some societies especially in rural areas and less developed or traditional societies[8]. In young people, the behavior and opinions concerning gestation is related with social and cultural environment. Individual, familial and social factors formulates one's thoughts concerning sexual intercourse family formation, gestation and maternity[9]. Virginity is very important in Turkish society and marriage is an occasion that is naturally accepted in order to give birth to a child. The families especially in the rural areas usually impose upon their daughters to get married before the age of 20 and the first sexual experience is commonly accomplished after the marriage[10]. Generally, there are other adolescent marriage cases among the relatives or close neighborhood of the one's who experience adolescent marriage[7,11,12]. In the studies of Martin and Jimenez[13], the majority of the adolescent pregnant women were not married, usually lived with their families and received more family support in comparison to the adults. However, another study from Nepal reported that adolescent pregnant woman receives less psychiatric and social support from their families when compared with the adults[14]. Gökçe *et al.* reported that the acquiesce of the families to early marriages increases the risk of adolescent pregnancies by 3.08 times. In our study, the acquiesce of the parents to early marriages rises the risks by 9.3 times and the supporting their children during their gestation increases with 3.3 times in terms of adolescent pregnancies. We also found out that the ratio of having adolescent pregnancies were similar for the mothers of both the adolescent and the adult pregnant women; however, in the adolescent group, the frequency of adolescent pregnancies among their siblings and friends was higher than that in the adult group.

Table 1

Comparison of socio-demographic variables in the adolescent (n=107) and adult (n=110) pregnant women.

Socio-demographic variable	Adolescent pregnant women	Adult pregnant women	P value
Age at marriage [Median (min-max)]	17.0 (11.0-19.0)	21.0 (14.0-29.0)	<0.001
Husband's age (years) (Mean±SD)	24.9±3.4	30.0±4.3	<0.001
Monthly income (TL) ^a [Median (min-max)]	700 (250-2 400)	750 (200-10 000)	0.084
Number of people in the household [Median (min-max)]	3.0 (2.0-15.0)	3.0 (2.0-12.0)	0.982
Number of siblings [Median (min-max)]	6.0 (1.0-15.0)	6.0 (0.0-13.0)	0.855
Respondents' education levels (%)			
Less than primary school	27 (25.2)	23 (20.9)	
Primary school	22 (20.6)	42 (38.2)	<0.001
Secondary school	46 (43.0)	14 (12.7)	
High school/university	12 (11.2)	31 (28.2)	
Husbands' education levels (%)			
Less than primary school	8 (7.5)	6 (5.5)	0.045
Primary school	35 (32.7)	43 (39.1)	
Secondary school	29 (27.1)	14 (12.7)	
High school/university	35 (32.7)	47 (42.7)	
Mothers' education levels (%)			
Less than primary school	71 (68.3)	70 (63.6)	0.066
Primary school	31 (29.8)	32 (29.1)	
Secondary school	21 (0.9)	1 (0.9)	
High school/university	0 (0.0)	7 (6.4)	
Fathers' education levels (%)			
Less than primary school	36 (35.3)	45 (40.9)	0.579
Primary school	49 (48.0)	44 (40.0)	
Secondary school	11 (10.8)	11 (10.0)	
High school/university	6 (5.9)	10 (9.1)	
Respondents' employment (%)			
Employed	9 (8.4)	19 (17.3)	0.052
Unemployed	98 (91.6)	91 (82.7)	
Husbands' employment (%)			
Blue-collar worker	80 (74.8)	58 (52.7)	0.008
White-collar worker	6 (5.6)	15 (13.6)	
Self-employed/farmer	17 (15.9)	31 (28.2)	
Unemployed	4 (3.7)	6 (5.5)	
Mothers' employment (%)			
Employed	3 (2.8)	2 (1.8)	0.629
Unemployed	104 (97.2)	108 (98.2)	
Fathers' employment (%)			
Blue-collar worker	46 (43.0)	26 (23.6)	0.006
White-collar worker	6 (5.6)	17 (15.5)	
Self-employed/farmer	46 (43.0)	59 (53.6)	
Unemployed	9 (8.4)	6 (7.3)	
Social/health insurance (%)			
Yes	80 (74.8)	96 (87.3)	
No	27 (25.2)	14 (12.7)	0.019
Officially married (%)			
Yes	66 (61.7)	104 (94.5)	
No	41 (38.3)	6 (5.5)	<0.001
Blood relative of husband (%)			
Yes	40 (37.4)	28 (25.5)	
No	67 (62.6)	82 (74.5)	0.058

^aTL: Turkish Liras (1 Euro= 2 TL). Percentage data are shown in brackets.

Table 2

Comparison of selected characteristics in the adolescent (n=107) and adult (n=110) pregnant women.

Characteristic	Adolescent pregnant women n (%)	Adult pregnant women n (%)	P value
Current pregnancy unintended			
Yes	10 (9.3)	23 (20.9)	0.018
No	97 (90.7)	87 (79.1)	
First prenatal care			
First trimester	83 (81.4)	93 (89.4)	0.101
Later/None	19 (18.6)	11 (10.6)	
Number of antenatal visit			
Adequate	78 (81.2)	83 (83.0)	0.749
Inadequate	18 (18.8)	17 (17.0)	
Mother experiencing adolescent pregnancy			
Yes	67 (71.3)	67 (69.8)	0.822
No	27 (28.7)	29 (30.2)	
Sister experiencing adolescent pregnancy			
Yes	46 (43.0)	27 (24.5)	0.004
No	61 (57.0)	83 (75.5)	
Friend experiencing adolescent pregnancy			
Yes	67 (62.6)	47 (42.7)	0.003
No	40 (37.4)	63 (57.3)	
Exposure to violence within the family			
Yes	14 (13.5)	24 (22.0)	0.103
No	90 (86.5)	85 (78.0)	
Family support			
Yes	94 (87.9)	78 (70.9)	0.002
No	13 (12.1)	32 (29.1)	
Opposing the adolescent pregnancy for their family			
Yes	4 (3.9)	26 (28.3)	<0.001
No	99 (96.1)	66 (71.7)	
Knowledge of modern family planning methods			
Yes	30 (28.0)	59 (53.6)	<0.001
No	77 (72.0)	51 (46.4)	
Heard of Emergency Contraception			
Yes	14 (13.1)	40 (36.4)	<0.001
No	93 (86.9)	70 (63.6)	

Percentage data are shown in brackets. Some of the women did not answer the questions.

Table 3Significant parameters in the adolescent pregnancy identified by logistic regression^a.

Characteristic	Odds ratio	95% CI	P value
Opposing the adolescent pregnancy for their family			
Yes	1.00		<0.001
No	9.38	2.97-29.64	
Family support			
No	1.00		0.006
Yes	3.37	1.42-7.98	
Social/health insurance			
Yes	1.00		0.048
No	2.55	1.00-6.46	
Heard of Emergency Contraception			
Yes	1.00		0.024
No	2.72	1.14-6.49	
Knowledge of modern family planning methods			
Adequate	1.00		0.045
Inadequate	2.09	1.01-4.34	

^aNonsignificant parameters include respondents' and husbands' educational level, husbands' and fathers' employment status, as well as sister and friend experiencing adolescent pregnancy.

Lower educational level, being unemployed and lower socioeconomic status of the families are important risk factors for adolescent pregnancies^[2,5,15]. Studies performed in Turkey put forward that adolescent pregnancies are seen more commonly in individuals with the education levels being lower than or equal to secondary school level and in unemployed ones^[6,16]. Reports concerning the developing countries indicate that there is a relationship between the elevation of the educational levels and decrease in the frequency of adolescent pregnancies and child bearing^[8]. According to the TDHS–2008 data^[3], women are getting married at an older age and fertility rate is decreased as the educational level is increased. Our study showed that the risks of becoming pregnant were decreased as the educational levels of the pregnant women and their spouses were increased. The majority of the subjects who participated into this study and their mothers were not employed. However, the occupation of the spouses and the fathers had an effect on adolescent pregnancy. As reported, 3/4 of the adolescents' spouses worked as blue collar employees. The study of Olausson *et al.* denotes that the majority of the adolescent pregnancies are commonly from families that work as blue collar employees or among the unemployed ones when compared with the adult pregnant women^[11]. In our study, 86% of the adolescents' fathers were blue collar workers or self employed/farmers. However, there was no difference between the income levels of the families of the adolescent and the adult groups.

In our study, the frequency without social and health security was more in the adolescent group. Adolescent pregnancy risk was 2.5 times higher in the population that has no social security. The study of Gökçe *et al.*^[7] has similar results with ours for the population with no social security that was to be 2.64 times higher in terms of adolescent gestation. This situation is for certain that it will give rise to more problems for the adolescents in benefiting from the health care services.

The proportion of adolescent mothers whose pregnancies are either unplanned or unwanted varies widely within and between regions. In Latin America and the Caribbean, 25%–50% of adolescent mothers aged 15–19 years reported their pregnancies to be unplanned. Around 1/3 or more of the labors in many of the Sub-Saharan African countries are unwanted or mistimed. In Asia, the proportion is in the range of 18%–30%^[2,8]. In a study conducted by Hellerstedt *et al.* on subjects who applied for having a pregnancy test, 58% of them did not want pregnancy by no means and 21% partially wanted to become pregnant^[9]. In a study conducted in Turkey, 63.4% of the pregnancies among women who experienced their first gestation before the age of 18 were unwanted pregnancies; however, this ratio fell to 43.5%

among the women over the age of 18^[17]. According to the TDHS–2008 data^[3], 79.1% of the women under the age of 20 wanted to give birth, 13% would like to be pregnant some other time and 6.9% did not want it at all. The ratio of desire to give birth falls as the age increases. Our study is in concordance with the TDHS data in terms of lower undesired pregnancy rates in the adolescent group in comparison with that in the adult group women. Marriage is a desired and accepted event in order to give birth to a child and the families look forward to having a child soon after marriage. In our study, the pregnancies in the majority of the adolescents were their first gestations and either they and/or their spouses have had a desire for these gestations.

Insufficient antenatal care is associated with complications among adolescents. Many of the health problems associated with adolescent pregnancy and childbearing can be prevented and controlled with timely and appropriate care during and after the pregnancy^[2]. It is generally considered that antenatal care should preferably start early, in the first trimester or early in the second trimester^[4]. In Bangladesh overall, 71% of pregnant adolescents (<20 years of age) and 78% of women >35 years of age received no antenatal care^[2]. In Nepal, 52% of married adolescents in the rural areas did not receive antenatal care as compared to 12% of married adolescents in urban areas. Only 26% of adolescents in rural areas received three or more visits as compared to 73% in urban areas^[18]. In Cameroon, 72.8% of adolescents compared to 89.4% of 20–29 year-olds received four or more antenatal visits^[15]. In Philippines, among the pregnant girls <18 years old, only 29% received antenatal care, while this figure was 81% in women aged 20–30^[4]. Hidalgo *et al.* have reported the ratio of adequate antenatal care in the adolescents to be 37.3%, whereas this was 94.5% in the adult group^[19]. According to the study of Şekeröğlü *et al.*, regular perinatal follow up ratios are 18.1% among the adolescents, 46.4% among the women between the ages of 20–35 years and 24.7% among women >35 years of age^[20]. When compared with the adults, the adolescent pregnant receive less numbers of antenatal cares at a more delayed time of gestation. In our study, 81.4% of adolescents compared to 89.4% of 20–29 year-olds began antenatal care in their first trimester of pregnancies. The frequency of receiving adequate antenatal care was found to be 81.3% among the adolescents and 83.0% in the adults. When we compare the findings in our study, the timing and frequency of receiving antenatal care in the adolescents and the adults show no difference with the other studies; thus, the situation seems to be in good condition.

Studies put forward that family planning procedures are known less in the adolescent group in comparison with the control group^[12,14,19]. In our study, adequate knowledge about the methods of family planning and emergency

contraception was less in the adolescent group when compared with that in the adult group. Overall, 90% of the adolescents participated in this study wanted their first pregnancies but had little knowledge about modern family planning methods inculcates that their subsequent pregnancies will be at an earlier frequency. Health care personnel carry an important role in providing knowledge to especially the adolescents about the methods of preventing pregnancies and applying them. It is important that they inform the women during the antenatal care periods.

Adolescent marriages and pregnancies that are acquiesced and supported by the families are an important social problem in Turkey. Early marriage and pregnancy should not be attempted to be resolved by only the exercise power of the laws. We absolutely think that efforts should be made so as to improve the society in terms of social and cultural aspects. The young people should be educated upon safe sexual life, negative effects of early sexual affairs and pregnancies before they start their sexual activity. Sexual health information should take place more effectively in the education system. Health foundations apart from the education institutions in terms of supporting the young people about sexual health and family planning should undertake an important role.

We believe that the more the girls attend to schools, the presence of an obligatory secondary education and the more the women appear in working life would protect the young people from early marriages, early pregnancies and their outcomes.

Conflict of interest statement

We declare that we have no conflict of interest.

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