

Marriage Characteristics and Reproductive Health of Adolescents in Turkey: Findings from Demographic and Health Surveys 1998 and 2008

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Adolescent reproductive health is an important issue considering its social and medical consequences for adolescents and their children. It is well known that early marriage may interrupt women's education and prevent them from accessing reproductive health services; according to UNFPA, the risk of death in childbirth is twice as high among 15-19 year-olds as among 20-24 year-olds. This study aims to focus on the recent changes in adolescent marriage and reproductive health indicators to provide insights for action. Data is employed from the nationally representative Demographic and Health Surveys of 1998 and 2008. In line with other demographic and health indicators, Turkey has shown a decreasing trend of adolescent (15-19) marriage: The proportion of ever-married women of this age group has decreased from 30 percent in early 1980s to 10 percent in 2008 according to demographic surveys. However, considering the three million population of women in this age group in Turkey, adolescent marriage is still an important issue. Despite a decrease in overall proportion married, findings suggest no improvement in some marriage characteristics like consanguineous marriages. Sixty three percent of ever-married adolescents have been at least once pregnant according to TDHS-2008, indicating the beginning of childbirth is barely unavoidable once women enter into unions. It is a well-known fact that adolescent pregnancies have important risks for mothers and children. Antenatal care for adolescent pregnant women has increased by a large extent from 1998 to 2008, proving improvements in provision of health services. Findings have shown that adolescents living in rural areas, Central Anatolia region or poor households, adolescents with more traditional parental families, with less education and who are not working are more likely to get married in their adolescent ages in Turkey.

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Introduction

Adolescence is known as the period between childhood and adulthood. The World Health Organization's definition for this period is between 10 and 19 years of age (WHO, 2010). Early marriages, especially very early marriages under the age of 16, distort the life pattern of young girls, bringing an end to their education and possibility of an independent income (McIntyre, 2006). Moreover, in societies where premarital sex is uncommon, marriages are the onset of sexual activity, exposing adolescent women to pregnancy and childbearing. According to UNFPA, pregnancy and childbirth-related deaths are the primary cause of death for 15-19 year old girls in developing countries (Rowbottom, 2007).

There are 12.7 million adolescents in Turkey according to the age definition of WHO; 6.2 million of which are girls (TÜİK, 2010). This paper focuses on adolescent girls in Turkey, who are more disadvantaged to their male counterparts in terms of reproductive health by using data from the 1998 Turkey Demographic and Health Survey (TDHS-1998) and 2008 Turkey Demographic and Health Survey (TDHS-2008). Women tend to get married earlier than males in Turkey: While the proportion of married males is under 1 percent for the 15-19 age group, it is 7.5 percent for females of the same age group (Özcebe et al., 2007). Moreover, female adolescents are exposed to the health risks of early childbearing.

The legal age at marriage in Turkey is 18 completed years of age for both sexes. However, marriage is also possible with the authorization of parents at the age of 17, and the authorization of court at the age of 16 (NVİGM, 2010). Although age limits are set for legal marriage, unofficial religious marriage can take place at any age, depending on the family. Findings from TDHS-2008 show that 93 percent of ever married women, aged 15-49, have had religious marriage ceremonies in addition to their legal marriage contracts. Among such women, 51 percent reported having the religious marriage ceremony beforehand. Therefore, it is possible for underaged persons to get married with a religious ceremony, and get legally married once they are old enough.

The median age at first marriage (for women aged 25-49) has shifted from the adolescent ages to the 20-24 age group (19.5 and 20.8 respectively) between the DHSs of 1998 and 2008. This study aims to focus on recent changes in adolescent marriages, its determinants and adolescent reproductive health indicators, based on the Turkey Demographic and Health Surveys 1998 and 2008.

There are many studies related to early age marriages and fertility in Turkey. Several national studies are relevant for this study: Koç and Ünalın (2000) have analyzed the TDHS-1998 data set for adolescent reproductive health behavior. Their logistic regression analysis on having first birth in the adolescent ages for women aged 25-29 has shown that women's

education, working status before marriage, childhood place of residence, ethnicity, contraceptive use, age at first marriage, region and type of place of residence are significant determinants. Savaş (2001) has aimed to explore the determinants of adolescent marriage and fertility in Turkey, using TDHS data of 1998, applying logistic regression models to a binary variable of age at marriage. Her multivariate logistic regression analysis on women aged 25-49 underlines the importance of education, working with social security, mother tongue, traditional characteristics in marriage, place of residence (urban/rural) and region in adolescent marriages and fertility. Altıkulaç's (2005) study on education and adolescent fertility has implied differences in marriage and fertility behavior as regards different places of residences, regions and educational levels in Turkey, based on data from TDHS-1998. The study by Özcebe et al. (2007) is important in terms of being a based on a nationally representative sample like TDHSs, and providing indicators of adolescent reproductive health. In addition to providing many indicators of knowledge and attitude, this study presents estimates for prevalences of adolescent marriage and marital adolescent fertility.

Data and Methods

Turkey has a 40 year old tradition of quinquennial demographic surveys, in which detailed information on fertility, contraception and mother and child health is obtained. Turkey Demographic and Health Survey 1998 (TDHS-1998) and Turkey Demographic and Health Survey 2008 (TDHS-2008) are household surveys with weighted, multistage, stratified cluster designs. Each survey has a household questionnaire and a woman's questionnaire. The household questionnaire includes a household schedule in which each household member is listed, and their socio-demographic characteristics are obtained. Another function of this questionnaire is to identify eligible women for the individual interviews. Eligibility is defined as being in ages 15-49 in TDHS-1998, and being in ages 15-19 and ever married for TDHS-2008. Since there are no interviews for never married women in TDHS-2008, all women factors¹ are used whenever ever married women's data set is used to estimate proportions for all women, regardless of marital status.

Marital status is asked in the household questionnaire about each person aged 12 or more, and adolescent aged 12, 13 or 14 are not eligible for individual interview even if they are married. However, in THDS-2008, there are no married adolescents at the ages of 12, 13 and 14, and less than 1 percent are ever married in TDHS-2008. Therefore adolescence as referred to in this study is defined as 15-19 years of age. This definition is widely used in studies from Demographic and Health Surveys.

Table 1. Characteristics of Sample and Response Rates, DHS 1998, 2008, Turkey³

	1998		2008	
	Unweighted	Weighted	Unweighted	Weighted
Household Questionnaire				
Number of all women age 15-49 in households	10,135	9,926	11,841	11,450
Number of ever-married women age 15-49 in households	7,040	6,936	8,003	7,834
Number of all adolescents (15-19) in households	2,174	2,075	2,204	1,982
Proportion of adolescents within women 15-49 (%)	-	21.5	-	17.3
Number of ever-married adolescents (15-19)	295	307	220	193
Women's Questionnaire				
Number of interviewed ever-married women age 15-49	6,152	6,196	7,405	7,405
Number of ever married adolescents with completed interviews	270	266	208	183
Response rates for adolescent women interviews (%)	91.5	-	94.5	-

There are 8,059 completed household interviews in TDHS-1998 and 10,525 completed household interviews in TDHS-2008 with response rates 93.8% and 88.4 percent respectively. Details of sample implementation are given in Table 1.

Logistic regression analysis is used to assess the impact of selected variables on the age at marriage for women. The model is applied on ever-married women aged 25-49, the vast majority of which is married. The dependent variable is dichotomous; women are classified as being married as adolescents if they got married at an age younger than 20, and married as adults otherwise. Socio-economic and cultural independent variables used are largely associated to adolescent marriage in the literature: Childhood place of residence, educational level and mother tongues of both parents for women, consanguinity between parents, educational level and mother tongue of both women and their spouses, working status of women before marriage, marriage characteristics (type of marriage, consanguinity between spouses and decision on marriage), wealth index and age group of women are controlled in the model.

Findings

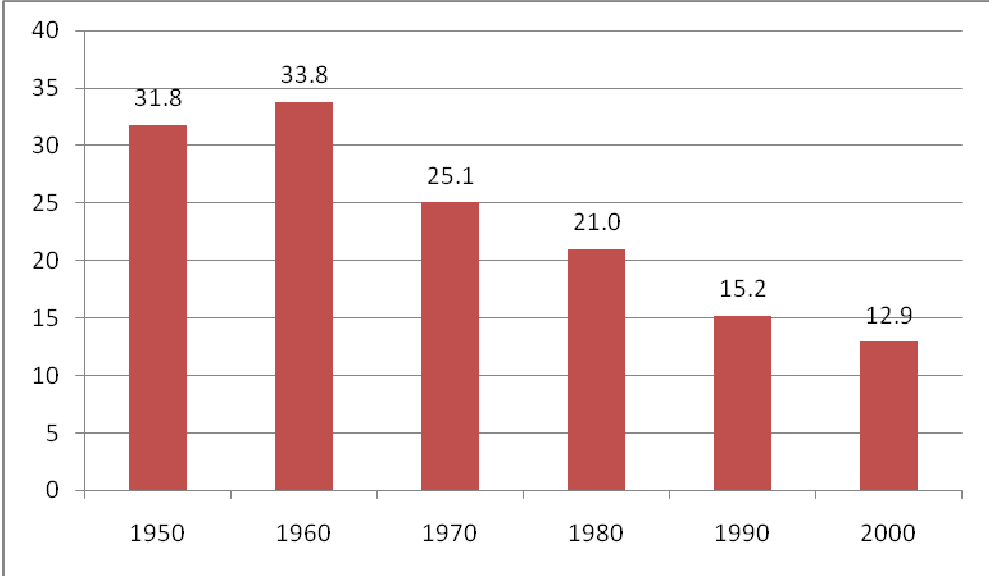
Adolescent Marriage in Turkey

With the foundation of the Republic in 1923, policies have been taken up to promote marriages; so that the damage by the war can be repaired and family life can be sustained

(Koç et al., 2010). A slight decrease in ages at marriage has been observed during the first years of the republic. Towards the 1940s, within the pronatalist population policies of the time, minimum ages at marriage have been lowered from 18 to 17 for males and from 17 to 15 for females. However, from 1950s and on, rising in-migration and urbanization have been effective on marriage and fertility patterns. Education and ownership of property has gained importance in partner selection; marriages have been delayed and ages at marriage have increased sharply especially in urban residences (Koç et al., 2010).

Mean ages at marriage have been above 20 for the last three decades, and median ages at marriage have previously shifted from the adolescent ages to the 20-24 age group. Findings from TDHS-2007 show that half of women aged 25-49 at survey date got married after the age of 21. Parallel to the rising ages at marriage, the proportion of married adolescents has decreased from over by more than two-thirds in 50 years (Figure 1).

Figure 1. The proportion of ever-married adolescents aged 15-19, Censuses of 1950-2000, Turkey



Source: TURKSTAT (1954; 1961; 1973; 1984; 1993; 2003)

The proportion of married adolescents has decreased from 16 percent to 10 percent between 1998 and 2008 (Table 2). Proportions married among adolescents have decreased regardless of age, place of residence and region. The proportion of married adolescents increases with age; while less than 1 percent of adolescents aged 15 got married by survey date in TDHS-2008, almost one in four adolescents aged 19 are married. Adolescent marriage and childbearing is more prevalent in rural areas than urban areas. Differences between urban and rural areas have become slightly more distinct from 1998 to 2008. Findings from the recent DHS show that 9 percent of adolescents are married at survey date in urban areas, compared to 14 percent in rural areas.

Table 2. Percent distribution of adolescents by marriage and basic characteristics, DHS 1998, DHS 2008, Turkey

	1998		2008	
	Married Adolescents (%)	Number of Adolescents No.	Married Adolescents (%)	Number of Adolescents No.
Age				
15	2.7	305	0.8	394
16	6.5	372	4.0	382
17	13.6	347	8.8	297
18	23.7	396	14.5	388
19	30.7	301	23.9	342
Type of Place of Residence				
Urban	14.7	1034	8.9	1350
Rural	16.7	686	14.3	443
Region				
West	13.9	539	9.3	679
South	16.6	261	8.2	250
Central	18.4	380	14.0	315
North	11.6	136	9.0	109
East	15.3	404	9.5	476
Educational Level				
No education/ Primary incomplete	27.5	183	23.2	165
First level primary*	16.2	1239	17.5	193
Second level primary school or higher*	4.8	297	7.6	1452
Turkey	15.5	1720	10.1	1802

*First level primary refers to the first five years of the compulsory education, and second level primary refers to the complete eight years of compulsory education.

The proportion of married adolescents has been calculated as 12 percent or higher for all regions in 1998. As of 2008, less than 10 percent of adolescents are married in all regions except the Central region. Adolescent marriage is observed to be most common in the Central region, according to both surveys.

Education and adolescent marriage is closely related to findings (Table 2). Marriage is more common for adolescents with no education, or with first level primary education (5 years) compared to adolescents with higher education. Only 7.3% adolescents with second level primary school or higher education have been married by survey date in TDHS-2008, while 23% of first level primary school graduates are married. The proportion married has declined from 28 percent to 23 percent among women who have no education or have not completed first level primary school. For higher levels of education, Table 2 suggests an

increase in adolescent marriages. The reason is that there has been a change in primary education system in 1998, which has increased the five years of compulsory education to eight years. This change has affected the distribution of completed schools among adolescent women, making comparisons less plausible. Although findings in for women with first level primary school education and second level primary school and higher, they have actually decreased for both subgroups combined. Weighted averages of two groups are 14 percent and 9 percent for 1998 and 2008 respectively.

Table 3. Marriage Characteristics of Ever-Married Adolescents

Marriage Characteristics	1998	2008
	%	%
Decision of marriage		
By couple	40.5	42.6
By family	52.0	46.9
Eloped ¹	7.5	10.2
Consanguinity		
Yes	27.0	34.9
No	73.0	65.1
Type of consanguinity		
First cousin	15.7	19.2
Distant relative	11.3	15.7
Type of marriage ceremony		
Civil and religious	70.3	70.1
Civil only	2.9	0.2
Religious only	25.2	29.7
None	1.6	0.0
Number of cases	266	183
Total	100.0	100.0

Table 3 shows that there is little change in marriage characteristics from 1998 to 2008. In TDHS-1998, 41 percent of married adolescents have reported that they-as a couple-have made the decision to get married. This proportion is 43 percent in 2008. A small increase has been observed in the proportion of consanguineous marriages from the former survey to the latter: Thirty five percent of married adolescents reported being married to a relative in TDHS-2008, whereas this proportion was 27 percent in TDHS-1998. Findings show that most married adolescents prefer to have both a civil and a religious marriage ceremony. The distribution of types of marriage ceremonies have not changed in the last decade, other than a slight increase in women who have not had a civil marriage.

¹ This category includes both voluntary and involuntary marriages for women: The couple may elope, or the man may abduct the woman to get married.

Reproductive Health among Married Adolescents

This section focuses on the reproductive health indicators of ever-married adolescent women, including contraception, childbirth and antenatal care. The cross-sectional distribution of married adolescents by pregnancy and contraceptive use shows little difference between 1998 and 2008 regarding pregnancy, desire to get pregnant and contraception use (Figure 2 and Figure 3). The proportion of married adolescents who did not intend the current pregnancy is almost the same in the two surveys and the proportion of pregnant women who desired the pregnancy has increased slightly. In both surveys, 34 to 35 percent of married adolescents reported that they would like to get pregnant within two years. The proportion of adolescents using contraception has increased from 27 to 31 percent. The largest difference between the two surveys is in the proportion of adolescents who do not wish to get pregnant within two years or do not want anymore children, but are not using contraception: The corresponding percentage has declined from 16 to 10 percent.

In Turkey, knowledge² of contraception is widespread among married adolescents (Table 4). In both surveys, 99 percent have reported the knowledge of at least one type of contraceptive methods. Modern methods are slightly more widely known. Methodwise, the pill, IUDs, condoms and withdrawal are the most known. The knowledge of the traditional rhythm method among adolescents has decreased in ten years.

Ever-use of contraceptive methods has increased to 62 percent. Withdrawal is practiced at least once by almost half of married adolescents as of TDHS-2008. More than one in four adolescent women has ever-used condoms at least once. Injectables, IUDs, and the rhythm method are rarely used.

Figure 2. The distribution of married adolescents by pregnancy and contraception use, DHS, Turkey, 1998

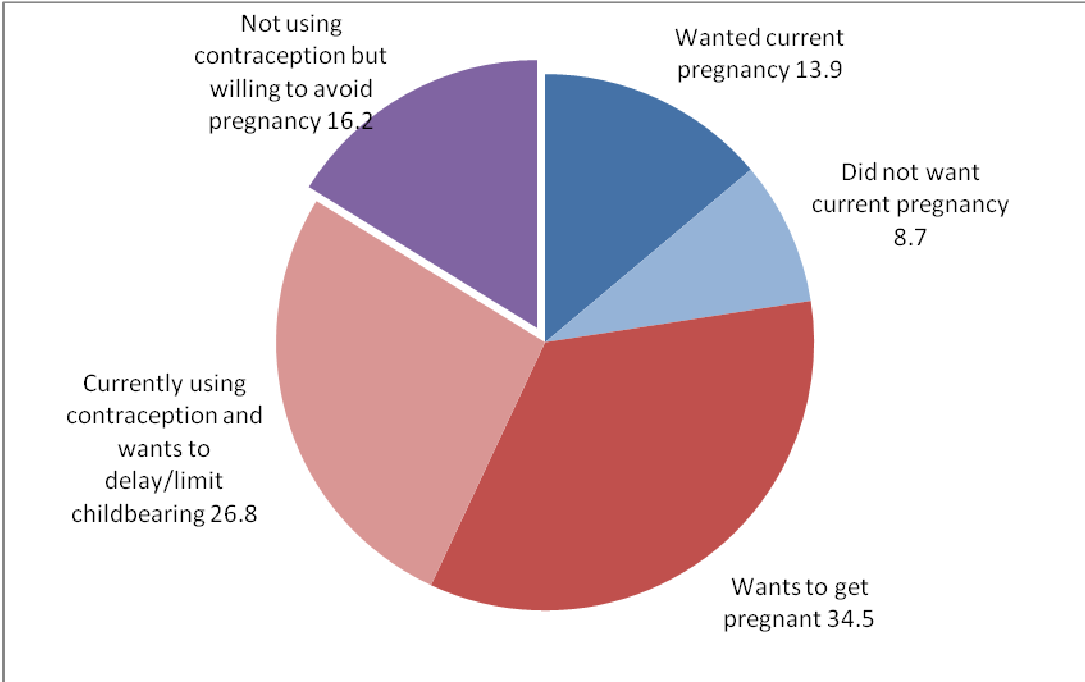


Figure 3. The distribution of married adolescents by pregnancy and contraception use, DHS, Turkey, 2008

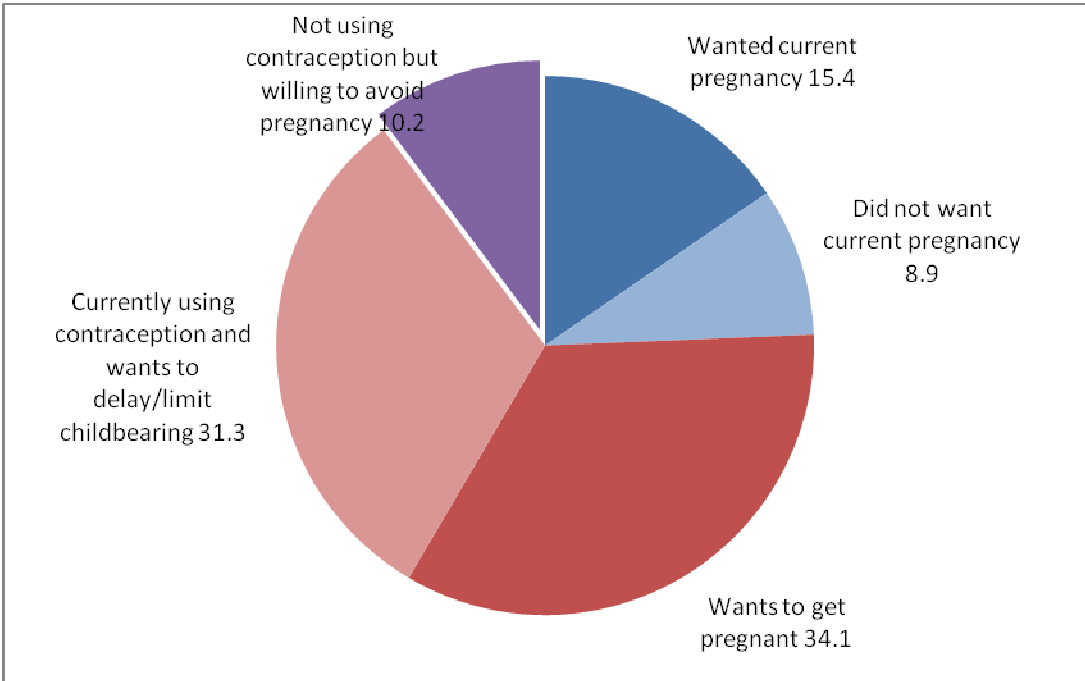


Table 4. Contraceptive Knowledge, Ever-Use and Current-Used for Currently Married Adolescents, DHS 1998, DHS 2008, Turkey

	Knowledge		Ever-Use		Current Use	
	1998	2008	1998	2008	1998	2008
Type of contraceptive	%	%	%	%	%	%
Any method	98.5	99.4	54.9	62.4	33.6	40.2
Any modern method	98.1	99.1	26.4	38.5	15.7	17.6
Pill	92.6	95.8	7.6	9.4	1.9	4.0
IUD	94.2	92.0	9.6	5.4	7.4	3.8
Injectables	75.8	72.7	0.8	2.9	0.5	0.8
Condom	77.1	83.1	16.5	26.7	6.0	9.1
Any traditional method	85.5	90.8	44.7	50.0	17.8	22.6
Rhythm	35.1	26.0	8.1	3.4	0.5	0.0
Withdrawal	81.9	88.8	44.2	48.0	17.3	21.1
Other traditional	3.0	4.4	0.0	1.5	0.0	1.4
Not using	-	-	-	-	66.4	59.8
Number of cases	262	180	262	180	262	180
Total	-	-	-	-	100.0	100.0

Current contraceptive use among married adolescents has increased in the past decade. The proportion of currently married adolescents using any type of contraceptive method has risen from 34 percent in 1998 to 40 percent in 2008. This increase has been observed in both traditional and modern method use. Traditional methods of contraception are more widely used in the adolescent age group. The most prevalent method of contraception is withdrawal, with 21% of married adolescents practicing it in 2008, and the second common method is condom, used with a proportion of 9%.

The proportions of adolescent women who have been pregnant at least once are presented in Table 5. The levels of first pregnancies and adolescents with first pregnancies are given in the appendix. About one in ten adolescents have been pregnant at least once by survey date in 1998, compared to 6 percent in 2008. Similar to marriages, pregnancies get more common with age. While less than 1 percent of adolescents aged 15 have ever-had a pregnancy, 14 percent of 19-year-olds have been pregnant at least once according to TDHS-2008. Urban-rural differences are also apparent regarding adolescent pregnancies. Results of TDHS-2008 show that one in ten adolescents are have had at least one pregnancy in rural areas, compared to 5 percent in urban areas. Regionwise comparisons show that adolescent pregnancies are most common in the Central region. The levels of adolescent pregnancies have become close for West, South and North regions as of 2008. The impact of education is striking; almost one in five adolescents with no education or with less than first level primary education have become pregnant by survey date, compared to 4 percent of adolescents with high school or higher education.

Table 5. Percent distribution of adolescents by pregnancy status⁴ and basic characteristics, DHS 1998, DHS 2008, Turkey

	1998				2008			
	Adolescents With at Least One Pregnancy		Number of Adolescents		Adolescents With at Least One Pregnancy		Number of Adolescents	
	All (%)	Married (%)	All	Married	All (%)	Married (%)	All	Married
Age								
15	1.8	*	305	8	0.4	*	394	3
16	2.2	*	372	24	2.5	*	382	15
17	9.2	(67.4)	347	47	4.6	(52.5)	297	26
18	16.7	70.6	396	94	11.0	75.8	388	56
19	24.4	79.4	301	92	14.1	59.2	342	79
Type of Place of Residence								
Urban	9.7	65.9	1034	152	5.4	60.6	1350	119
Rural	12.4	74.3	686	114	9.8	68.5	443	61
Region								
West	9.3	67.1	539	75	5.9	63.8	679	63
South	11.6	(69.7)	261	43	5.0	*	250	20
Central	12.7	69.0	380	70	8.6	(61.4)	315	42
North	6.7	*	136	16	5.1	*	109	10
East	11.6	75.8	404	62	6.4	(67.2)	476	44
Educational Level								
No education/ Primary incomplete	22.5	82.0	183	50	18.7	(80.6)	165	37
First level primary Second level primary school or higher	11.1	68.3	1239	201	11.9	(68.0)	193	34
2.0	*	297	14	4.3	56.0	1452	109	
Total	10.7	69.5	1720	266	6.4	63.3	1802	180

* Less than 25 weighted number of cases

() Between 25-50 weighted number of cases

More than 60 percent of ever married adolescents have become at least once pregnant according to both surveys (Table 5). Differences in pregnancies by basic characteristics are less pronounced for ever-married adolescents. Still, ever-pregnancies are more frequent for rural or less educated women compared to their counterparts.

There have been considerable improvements in terms of antenatal care for adolescents who have begun childbearing (Table 6). The prevalence of receiving antenatal care from a doctor has risen from 66% to 95% in ten years, and the proportion of not receiving antenatal care has dropped from 23% to only 4%. The frequency of antenatal care visits has also increased, less than half of pregnant adolescents received antenatal care 4 times or more according to TDHS-1998, whereas this proportion increased to almost 70% in TDHS-2008. Timing of first

antenatal care visit has shifted towards earlier months of pregnancy from 1998 to 2008: 49% of adolescents received antenatal care within the first three months of pregnancy in TDHS-1998, and 68% received in TDHS-2008.

Table 6. Antenatal and delivery care for adolescents, DHS 1998, DHS 2008, Turkey

	1998	2008
	(%)	(%)
Antenatal care provider		
Doctor	66.2	95.4
Nurse/midwife	10.1	0.7
Other	1.0	0.0
No one	22.8	3.9
Number of ANC visits		
No ANC	23.0	3.9
1	7.7	4.0
2-3	24.1	23.7
4+	45.2	68.4
Timing of first ANC		
No ANC	23.0	3.9
<4	48.6	69.6
4-5	19.4	21.7
6+	8.9	4.8
Place of delivery		
Public sector	66.9	70.1
Private sector	14.0	24.1
Home	19.1	5.8
Type of delivery		
Vaginal	86.1	70.8
Cesarean Section	13.9	29.2
Number of cases	135	73
Total	100.0	100.0

Findings show that majority of adolescents give birth in public sector health facilities. There is a remarkable decrease in home deliveries from 1998 to 2008, 6% of adolescents have given birth at home. Births by cesarean section have more than doubled for adolescents, from 14% in TDHS-1998 to 29% in TDHS-2008.

Determinants of Adolescent Marriage

Premarital sex and childbirth outside marriage is usually regarded as uncommon in Turkey. There are no statistics regarding the sexual experience of unmarried adolescents, nevertheless, Özcebe et al. (2007) have found that 10 percent of adolescents aged 15-19 approve sexual intercourse before marriage. Furthermore, findings in the previous section

show that most of the adolescents that get married begin childbearing in the adolescent ages. Therefore analyzing the determinants of adolescents can shed light on which subgroups of women are more likely to get married and begin childbearing as adolescents.

Table 7 summarizes the output from the logistic regression model. Findings show that education and employment are significant determinants of adolescent marriage. The odds of getting married younger than age of 20 is 5 times greater for women with no education/less than first level primary school education, compared to women who have completed high school or higher. Education of partner is also important, the odds of adolescent marriage rises for women whose partners are less educated. Working status seems to affect the age at marriage in an upward direction; the odds of getting married as adolescents is 2.3 times higher for women who have not worked before marriage.

The payment of bridesmoney at marriage, consanguinity between bride and groom and marriage decisions by families can be regarded as traditional characteristics in Turkey. Logistic regression analysis has shown that women with these marriage characteristics are more likely to get married as adolescents.

Contextual variables of place of residence, region and wealth status have also proven to be significant in adolescent marriage. Odds of getting married as adolescents are 1.4 times higher in rural areas compared to urban areas. The odds of adolescent marriage are significantly higher in the Central region compared to the West region. Moreover, women living in poorer households are more likely to get married at adolescent ages.

Table 7. Results of logistic regression on first marriages before the age of 20 by the 25-49 age group, DHS-1998, Turkey⁵

Independent variables	Coefficient (β)	Odds ratio	P
Educational level			
No educ./First level pri. Incomp.	1.598	4.944**	0.000
First level pri.	1.198	3.314**	0.000
Second level pri.	1.190	3.288**	0.000
High school or higher	0.000	1.000	.
Partner's educational level			
No educ./First level pri. Incomp.	0.445	1.560*	0.014
First level pri.	0.356	1.428**	0.001
Second level pri.	0.120	1.128	0.312
High school or higher	0.000	1.000	.
Respondent worked before marriage			
No	0.864	2.373**	0.000
Yes	0.000	1.000	.
Bridesmoney			
Yes	0.532	1.702**	0.000
No	0.000	1.000	.
Consanguinity			
Other relative	0.590	1.804**	0.000
First cousin	0.560	1.750**	0.000
Not related	0.000	1.000	.
Decision on marriage			
Families and other	0.460	1.584**	0.000
Themselves	0.000	1.000	.
Type of place of residence			
Rural	0.342	1.408**	0.001
Urban	0.000	1.000	.
Region			
South	-0.191	0.826	0.091
Central	0.407	1.502**	0.000
North	0.039	1.039	0.752
East	-0.215	0.807	0.082
West	0.000	1.000	.
Wealth index			
Poorest	-0.215	0.806	0.200
Poor	-0.352	0.703*	0.021
Middle	-0.368	0.692**	0.005
Rich	0.021	1.021	0.893
Richest	0.000	1.000	.
Age groups			
25-29	0.035	1.035	0.808
30-34	-0.082	0.921	0.497
35-39	-0.307	0.736**	0.010
40-44	-0.339	0.713**	0.007
45-49	0.000	1.000	.

Nagelkerke $R^2 = 0.272$

Model significance = 0.000

Wald F for corrected model= 22.429

*Significance at $p < 0.05$

**Significance at $p < 0.01$

Discussion

This study has focused on adolescent marriages and reproductive health of married adolescents, using data from the most recent Turkey Demographic and Health Survey conducted in 2008 and the TDHS-1998. Findings have shown that adolescent marriage is on a decreasing trend in Turkey. As of 2008, one in ten adolescents aged 15-19 are married at least once, compared to 16 percent in 1998. These proportions correspond to 305,332 married adolescent women in Turkey. About 200,000 of these women are living in urban areas. Regionally, about 105,000 are located in the West, 74,000 are located in Central Anatolia, and 75,000 are located in the East.

Among married adolescents, marriage gets more common with increasing age. The proportion aged 17 and higher among married adolescents is also decreasing. According to TDHS-2008 results, three quarters of ever-married adolescents are at or above the minimum legal marital age, aged 18 or 19.

Results have shown no improvements in marriage characteristics of married adolescents. Less than half of married adolescents have made the marriage decision by themselves and spouses; decisions are rather made by families for adolescent girls to get married. Findings have shown that marriage to a relative is still common. One in five married adolescents is married to a first cousin as of 2008. Results of the TDHS-2008 shows that 30 percent of adolescents have only had a religious marriage ceremony, indicating they have no legal rights regarding marriage.

Comparing the two surveys, there are some increases in the contraception use of married adolescents. However, less than half of married adolescents are using contraception as of 2008. Most married adolescents are newly wed, and traditionally, women usually have their first shortly after marriage in Turkey. The duration between marriage and first birth is stable around 1.6 years in Turkey (Koç et al., 2010). More than one thirds of married adolescents have reported that they would like to bear children in within two years. It has been seen that one in ten married adolescents are not using any contraception despite the fact that they do not wish to have children within two years, or they want no more children. Considering the high level for knowledge of contraception methods and low level of modern method use; it may be either that contraception is difficult to obtain for adolescents or the desire for childbearing is yet vague. Modern methods are more widely practiced among married women in Turkey (HÜNEE, 2009). However, traditional methods are used more than modern methods among adolescents. Furthermore, there is a clear dominance of male methods for adolescent women, suggesting that adolescent women may have less control over their bodies and fertility.

Comparison of TDHS-1998 and TDHS-2008 have shown that adolescent pregnancies have decreased from 11 percent to 6 percent in ten years, yet the proportion of ever-pregnant adolescents among ever-married adolescents is above 60 percent in both surveys. Thus once adolescents get married, they are very likely to begin childbearing in the adolescent ages; pregnancies are almost inevitable. The constant duration between marriage and first birth suggests that the main determinant of the adolescent reproductive behavior is *who gets married* in the first place.

In contrary to marriage characteristics, there has been substantial progress in antenatal care between 1998 and 2008. Yet, 27 percent of adolescents have received their first antenatal care after 3 months, and 4 percent have not received any. It is recommended that the first antenatal visit should take place before the third month of pregnancy (HUIPS, 2009). Moreover, a minimum of 10 visits throughout the pregnancy ensures proper monitoring of the mother and child throughout pregnancy (HUIPS, 2009). Findings have pointed out that 32% of adolescents have received antenatal care 3 times or less during their pregnancies as of 2008.

Many variables included in the study have proven to be important regarding adolescent marriage and fertility. In rural areas, where education levels are lower and agricultural sector is dominant, early marriages and pregnancies are more prevalent compared to urban areas. The difference between urban and rural residences prevails in the presence of other socio-demographic variables as well.

Regional differences are observed regarding marriages and pregnancies by 15-19 year old women. The Central region, where adolescent marriages and pregnancies are most common according to both surveys and the logistic regression model based on the TDHS-2008 data set, presents an interesting case. Predominantly, the East region is the most disadvantaged region in Turkey in terms of demographic indicators. As of 2008, the highest infant mortality rate and the highest total fertility rate are observed in this region, as well as the lowest median age at first marriage. The median age at first marriage for women aged 25-49 is calculated as 19.6, 20.0 and 20.8 for the East region, Central region and Turkey respectively. Higher control of fertility is most likely to be responsible for the lower fertility in the Central region, despite the longer exposure to fertility.

The role of education has been evident in the findings. The effects of the increase in the length of compulsory education are reflected in the comparison between two surveys. In TDHS-1998, the majority of adolescents were graduates of a five year primary school, 16 percent of which were married. The adolescents interviewed in TDHS-2008 were rather concentrated at eight years of schooling or higher, and the proportion married is 8 percent. Multivariate analysis has proven that both the education of the adolescent, and her spouse

are important. Adolescent marriage is less likely for women whose spouses are more educated.

Employment is expected increase the opportunity costs of women for marriage (Morrison and Sabarwal, 2008). Koç and Ünalán (2000) have found the odds of having first birth in the adolescent ages in Turkey to be higher for women who have not worked before marriage. Similarly, empirical analysis in this study has indicated that women who have worked prior to marriage have been found to be at lower risk of adolescent marriage in Turkey. Odds of getting married as adolescents are 2.4 times higher for women who have not been employed in advance of marriage.

Marriage characteristics of adolescent women used in this study reflect some of the traditional practices in Turkey, namely consanguineous unions, religious marriage ceremonies and marriage decision of children by parents. These customs have found to be linked to higher odds of adolescent marriage for women, indicating the role of relatively “modern” families in the age at marriage of children. Moreover, women living in less wealthy households have been identified as having higher odds of adolescent marriage. This finding suggests that adolescent marriage is more likely to occur for women of lower socio-economic status.

Notes

¹All women factors are calculated from the household members’ data set by age. The calculation of all-women factors is explained in the related Measure DHS document, located at: [http://www.measuredhs.com/help/Datasets/All Women Factors.htm](http://www.measuredhs.com/help/Datasets/All_Women_Factors.htm).

¹ Weights are calculated to account for the disproportionate allocation between sampling strata, and non-response. All analysis is based on weighted data. Unweighted columns show the actual number of cases.

¹ The concept of “knowledge” is controversial. All method names are mentioned to women and they are assumed to know about the method if they state they have heard about it.

¹ Ever-pregnancies include women who have ever born a child, who are currently pregnant, or who have had a spontaneous/induced abortion or a stillbirth.

¹ The coefficients of significant variables have been displayed only. Childhood place of residence, father’s educational level, mother’s educational level, consanguinity between parents, mother’s mother tongue, and respondent’s mother tongue have also been controlled in the model, despite being statistically insignificant. Father’s and husband’s mother tongues have been left out from the model due to multicollinearity.

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