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Maternal and Perinatal Outcome of Primiparous Teenagers in Southeast of Turkey

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Abstract :

Pregnancy and birth cause severe medical, nutritional, social, and economic risks for adolescent mothers and infants. Adolescent pregnancies are associated with negative maternal and perinatal outcomes. This retrospective study was conducted with teenage singleton primiparous women who gave birth between June and November 2014. Data were collected by using face-to-face interview technique. Teenage mothers were similar to non-teen mothers in terms of preeclampsia, preterm delivery, PROM, polyhydramnios, placenta previa, placental abruption, IUGR, fetal distress, caesarean section, LBW, stillbirth, physiologic jaundice. Teenage mothers are more advantageous in terms of oligohydramnios, blood incompatibility, postpartum hemorrhage, and congenital anomalies. We could not contact with adolescent mothers younger than 15 year-old. It is possible that these women cannot be admitted to the hospital because marriage before the age of 17 is forbidden in Turkey. Further society-based studies should be conducted on adolescent mothers younger than 15 year-old.

Keywords:

Adolescence, Pregnancy, Childbirth, Postpartum period

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INTRODUCTION

In recent years, teenagers have initiated their sexual activity early and the utilization rate of contraceptive methods has been low. Early and undesired pregnancies induce the abortion risk. Even though teenage pregnancies are the common problem of all countries, they are more alarming among teenagers who have disadvantages (Assini-Meytin & Green, 2015; Upadhya & Ellen, 2011). Throughout the world, approximately 16 million women give birth between the ages of 15 and 19. The 95% of these births occur in low- and middle-income countries. The mean adolescent birth rate in low- and middle-income countries is respectively two and five times the rate detected in high-income countries. Approximately the 11% of all births are performed by adolescents (WHO, 2016).

Adolescent fertility is a very important issue in terms of both health and social concerns. It is possible that adolescent mothers are more exposed to negative pregnancy outcomes and maternal mortality compared to adult mothers. Babies born to teenage mothers have higher risks of disease and death. Furthermore, having children at an early age leads adolescents not to continue their education and thus they cannot access the job opportunities (Oboro, et al., 2003; Patton et al., 2009; WHO, 2016).

According to the data of Turkish Statistical Institute (TurkStat) 2011, 12918 adolescents (between the age of 10 and 19) are living in Turkey. Adolescent female population is the 17% of all the population (TurkStat, 2011). According to the data of the Turkey Demographic and Health Survey (TDHS) 2013, giving birth in the adolescence period before the age of 17 is less common and this rate sharply increases in the advancing ages. The 16% of the 19 year-old women are already mothers or they are pregnant for their first child. Age distribution of live-born children indicates that the rate of giving birth at an early age is not common in Turkey. Almost 97% of the women who are between the ages of 15 and 19 have not yet given birth. The rates of women who give birth change according to geographical regions in Turkey. For instance; the percentage of women started having children in adolescence is 3% in the West part of the country whereas this rate is 6% or more in the South, Middle, or East of Turkey (TDHS, 2013).

The laws in Turkey do not allow both male and female to marry before the age of 17. However, religious marriages are common in the eastern and southeastern regions of Turkey (Ege et al., 2014). When adolescent fertility rates are ranked from low to high, 34 provinces have higher rates than the overall rate of Turkey and the rates of 47 provinces are lower than the overall rate of the country (TurkStat, 2011). Batman is one of the southeast provinces of Turkey and the teenage fertility is very common in Batman. The determination of the maternal and perinatal outcomes of the teenage births is an important issue for the organization of maternal health services. The aim of this study is to determine the maternal and perinatal health outcomes in teenage primiparous women in a rural part of Turkey. The hypothesis of this study is that teenage births are associated with worse maternal and perinatal outcomes.

METHODS

Design and Sample: This retrospective study was conducted in the Southeast of Turkey with teenage singleton primiparous women (between the ages of 15 and 29) who gave birth between June and November 2014. Batman is located in the rural area of the southeast part of Turkey and it is one of the provinces with the highest fertility rate. In previous years, there were 6,376 births were performed in the hospital and 465 of these births were given by adolescents. The unknown equation was used to determine the number of participants (Sumbuloglu & Sumbuloglu, 2010). While calculating the sample size, the 5% adolescent pregnancy rate difference in the rural regions were considered in TNSA 2013. Accordingly, sample size was determined as at least 96 at the 5% significance level. Totally 150 teenager and 150 non-teen mothers were randomly selected.

Data collection: The data collection form was prepared in line with the literature and it was used to collect the data of the study. There were 30 questions in the form related to the socio-demographic features of women, and risks during the pregnancy, birth and postnatal period. The forms were filled by collecting data from patient recordings and answers of mothers. The data of the study were collected by a midwife by using either face-to-face interview technique or by telephone calls.

Ethical Considerations: The ethical committee approval of the study was obtained from the Istanbul Medipol University Non-invasive Clinical Research Ethics Committee. Participation in this study was voluntary.

Data Analysis: Shapiro-Wilk test was used to determine whether or not the continuous variables (such as age and marriage age) fitted a normal distribution. The normally distributed variables were shown as mean±standard deviation (mean±SD). The variables which were not normally distributed were shown as median (minimum-maximum). The categorical variables such as the status of education, the status of working, and the family type were shown as number (%).

Teenage and non-teen groups were compared to each other in terms of continuous variables and either student-t or Mann Whitney U tests were used according to the distribution of the variables. In case of the comparison of these groups in terms of categorical variables, chi-square test was used. Bonferroni corrected Z test was used in order to detect the differences of rates.

IBM SPSS Statistics 21.0 (IBM Corp. Released 2012) program was used for analysis and calculation. Furthermore, the IBM SPSS Statistics for Windows, Version 21.0 Armonk, NY: IBM Corp.) Program was used to evaluate the data of the study.

Limitations of the study: This study cannot be generalized to the society because it was conducted only in one hospital and in limited dates.

RESULTS

There were 665 births given by nulliparous pregnant women in a hospital where the study was conducted. These births were performed between June and November 2014 and 265 of these births were given by teenagers. Totally 150 primiparous teenagers and 150 non-teen mothers were randomly selected. In Table 2, mothers who were between the ages of 20 and 29 and mothers who were younger than 20 year-old were compared to each other according to maternal demographical features. There was no statistically significant difference between groups in terms of the age and mean and median of the marriage age ($p<0.05$). There was a significant relationship between education level, employment status, an official marriage, consanguineous marriage and family type and maternal age during the pregnancy ($p<0.05$). The education level of teenage mothers was lower compared to the non-teen mothers and they are unemployed, they had consanguineous marriage instead of the official marriage, and they were living in extended families (Table 2).

Preeclampsia, oligohydramnios, blood incompatibility, fetal distress, and postpartum hemorrhage rates increased in advancing ages, and mothers between the ages of 20 and 29 had more hospital stay compared to teenage mothers ($p<0.05$). There was no statistically significant difference between groups in terms of Preterm delivery, PROM, polyhydramnios, placenta previa, placental abruption, mode of delivery, stillbirth, LBW, physiologic jaundice and congenital anomalies (Table 3 and 4).

DISCUSSION

Adolescent pregnancies are a common issue in both developing and developed countries (WHO, 2012). Adolescent mothers have their babies before completing their biopsychosocial development and this leads them not to continue their education and thus they have less access to job opportunities (Letourneau et al., 2004). In our study, it was shown that teen mothers were less educated and they were more unemployed compared to non-teen mothers ($p<0.05$). In other studies (Adam et al., 2009; Assini-Meytin & Green, 2015; Fergusson & Woodward, 2000; C. Lee & Gramotnev, 2006; D. Lee, 2010; Levine & Painter, 2003). It was shown that teenage mother had less educational level. It was also found that they were less prone to work (Assini-Meytin & Green, 2015; C. Lee & Gramotnev, 2006; Ozsoy, 2014).

In the current study, teenage mothers were more common because people were not married with an official marriage, they were living in extended families, and consanguineous marriages were common ($p<0.05$). In a similar study conducted in Turkey, it was shown that common marriage is broadly observed among teenage pregnant women (Sekeroglu et al., 2009). According to a regulation of Code in Turkey, usual marriage age was detected as 17 independent on gender (Ege et al., 2014). Since teenage women are not legally allowed to have an official marriage, these women are living with their husbands with the religious marriage. Similarly, it was also shown in other studies that consanguineous marriages (Ayyıldız et al., 2015; Yıldızhan et al., 2009) and living in extended families (Ozsoy, 2014; Yıldızhan et al., 2009) are common among teenage mothers. Women who are married at adolescence start living with their husbands' families and they leave their own families. Thus, living in an extended family is common among teenage mothers.

In our study, it was shown that preeclampsia; oligohydramnios, blood incompatibility, and postpartum hemorrhage were less common in teenage mothers. Furthermore, it was specified that there was no significant difference between groups in terms of preterm delivery, PROM, polyhydramnios, placenta previa, placental abruption, fetal distress, stillbirth, LBW, physiologic jaundice, and congenital anomalies ($p>0.05$). Previous studies reported that teenage mothers were under the risk of preeclampsia (Melekoglu et al., 2013), preterm delivery (Abu-Heija et al., 2002; Althabe et al., 2015; Ganchimeg et al., 2013; Haldre et al., 2007; Melekoglu et al., 2013; Mukhopadhyay et al., 2010; Robson et al., 2006), IUGR (Melekoglu et al., 2013), fetal distress (Melekoglu et al., 2013), LBW (Abu-Heija et al., 2002; Althabe et al., 2015; Ganchimeg et al., 2013; Haldre et al., 2007; Melekoglu et al., 2013; Mukhopadhyay et al., 2010; Robson et al., 2006), stillbirth (Ganchimeg et al., 2013; Haldre et al., 2007; Mukhopadhyay et al., 2010; Robson et al., 2006), and congenital anomalies (Melekoglu et al., 2013). Similar studies showed that teenage mothers were not under the risk of preeclampsia (Meydanli et al., 2000), preterm delivery (Adam et al., 2009), PROM (Meydanli et al., 2000), oligohydramnios, placenta previa (Melekoglu et al., 2013), placental abruption (Meydanli et al., 2000), and LBW (Adam et al., 2009). In a similar study conducted in Turkey, it was indicated that there was no increase in perinatal issues in teenage mothers (Taner et al., 2012). Furthermore, it was also shown that there was no difference between teenage and non-teen mothers in terms of adverse pregnancy outcome variables in case we do not consider some confounding factors such as multiparity, presence of historical risks, inadequate antenatal visit (Bukulmez & Deren, 2000). In this study, in contrast to the hypothesis, it was found that teenage mothers were less under the risk in terms of maternal and perinatal worse outcomes compared to nonteen mothers. In Turkey, particularly in rural areas, teenage marriages are done mostly with the permission and support of families. Therefore, it can be estimated that negative health outcomes are less common compared to other countries.

Vaginal birth rate was generally higher compared to cesarean section among mothers who were participated in this study. Furthermore, there was no difference between both mother groups in terms of the type of the birth ($p>0.05$). Previous studies showed that teenage women had a higher rate of vaginal delivery and the risk of having the cesarean section was less (Adam et al., 2009; Conde-Agudelo et al., 2005; Ganchimeg et al., 2013). Similarly in our study, there are also other studies which show that there is no difference between both mother groups in terms of the type of the birth (Abu-Heija et al., 2002; Kurt et al., 2014; Ozsoy, 2014). According to the Annual Health Statistics (2014), vaginal delivery rate is higher in rural areas of Turkey compared to other regions (Republic of Turkey Ministry of Health, 2015). It can be concluded in our study that vaginal delivery rate is higher than the cesarean section rate and this can be because of that women who participated in our study were living in a rural area of Turkey.

In this hospital-based study, it was determined that teenage mothers were not associated with worse maternal and perinatal outcomes. In contrast to other studies, preeclampsia, oligohydramnios, blood incompatibility, fetal distress and postpartum hemorrhage were more observed in non-teen mothers compared to teenage mothers.

Implications and Contribution: Results of hospital-based studies cannot be generalized to the society. Additionally, we could not reach to adolescent mothers who were younger than 15 year-old. It is possible that teenage pregnant women are not admitted to the hospital because marriage before the age of 17 is forbidden in Turkey. In Turkey, there should be further society-based studies conducted on long-term effects of particularly younger adolescent pregnancies.

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TABLES

Table 1. Distribution of adolescent mothers according to age

Age	Number of patients	Percentage
15 years	6	4.0
16 years	13	8.7
17 years	23	15.3
18 years	62	41.3
19 years	46	30.7
Total	150	100.0

Table 2. Study group characteristics

Background characteristic	<20 years n (%)	20-29 years n (%)	Statistics (Z,χ^2)	p value
Age [mean±SD] median	17.86±1.08 18 (15-19)	23.93±1.80 24 (20-29)	15.101	<0.001
Age at marriage, y [mean±SD] median	16.86±0.87 16 (15-18)	21.43±1.88 21 (18-29)	14.999	<0.001
Formal education [n(%)]			78.456	<0.001
Illiterate	32 (21.3) ¹	17 (11.3) ¹		
Primary	61 (40.7) ²	18 (12.0) ²		
Secondary	52 (34.7)	51 (34.0)		
Tertiary	5 (3.3) ³	64 (42.7) ³		
Employment status [n(%)]			24.245	<0.001
Employed	11 (7.3)	44 (29.3)		
Unemployed	139 (92.7)	106 (70.7)		
Official Marriage			18.029	<0.001
Present	117 (78.0)	143 (95.3)		
Absent	33 (22.0)	7 (4.7)		
Consanguineous marriage [n(%)]			6.658	0.036
Absent	76 (50.7) ¹	94 (62.7) ¹		
Husband close relative (cousin)	35 (23.3)	34 (22.7)		
Second degree relative	39 (26.0) ²	22 (14.6) ²		
Type of family [n(%)]			29.232	<0.001
Nuclear	66 (44.0)	112 (74.7)		
Extended	84 (56.0)	38 (25.3)		

Table 3. Rates of adverse maternal outcomes

	<20 years n (%)	20-29 years n (%)	Statistics (Z, χ^2)	p value
Preeclampsia	18.7	21.3	32.823	<0.001
Preterm delivery	10.7	10.0	0.000	1.000
PROM	10.7	12.0	0.033	0.855
Oligohydramnios	13.3	34.0	17.732	<0.001
Polyhydramnios	4.7	10.0	2.404	0.121
Placenta previa	5.3	4.0	0.075	0.784
Placental abruption	7.3	3.3	1.651	0.199
Blood incompatibility	24.0	36.0	5.143	0.023
IUGR	20.0	16.7	0.557	0.456
Fetal distress	17.1	27.4	4.453	0.035
Postpartum hemorrhagea	2.7	14.7	12.170	<0.001

^{1,2}p<0.05**Table 4. Rates of adverse perinatal outcomes**

	<20 years n (%)	20-29 years n (%)	Statistics (Z, χ^2)	p value
Mode of delivery			2.368	0.124
Vaginal delivery	65.3	56.7		
C/S	34.7	43.3		
Stillbirth	2.7	2.7	0.000	1.000
Birth weight, g (LBW)	20.0	18.7	0.085	0.770
Physiologic jaundice	47.9	41.1	1.387	0.239
Congenital anomalies	2.7	8.0	3.235	0.072