

Evaluation of adolescent pregnancies: 10-year experience of a hospital in rural Turkey

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Summary

Purpose: To evaluate the characteristics of adolescent pregnancies admitted to our clinic. **Materials and Methods:** This retrospective and descriptive study was performed at Ergani State Hospital from January 2000 to December 2010. This is an outpatient gynecology and obstetrics at government hospital in Southern Eastern Region of Turkey. A total of 15,210 pregnancies were delivered during the study period, of whom 711 of them were adolescent pregnancies. Statistical analyses were carried out using the statistical packages for SPSS 15.0 for Windows (SPSS Inc., Chicago, IL, USA). **Results:** During the study period, of the total of 15,210 deliveries 711 (4.6%) were adolescent pregnancies (age range 14-19 years). The mean age (95% CI) of the patients was 17.90 ± 1.12 (17.82-17.98) years old. Most of the patients were nulliparous ($n = 559$, 78.60%). Mean gestational weeks, fetal birth weight and fetal birth length and 95% CI values were as follows: 37.11 ± 2.53 (36.93-37.30), 3045.73 ± 51.70 (3007.65-3083.79) and 48.68 ± 2.31 (48.51-48.85), respectively. Six hundred and twenty (87.20%) of the patients delivered spontaneously by the vaginal route, while 91 (12.80%) were delivered by cesarean section. Although the age range of the patients was not wide, there was a significant correlation between maternal age, gestational age, fetal birth weight and fetal birth length ($p < .01$). **Conclusion:** According to this study, the ratio of adolescent pregnancies was found to be 4.6% which was lower than other regions of Turkey. The majority of the patients were nulliparous and most delivered spontaneously by the vaginal route. There was a significant correlation between maternal age, gestational age, fetal birth weight and fetal birth length.

Key words: Adolescent pregnancies; Clinical characteristics; Correlation coefficient.

Introduction

Adolescence is described as being age 10-19 years by The World Health Organization (WHO) and 85% of adolescents have been reported to live in developing countries [1]. Adolescent pregnancies are associated with adverse maternal and fetal outcomes such as prematurity, low birth weight, mortality and increased instrumental delivery and cesarean section [2, 3]. Lower socioeconomic and educational status were also reported to be highly associated with adolescent pregnancies [4, 5]. In Turkey, the incidence of adolescent pregnancies was reported as 9% in cities and 11% in rural areas. In the south eastern region of Turkey the incidence was reported to be higher than other areas due to the high ratio of lower educational status [6].

In this study, we report our experience of adolescent pregnancies managed at a government hospital in a rural area of Turkey.

Material and Methods

This retrospective study was performed at Ergani State Hospital, a government hospital in a rural area of Turkey from January 2000 to December 2010. Most of the people living in this region have a lower socio-economic and educational status. Most of the health services are provided free of charge by support of the government. Because this is a retrospective data analysis ethical approval was not required but the study was conducted according to the Declaration of Helsinki. All of the patients were Turkish women with no tobacco, alcohol or drug use.

Maternal age was defined for adolescent pregnancies as between 14 and 19 years. During the study period, a total of 15,210 deliveries were performed at the current clinic. Of these patients 711 (4.6%) were adolescent pregnancies (age range 14-19).

The factors recorded for each study subject were; age, parity, gestational weeks, birth weight, birth length, delivery type, instrumental delivery, still birth and congenital anomalies. Gestational age (weeks) were assessed by ultrasound examination (Schimadzu SDU-1100 color Doppler ultrasound device) or according to last menstrual period, or both.

Statistical analysis

Statistical analyses were carried out using the statistical packages for SPSS 15.0 for Windows (SPSS Inc., Chicago, IL, USA). The means, standard deviations (SD) and 95% confidence interval (CI) were calculated for descriptive variables. Pearson's correlation coefficient was used to calculate the relationships among variables. Frequencies for parity of the cases are presented in Table 2.

Results

During the study period, a total of 15,210 deliveries were performed at the current clinic. Of these patients 711 (4.6%) were adolescent pregnancies with an age range of 14-19 years.

The mean age (95% CI) of the patients was 17.90 ± 1.12 (17.82-17.98) years. Most of the patients were nulliparous ($n = 559$, 78.60%). Mean gestational weeks, fetal birth weight and fetal birth length and 95% CI values follows were as 37.11 ± 2.53 (36.93-37.30), 3045.73 ± 51.70 (3007.65-3083.79) and 48.68 ± 2.31 (48.51-48.85), respectively.

Table 1. — *Demographic and clinical characteristics of the cases.*

Cases	\bar{X}	SD	95% CI
Age (years)	17.90	1.12	17.82-17.98
Parity	1.23	0.48	α
Gestational age (weeks)	37.11	2.53	36.93-37.30
Fetal birth weight (gram)	3045.73	51.70	3007.65-3083.79
Fetal birth length (cm)	48.68	2.31	48.51-48.85
Delivery type*			
Vaginal birth	620 (87.20)		
Cesarean section	91 (12.80)		

*: Data presented as n (%), α : Frequencies of parity are presented in Table 2.

Table 2. — *Frequencies for parity of the patients.*

Valid	Frequency	Percent	Valid percent	Cumulative percent
1.00	559	78.6	78.6	78.6
2.00	138	19.4	19.4	98.0
3.00	11	1.5	1.5	99.6
4.00	3	0.4	0.4	100.0
Total	711	100.0	100.0	

Of the patients 620 (87.20%) delivered spontaneously by the vaginal route, while 91 (12.80%) delivered by cesarean section.

Although the patient age range was not wide, there was a significant correlation between maternal age, gestational age, fetal birth weight and fetal birth length ($p < 0.01$). The correlation coefficient values for these variables were 0.150, 0.174 and 0.81, respectively.

Discussion

Adolescent pregnancy is a major health problem among teenagers. In Western countries studies report a decline in adolescent pregnancies, but there also is a high ratio in America with 750,000 pregnancies each year [7, 8]. Gupta *et al.* [9] reported that the highest ratio for adolescent pregnancies was in Sub-Saharan Africa throughout the world. In Turkey, the incidence of adolescent pregnancies was reported to be 9% in cities and 11% in rural areas. In the south eastern region of Turkey the incidence was reported as to be higher than the other areas due to the high ratio of lower educational status [6].

In this study we evaluated the clinical and demographic characteristics of adolescent pregnancies followed and delivered at our clinic. This is a government supported hospital obstetrics clinic, and most of the health services are provided free of charge; therefore, the socioeconomic and educational status of the patients are typically low. During the study period a total of 711 adolescent pregnancies delivered at our clinic.

Al-Ramahi and Saleh [10] reported their experience of adolescent pregnancies and compared them with reproductive age women. They found that the gravidity, parity and the incidence of abortions were significantly lower in the adolescent pregnancy group as most of them were primigravidas. Most of our patients were nulliparous patients as in Al-Ramahi and Saleh's study with a frequency of 78.6%.

Lao *et al.* [3] reported in their study that adolescent pregnancies have a higher incidence of preterm labor whereas in contrast Raatikainen *et al.* [2] found no evidence of increased risk for preterm labor. Al-Ramahi *et al.* [10] found an increased incidence of preterm delivery among women with adolescent pregnancies when compared with reproductive age women. In the present study the ratio of preterm delivery was 26.16% ($n = 186$).

Previous studies reported that being at an adolescent maternal age was associated with decreased risk of cesarean section [3, 11] and increased incidence of spontaneous vaginal delivery [12, 13]. In our study we also found the incidence of spontaneous delivery type higher than the cesarean section rate.

To the best of our knowledge, there are no studies evaluating the correlation coefficient in this pregnancy age. According to Pearson's correlation coefficient method we found a significant relation between maternal age when compared with gestational age, fetal birth weight and fetal birth length. We found the coefficients for these variables as 0.150, 0.174 and 0.81, respectively.

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