

Pregnancy outcome of parturients below 16 years of age

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ABSTRACT

Objective: To compare the pregnancy outcome of parturients with less than 16 years of age to parturients with 24-28 years of age.

Methods: The hospital admission charts of 100 women aged below 16 as the study group and one-hundred women aged 24-28 years as the control group who delivered in Zeinabieh Hospital affiliated to Shiraz University of Medical Sciences, Shiraz, Iran since March 2000 to February 2001 were retrospectively studied.

Results: The mean age for the study group was 14.5 ± 1.4 years and the mean age of the control group was 26.5 ± 1.8 years. Preterm birth happened in 18% of the study group compared to 10% of the control group ($p=0.15$). The mean birth weight was 2701 grams for the study group and 2776 grams for the control group. Fifteen

percent of the newborns in the study group had low birth weights compared to 16% in the control group ($p=1$). Five percent of the neonates in the study group had 5-minute Apgar scores of less than 7 compared to 7% in the control group ($p=0.77$). Preeclampsia was not seen in the study group but was diagnosed in 2% of females in control group ($p=0.49$). In 3% of females in the study group cesarean delivery was performed compared to 9% in the control group ($p=0.25$). No maternal mortality was seen in either group.

Conclusion: There was no significant difference in the obstetric and neonatal outcome of parturients younger than 16 years compared to the parturients 24-28 years of age.

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Teenage pregnancy is recognized primarily as a sociological problem with adverse medical consequences. Most reports of birth to teenagers indicate an increased risk of developing at least some complications of pregnancy and poor neonatal outcome, especially preterm delivery and low birth weight infants.¹ There are conflicting reports on the incidence of hypertensive diseases of pregnancy in adolescents compared to older women. Most studies from North America report an increased incidence of hypertensive disorders especially in young adolescents.² However, many studies from Europe,³ South Africa⁴ and Saudi Arabia⁵ report no increased incidence. Some clinical studies found increased

perinatal mortality rates in infants of adolescent mothers compared to infants of older mothers.⁶ However, there are other reports that found no difference.⁷ In addition, there are studies reporting increased rates of maternal mortality and morbidity especially in younger adolescents less than 15 years. However, this concept has not been proved by other studies.⁸ Even though, it has long been a common belief that teenage mothers are more likely to experience fetopelvic disproportion and will need cesarean delivery as a consequence of incomplete development of the bony pelvis, there are clinical studies demonstrating no increased risk for operative delivery.⁹⁻¹⁰

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These conflicting reports encouraged us to perform this comparative investigation in our center. We compared the pregnancy outcome of very young mothers with an age less than 16 years to 24-28 year-old mothers.

Methods. The hospital admission charts of 100 women aged less than 16 years and 100 women aged between 24-28 years, who delivered in Zeinabieh Hospital affiliated to Shiraz University of Medical Sciences, Shiraz, Iran since March 2000 to February 2001 were retrospectively studied. All of the mothers were primigravidas with single tone pregnancies without any underlying disease. Preeclampsia was diagnosed when blood pressure reached 140/90 mm Hg or greater combined with proteinuria as 300 mg or more of urinary protein per 24 hours or persistent 30 mg/dL (1+dipstick) in random urine samples.¹¹ Preterm birth was defined when an infant was delivered prior to completion of 37 weeks of gestation¹² and low birth weight was defined as a live born infant weighing 2500 grams or less.¹³ A 5-minute Apgar score of 7-10 was considered normal.¹⁴ If a 5-minute Apgar score was less than 7, it was considered as a poor neonatal outcome. The method of delivery, either normal vaginal delivery or cesarean section was evaluated in both groups.

Statistical analyses were performed by chi-square and Fisher's exact test and *p* values <0.05 were considered significant.

Results. One hundred parturients below 16 years (with an average age of 14.5 ± 1.4 years) were considered as the study group and were compared to 100 parturients aging between 24-28 years (with an average age of 26.5 ± 1.8 years) as the control group. Preterm birth occurred in 18% of the study group as compared to 10% in the control group. However, the incidence of preterm birth was almost 2-folds more frequent among the teenage mothers. The statistical analysis using chi-square test showed no valuable significance (*p*=0.15). The mean neonatal birth weight was 2701 grams in the study group and 2776 grams in the control group. The difference of 75 grams observed in the mean birth weights of the 2 groups was not considered statistically significant. Low birth weight infants were delivered by 15% of females in the study group as compared to 16% in the control group (*p*=1). Five percent of the neonates in the study group had 5-minute Apgar scores of less than 7 as compared to 7% in the control group (*p*=0.77).

In this survey, preeclampsia was not seen in the study group but was diagnosed in 2% of pregnancies in the control group. Fisher's exact test showed no significant difference (*p*=0.49). Cesarean section was performed in 3% of the study group

compared to 9% in the control group. Even though operative delivery was 3-folds more frequent in the control group, Fisher's exact test showed no meaningful difference (*p*=0.25). No maternal mortality was seen in the study or control group.

Discussion. Teenage birth is still an obstetric risk factor.¹⁵ In many developed and developing countries, adolescent pregnancies are an important health issue due to physical and social concern.⁸ Reproductive health programs are against adolescent pregnancy and teenage marriage, obstetrical risks for older teenagers 16 to 18 years of age had been found to be associated with poverty, inadequate nutrition or a poor health before pregnancy, rather than maternal age itself.¹⁶ However, it is stated that younger age confers an increased risk of adverse pregnancy outcome that is intrinsic to maternal youth in 11-15 years old mothers.¹⁷ Some of these complications may be related to low gynecological age, namely, chronological age minus age at menarche. If the gynecological age is less than 2 years, the adolescent is considered to be at increased risk of preterm labor and obstructed labor,¹⁸ which suggests the influence of immaturity of the genital organs. Even though our study showed no statistically significant difference between the 2 groups with respect to preeclampsia, fetal birth weight, maternal and perinatal mortalities, 2 points are notable, firstly, the incidence of preterm birth was almost 2-folds more frequent in the study group and secondly, the incidence of cesarean sections were 3-folds more frequent among the control group. Maybe if our sample size were larger, the values would become meaningful. Most studies report that complications in the course of labor and delivery in adolescents will occur less often than in older women¹⁹ and our study confirms this point.

The pregnancy outcome of very young mothers in our study is almost comparable to older mothers. It seems that, the differences observed in different reports may be partially due to genetic and racial characteristics influencing the shape of the pelvis as well as the age of menarche. The mean age of menarche is an important factor in health planning and is known to be influenced by genetic factors, environmental conditions, body stature, socio-economic status, and level of education. The mean age of menarche in our city is 12.91 ± 1.23 years.²⁰ The mean age of our study group was 14.5 years with the mean gynecological age of almost 2 years, which may have influenced the good outcome in our study group.

In addition, we believe that there are regional risk factors influencing teenage pregnancy outcomes originating from the social and cultural status of the study area. In contrast to western countries that 95% of teenage pregnancies are believed to be

unintended,²¹ traditional beliefs in our country, causes early marriage and pregnancy especially in rural areas. All of our patients were married and benefited from complete familial support during pregnancy. Smoking and drug abuses among women are not common in our society. Also free health center services, which are available for perinatal care, all over the country, had caused acceptable antenatal visits as well as nutritional advice and free supplementations.

In conclusion, no significant difference was found in the obstetric and neonatal outcome of mothers younger than 16 years compared to the mothers 24-28 years of age.

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