Teenage Pregnancy

Ratib A. Mesleh, FRCOG, *Amal S. Al-Aql,* MBBS, *Ahmad M. Kurdi,* FACHARZT.

ABSTRACT

Objective: To study the frequency of teenage pregnancy and its complications as compared to controls.

Methods: A retrospective case record analysis of 2522 pregnancies, aged below 25 years was carried out, in the Department of Obstetrics, Riyadh Armed Forces Hospital during the period 1 January 1999 to 31st December 1999.

Results: The incidence of teenage pregnancy for 1999 was 6%. Three hundred and eighty five (76%) were carrying their first pregnancy while 42 (8%) mothers had 2 or more previous pregnancies and deliveries. The birth weight was less than 2.5 kg in 109 (21.5%) adolescents, as compared to 187 (9%) of the controls. The rate of instrumental deliveries and cesarean section in adolescents was 9% and 6% as compared to 5% and 10% in the controls. Seventy nine (16%) of adolescents delivered prematurely as compared to 216 (11%) of the controls. Forty seven (9%) of adolescents were unbooked compared to 133 (7%) who were controlled. The incidence of pre-eclampsia and preterm delivery in adolescents was 2% and 16% as compared to 1% and 11% in the controls.

Conclusion: Teenage pregnancy, which showed a steady decline from 18% in 1979 to 6% in 1999 was associated with a significantly higher risk of preterm delivery, pre-eclampsia, low birth weight and instrumental delivery.

Keywords: Teenage pregnancy.

Saudi Med J 2001; Vol. 22 (10): 864-867

Adolescent pregnancy occurs in all societies, but the level of teenage pregnancy and childbearing varies from country to country. The reproductive pattern in the Kingdom of Saudi Arabia is characterized by pregnancies starting at an early age, by high fertility throughout the reproductive span, by low educational attainment of the mother and by poor coverage by antenatal services.[1] Low maternal age has been found to increase the risk of a number of pregnancy complications, preterm delivery, low birth-weight, and elevated risk of prenatal and infant mortality.[2] Adolescents and their children represent a population with an increased risk for medical, educational and psychosocial problems.[3] Women who begin childbearing in their teenage years face a variety of problems during pregnancy and in later life. They have higher rates of poor obstetric and neonatal outcome, lower educational achievement, higher rates of poverty and welfare dependence. They are less responsive to their infants and may be more prone to child abuse. Their children perform less well, than children of older mothers on intelligence and vocabulary testing, and are more likely to have behavioral problems and fail at school.[4] Adequate child spacing is considered a beneficial factor for the health of mother and child. This is increasingly realized in the Western countries. It is also observed in some other countries as a measure to control population growth. The Kingdom of Saudi Arabia is one of the countries where family planning is not usually practiced, resulting in a high birth rate. The total annual deliveries at the Riyadh Armed Forces Hospital (RAFH), Riyadh, Kingdom of Saudi Arabia have increased steadily from 1377 deliveries in 1979 compared to 7860 deliveries in 1999. Like other pregnancies, teenage pregnancies, need not end, in the birth of a baby. There may be a miscarriage or the pregnancy may be terminated by abortion.[5] In the United States of America (USA), abortion rather than childbearing is more frequently the option of choice.

From the Department of Obstetrics and Gynecology, Riyadh Armed Forces Hospital, Riyadh, Kingdom of Saudi Arabia.

Received 28th February 2001. Accepted for publication in final form 3rd June 2001.

Address correspondence and reprint request to: Dr. Ratib A. Mesleh, Department of Obstetrics and Gynecology, Riyadh Armed Forces Hospital, PO Box 7897, Riyadh 11159, Kingdom of Saudi Arabia. Tel. +966 (1) 4777714 Ext. 5461. Fax. +966 (1) 4777714 Ext. 4013.

In suburban adolescents 92% of pregnant teenagers resolve their pregnancy by abortion rather than childbearing.[6] In Islamic countries termination of pregnancy is not permitted, and a sexual relationship outside marriage is illegal, thus teenage pregnancy in this society is planned and mothers opt to continue with their pregnancy.[5,6] The aim of this study was to investigate the obstetric outcomes in teenagers who delivered at RAFH during the year 1999 and to compare their obstetric performance with the controls of those aged 20-24 years of age, to identify whether these teenagers have a poorer obstetric outcome.

Methods. The RAFH is a tertiary care hospital which was opened in late 1978. It cares for all employees of the Armed Forces, military and civilian and their families. The total annual deliveries increased steadily from 1377 deliveries in 1979 compared to 7860 deliveries in 1999. Cesarean section has increased from 7% in 1979 to 13% in 1999, forceps deliveries have decreased from 25% in 1979 to 0.5% in 1999, and ventouse deliveries have increased from 0% in 1979 to 4% in 1999.[7] This was a retrospective case record analysis of all mothers delivered aged below 25 years of age at RAFH between January 1st 1999 and December 31st 1999. The data included age, parity, gestation at delivery, mode of delivery, birth weight, apgar score, perinatal deaths, and whether they received antenatal care or not. The data was divided into adolescents aged below 20 years of age and controls aged 20-24 years of age. Chi square was used for statistical analysis.

Results. During the study period, there were 507 adolescent mothers, and 2015 mothers aged 20-24 years used as controls. When looking at the age distribution of the adolescent mothers, 21 (4%) were aged 15 years or less, 33 (6.5%) aged 16 years, 93 (18%) aged 17 years, 126 (25%) aged 18 years and 234 (46%) aged 19 years. Seventy six percent of adolescent mothers were carrying their first pregnancy while 8% had 2 or more previous pregnancies and deliveries. The birth weight was 2.5 kg or less in 109 (21.5%) of adolescents as compared to 187 (9%) of the control, while 398 (78%) of adolescents had birth weight of over 2.5 kg as compared to 1828 (91%) of the controls. These differences were statistically significant. When looking at the mode of delivery, 47 (9%) of adolescents had instrumental delivery (forceps or ventouse) as compared to 106 (5%) of the controls. This difference was statistically significant. The cesarean section was 6% in the teenagers as compared to 10% of the controls. These differences were statistically significant. The gestation at delivery was 28 weeks or less in 16 (3%) of adolescents as compared to 27 (1%) of the controls.

Table 1 - Maternal complication.

Complication	Adolescents n=507 n (%)	Controls n=2015 n (%)	p-value
Gestational diabetes	0 (0)	18 (1)	-
Pre-eclampsia	9 (2)	22 (1)	0.05
Preterm delivery	79 (16)	216 (11)	<0.01
Cholestatic jaundice	0 (0)	2 (0)	-
Manual removal of placenta	0 (0)	8 (0)	-
Postpartum hemorrhage	0 (0)	18 (1)	-
Cervial tear	0 (0)	2 (0)	-
Third degree perineal tear	3 (0.5)	7 (0)	-
n=number			

Seventy nine (16%) of adolescents were premature as compared to 216 (11%) of the controls (Table 1). Forty seven (9%) adolescents did not receive any antenatal care as compared to 133 (7%) controls. These differences were statistically significant. The perinatal mortality for adolescents was 13.8 as compared to 17.4 per thousand births for controls. Adolescent pregnancies at the RAFH showed a steady decline over the last 20 years from 18% in 1979 to 6% in 1999. Those delivered aged between 20-24 years showed a slight drop from 28.5% in 1979 to 26% in 1999. Table 1 shows the maternal complications in adolescents and controls.

Discussion. While teenage pregnancies emerged as a national social problem in the 1970s in the developed countries, for its medical and social implications, this did not appear to be a problem in conservative Islamic countries where teenage mothers are married and receiving full social, financial and emotional support. However this support did not protect the teenage mother from the obstetric complications pertaining to young age and incompletely developed mothers either physically or motherhood wise. The prevalence of repeat adolescent pregnancies in the USA averaged 30% during the first, and 40%-50% in the 2nd post partum year.[1] Younger age at the time of first conception and low educational achievement has also been proposed as a risk factor for rapid 2nd conception.[4] Our study shows that 24% of teenagers are multiparous as compared to 10.5% in Rotunda Hospital, Dublin, Ireland.[8] One of the factors that has been noted to predict poorer medical, financial, educational and psychological outcomes among these young women

is rapid repeat pregnancy within 24 months of resolution of the first.[4] The teenage fertility rate in Sweden is now the lowest in Europe. This decline can be seen in the context of major reforms whereby the school sex-education curriculum was revised, contraception services were improved, and abortion was provided free and on demand.[9] The USA adolescent birthrate in 1990 for females aged 15-19 years was 59.9 births/1000 females. This has decreased significantly to 51.5 births/1000 females in 1998. Being poor and black have been identified as major risk factors for adolescent pregnancy.[6,10] Over one million adolescents between the ages of 15-19 years become pregnant each year in the USA. More than half of these become mothers.[3,4,6] In 1998 the teenage rate in Scotland was 44.4 per 1000 teenagers which is a decrease from the early 1990's rate of nearly 50 per 1000.[5] Although a continued and marked decrease in the total number of deliveries has been noted in Hungary, the incidence of adolescent pregnancies is increasing.[11] Figures were not available from Islamic countries such as the Kingdom of Saudi Arabia, but hospital based statistics showed that teenage pregnancy at RAFH showed a steady decline over the last 20 years from 18% in 1979 to 6% in 1999 .

More than half the women in rural Asia and North Africa are married by the age of 18 and birth to teenage women is 11% of all births.[12] Teenagers who delay 2nd pregnancy are more motivated and may be more likely to return to school later. Teens with no plan to return to school, or who had a low school aspiration before first pregnancy had a higher rate of rapid repeat 2nd pregnancy.[4] Postponement of pregnancy for several years through educational programs, improved access to contraception and education programs for parents and their families can have personal, cultural, economic and financial benefits. Teenagers who are not interested in avoiding pregnancy or postponing it should be prescribed prenatal vitamins and folic acid.[10] The risk of cesarean section in our study was observed to increase from a rate of 0% in the 15 year old nulliparous to 7% in the 19 years old. The incidence of cesarean section for the general obstetric population for 1999 was 13% as compared to 6% for adolescents. The incidence of instrumental delivery in teenagers was 9%, as compared to 4.5% for the general obstetric population.[7] The increased risk of neonatal and postneonatal mortality among young teenagers, may be related to biological and physical immaturity as reflected by the maternal height. Women in their early teenage years are still growing and likely to be more physically immature than women in their twenties. In their early teenage years, they compete with their unborn children for limited energy and nutrients needed for adequate growth. Teenagers are lighter and shorter than their non-teenage peers.[12] Nature, in an attempt to achieve a successful vaginal delivery in a teenage woman, would initiate labor when the fetus has reached a maximal size relative to that of the mother, and this relationship would be dependent more on the physical maturity and development of the mother than on the actual gestational age.[13] There was an increased risk of prematurity in the teenage population (16% vs 11%), when compared with a group of matched controls. Low pregnant weight and height are associated with a high risk of low birthweight babies, and therefore high mortality risks.[2,12,13] Low-birth weight births were related to preterm labor and not due to intrauterine growth retardation.[3] Multiple pregnancies during adolescence clearly represent a risk for having low birthweight infants. This risk is more related to social issues as interpregnancy intervals and economic status. If these factors are excluded, maternal age does not have a significant impact on the weight of the infant.[3] The increased risk of adverse pregnancy outcomes associated with low maternal age has largely been attributed to poor socioeconomic conditions among teenagers.[14] Improvement in socioeconomic situation and antenatal and intrapartum care has reduced the perinatal mortality.[2,8,11,13] Teenage mothers were less likely to receive prenatal care compared with older mothers, and this contributed to both the incidence of prematurity and neonatal and post neonatal mortality rates. An improved prenatal care has decreased the incidences of preterm delivery and low birth weight infants.[3,6] Nine percent of adolescents did not receive any antenatal care as compared to 7% of the controls. This rate was similar to 10% reported for the general obstetric population.[7] Two thirds (66%) of adolescent mothers attended prenatal care regularly, but 18% of them never attended, compared to 1% in the general Hungarian population.[4] Teenage pregnant women presenting for termination of pregnancy had statistically significant higher levels of education, compared to those presenting for antenatal care.[15] In Western and many developing countries, apart from unwanted or unplanned pregnancy, there are other consequences of sex which teenagers may be ill-prepared for. Guilt, the risk of sexually-transmitted infection through unprotected sex, and emotional and psychological stress. Teenage pregnancy is still too often associated with infants of low birthweight, preterm labor, premature rupture of membranes, maternal anemia, gestational diabetes, pre-eclampsia and adverse perinatal outcome.[10,11] Gestational diabetes and pre-eclampsia occurred significantly more frequently in pregnant adolescents (12% vs 3%) than in the general Hungarian pregnant population 12% vs 4%.[11] In our study 2% of adolescents had pre-eclampsia as compared to 1% of the controls. Adolescent birthrate in the industrialized and developing countries over the past 25 years is in substantial decline. The reasons for their general trend are: increased importance of education,

increased motivation of young people to achieve higher levels of education and training, and greater centrality of goals other than motherhood and family formation for young women.[16]

In conclusion, teenage pregnancy in the Kingdom of Saudi Arabia which showed a steady decline from 18% in 1979 to 6% in 1999 was associated with a higher risk of preterm delivery, pre-eclampsia, low birthweight and instrumental delivery as compared to controls.

References

1. Hashim TJ, Anokute CC. Imbalances in perinatal mortality in health regions of Saudi Arabia. Saudi Med J 1994; 15: 376-379.
2. Dlausson PO, Cnattingius S, Hagland B. Teenage pregnancies and risk of late fetal death and infant mortality. Br J Obstet Gynaecol 1999; 106: 116-121.
3. Kortagal UR. Newborn consequences of teenage pregnancies. Pediatr Ann 1993; 22: 127-132.
4. Rigsby DC, Macones GA, Driscoll DA. Risk factors for rapid repeat pregnancy among adolescent mothers: A review of the literature. J Pediatr Adolesc Gynecol 1998; 11: 115-126.
5. Kohli HS. Teenage pregnancies in Scotland. The National Medical Journal of India 2000; 13: 39-40.
6. Morgan C, Chaper GN, Fisher M. Psychosocial variables associated with teenage pregnancy. Adolescence 1995; 30: 277-289.
7. Mesleh RA, Kurdi AM, Faqeera F. Clinical Report for the year 1999. Riyadh: Riyadh Armed Forces Hospital; 2000.
8. Connolly G, Kennelly S, Conroy R, Byrne P. Teenage pregnancy in the Rotunda Hospital. Ir Med J 1998, 91: 209-212.
9. Santow G, Bracher M. Explaining trends in teenage child bearing in Sweden. Stud Fam Plan 1999; 30: 169-182.
10. Bacon JL. Adolescent sexuality and pregnancy. Current Opin ion in Obstetrics & Gynaecology 2000; 12: 345-347.
11. Orvos H, Nyirati I, Hajdu J, Pal A, Nyavy T, Kovacs L. Is adolescent pregnancy associated with adverse perinatal outcome? J Perinat Med 1999; 27: 199-203.
12. Alam N. Teenage motherhood and infant mortality in Bangladesh: maternal age-dependent effect of parity one. J Biosoc Sci 2000; 32: 229-236.
13. Lao TT, Ho LF. Relationship between preterm delivery and maternal height in teenage pregnancies. Hum Reprod 2000; 15: 463-468.
14. Plouffe Jr L, White EW. Adolescent obstetrics and gynaecology: children having children-can it be controlled? Current Opinion Obstetrics & Gynaecology1996; 8: 335-338.
15. Henderson LR. A survey of teenage pregnant women and their male partners in the Grampian region. Br J Fam Plann 1999; 25: 90-92.
16. Singh S, Darroch JE. Adolescent pregnancy and childbearing: levels and trends in developed countries. Fam Plann Perspect 2000; 32: 14-23.