

Teenagers obstetric performance

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ABSTRACT

Objective: To study the pregnancy outcome in teenage primigravida women admitted and delivered in our unit between April 1997 and March 1998, and to compare the outcome with other primigravida above 20 years old.

Methods: Data was collected from primigravidae in respect of age, last menstrual period, history of booking at Primary Health Center and complications of pregnancies were identified. The process of labor and delivery were monitored and the outcome recorded.

Results: During the period of study, 2,650 women delivered in the unit, 171 (6%) were primigravida, out of which 116 (68%) were teenagers, ages between 13 and 19 years old, 55 (32%) were above 20 years of age. All the primigravidas were married and therefore had their husband and parental support. Forty three percent of the teenagers plan to return to school after delivery. The length of the 2nd stage of labor (67.7 minutes) in the young teenagers aged 13 to 15 years was significantly longer than of the older teenagers 16 to 19 years old and that of the control group ages above 20 years old, $P < 0.0001$. The mean birth weight (2.45 kgm) in the younger teenagers were also lower than that of the older

teenagers and the control group (3 kgm and 3.25 kgm) $P < 0.0001$. There was no significant difference between the teenagers ages 13 to 19 years old and the control group regarding normal vagina delivery, lower segment cesarean, ventouse delivery, number of anemic patients and the mean birth weight as shown by the P-values. There was no significant difference in the numbers and types of medical complications identified between the teenagers and the control group.

Conclusion: The younger teenage group (13 to 15 years) has been identified as the high-risk group in this study but there was no significant difference in the pregnancy outcome of the teenagers (13 to 19 years old) in general compared with the control group. Attention must therefore be turned to the young teenagers pregnancy, labor and delivery. To avoid poor outcome in this age group, age at first pregnancy should be encouraged from 16 years and above.

Keywords: Teenage primigravida, young teenager, older teenagers pregnancy outcome.

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Much attention has been paid to pregnancy in the teenagers simply because of their youthful age or due to the facts that they have always been termed as a high-risk group. In many parts of the world, especially in the developed countries, teenage pregnancy has a lot of socio-economic and emotional consequences.¹ Among many identifiable factors contributing to the high risk of the teenage pregnancies are early menarche, early onset of coital activities, early marriage, over powering effect of the

partners, inadequate parental support, single parent factors, lack of education, poor socio-economic background and unemployment.¹ In the Western world, most teenagers become pregnant outside a stable relationship.²

In Muhayl the socio-cultural and religious discipline makes teenage pregnancy different from the western world. Muhayl General Hospital (MGH) is the major health care unit in the area, with 21 primary health care centers (PHCC) under its health

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Table 1 - Analysis of teenager pregnancy outcome.

Age group (years)	Total n (%)	PIH	DM	PL	FD	AN	Babies weight (kg)	NVD (%)	VD	LSCS	Length of 2nd stage of labor (minutes)
13-15	28 (24)	2	-	3	2	9	2.2-2.7 m=2.45±0.301	11 (9)	11 (9)	6 (5)	67.5
16-19	88 (76)	6	-	8	6	20	2.5-3.5 m=3 sd=3±0.25	68 (59)	8 (7)	12 (10)	55
20 & above	55 (32)	1	-	2	2	15	3.25 sd=3.25±0.375	41 (74.5)	9 (16)	8 (14.5)	48.75

m-mean, sd-standard deviation, PIH-pregnancy induced hypertension, DM-diabetes mellitus, PL-preterm labor, FD-fetal distress, AN-anemia, NVD-normal vaginal delivery, VD-ventouse delivery, LSCS-lower segment cesarean section.

coverage. The shared care antenatal system was used between the PHCC and the MGH, for example, patients are booked for antenatal care both at PHCC and MGH, but they have regular antenatal follow-up at PHCC, and are only referred to MGH if any pregnancy complications were identified. The aim of this study is to observe the pregnancy outcome and any complications in the teenage primigravidae and to compare with the control group who are 20 years and above.

Methods. The study was carried out at Muhayl General Hospital Obstetrics and Gynecological unit from April 1997 through March 1998. The teenagers ranged between 13 to 19 years of age at booking or at delivery and all primigravida seen at MGH were included in the study, using the ones above 20 years of age as the control. Data collected from each patient included age, last menstrual period (LMP) and antenatal booking status at PHCC. Others are relative accompanying the patient, history of

schooling, and if the patient will be returning to school after delivery. The other criteria included gestational age at booking or at delivery, the mode of delivery and indication for operative intervention, the length of the 2nd stage of labor, weight of the baby and the hemoglobin level. The gestational age was determined on the basis of the LMP and confirmed with ultrasound scan or by ultrasound alone if the LMP was not known. Most of the patients were booked, attended clinics regularly, were accompanied by their husbands or parents and almost all of them came from Muhayl town and the surrounding communities. The patients were seen regularly at PHCC and were referred to MGH when necessary. At the first visit, patients were weighed, blood pressure checked, and physical examination carried out. The pregnancy was assessed for any complications and the baseline urine and blood tests were carried out. The laboratory investigations included, complete blood count, blood grouping, random blood sugar, toxoplasma and brucella screening, urine analysis and blood sugar. The onset

Table 2 - Indications for cesarean section.

Indication	Age groups (years)		
	13-15 (n=6)	16-19 (n=12)	20 & above (n=8)
Breech	4	4	4
Failure to progress due to CPD	2	6	2
Eclampsia	-	1	-
Twins	-	1	-
Fetal Distress	-	-	2

CPD-cephalopelvic disproportion

Table 3 - Analysis of pregnancy outcome by age groups.

Indication	Teenagers n=116,		Control group	
	Age 13-15 (%)	Age 16-19 (%)	20 & above (%)	P-value (%)
Total primigravida (171)	28 (16)	88 (51)	55 (32)	-
NVD	11 (39)	68 (77)	41 (74.5)	P<0.0005
VD	11 (39)	8 (9)	9 (16)	P<0.0008
LSCS	6 (21)	12 (14)	8 (14.5)	NS, X ² =1.03
Asd (LSCS + VD)	18 (64)	20 (23)	17 (31)	P<0.0002
Mean length of 2nd stage in minutes	67.5+/-8.3	55+/-7.11	48.7+/-3.4	P<0.0001
MBW	2.45 kgm +/-0.301	3 kgm +/-0.25	3.25 kgm +/-0.375	P<0.0001
Mean Hb. Level (MHL)	9gm/dl	10.75 gm/dl	11.5gm/dl	P<0.0001
Ap (Hb > 10 gm)	9 (32)	20 (23)	15 (27)	NS, X ² =1.09

NVD-Normal vaginal delivery, VD-Ventouse delivery, LSCS-Lower segment cesarean section, ASD-Assisted delivery, MBW-Mean birth weight, MHL-Mean hemoglobin level, AP-anemic patients, NS-Non significant, Hb-hemoglobin.

of labor was determined by cervical dilatation of 3 cm or more with regular uterine contractions. The duration of the 2nd stage of labor was the interval between the first documentation of full cervical dilatation and the delivery of the baby. Labor and delivery records included, the length of the 2nd stage of labor, mode of delivery, indication for intervention

delivery, maternal and newborn outcomes. The complications of the pregnancy were identified and the patient was classified as anemic if her hemoglobin level was less than 10 mg/dl according to the World Health Organization definition.³ Preterm labor was defined as uterine contractions associated with documented cervical changes at less

Table 4 - Comparison of pregnancy outcome of teenagers versus control group (20 years & above).

Indication	Age groups (years)		
	Age 13-19 (%)	20 & above	P-value
Total Primigravida (171)	116 (68)	55 (32)	-
Normal vagina delivery (NVD)	79 (68)	41 (74.5)	X ² =0.74, NS
LSCS	18 (15.5)	8 (14.5)	X ² =0.03, NS
Ventouse delivery	19 (16)	9 (16)	X ² =0, NS
Total No. of assisted delivery	38 (33)	17 (31)	X ² =0.06, NS
Mean length of 2nd stage in minutes	58.02+/-7.11	48.7+/-3.4	T=6.2657, S
Mean birth weight in kgm	2.867+/-0.25	3.25+/-0.378kgm	T=0.3010, NS
Mean Hb. level	10.328+/-2.192gm/dl	11.5 gm/dl	T=2.1631, S
Anemic patients ie. Hb > 10gm/dl	29 (25)	15 (27)	X ² =0.10, NS

NVD-Normal vaginal delivery, LSCS-Lower segment cesarean section, NS-Non significant, Hb-hemoglobin, S-Significant

than 37 completed weeks of gestation. Diabetes was confirmed by known history of diabetes or by routine random or fasting blood sugar and confirmed by the standard glucose tolerance test. A patient was confirmed to have pregnancy induced hypertension (PIH) if her blood pressure on 2 consecutive occasions of 2 hours interval was 140/90 and above or pre-eclampsia if this blood pressure was associated with proteinuria and or edema of the ankle.

Results. During the study period, the total deliveries were 2,650 out of which 171 (6%) were primigravidae, 116 (4%) were teenagers aged between 13 to 19 years of age. The modes of delivery were normal vaginal delivery (NVD) ventouse assisted delivery (VD), and cesarean section, (LSCS) as shown in Table 1. In the 12 month period of study, 28 (16%) young teenagers between 13 and 15 years of age were delivered, 88 (51%) of the older teenagers ages between 16 and 19 years were delivered. Between the ages of 20 years and above, 55 (32%) were delivered. The intent of the study was mainly on the teenagers but those primigravidas above 20 years of age were included as control group. The analysis of the outcome of the teenage pregnancy and the control were as shown in Table 1. Out of the 28 young teenagers, 11 (39%) had NVD and 6 (21%) had LSCS. Among the 88 older teenagers, 68 (77%) had NVD, 8 (9%) had VD and 12 (14%) had LSCS. Out of 55 primigravidas above 20 years old used as control, 41 (74.5%) had NVD, 9 (16%) had VD and 8 (14.5%) had LSCS. The indications for LSCS for each age group was as shown in Table 2. The mean length of the 2nd stage of labor for the younger teenagers was 67.5 minutes (+/-8.3), that of the older teenagers was 55 minutes (+/-7.11), while that of the control group was 48.75 minutes (+/-3.4) as shown in Table 3. The mean birth weight (MBW) for the younger teenagers was 2.45 kgm (+/-0.301), that of the older teenagers was 3 kgm (+/-0.25) and that of the control group was 3.25 kgm (+/-0.375). None of the groups had diabetes. Pregnancy induced hypertension occurred in 8 out of 116 teenagers while only 2 (4%) of the 55 of the control group had fetal distress. Twenty nine (25%) of the teenagers were anemic while 15 (27%) of the control group were anemic. All the patients under review were married and therefore their pregnancy was planned and accepted in the family. About 50 (43%) of the 116 teenagers planned to return to school after delivery, while 10 (18%) of 55 of the control group planned to return to school. Table 4 shows a comparison of the pregnancy outcome of the teenagers compared to the control group (ages 20 and above).

Discussion. The trend of teenage pregnancy in Saudi Arabia is quite different from the Western

countries, as the teenage mothers are married, their pregnancies are usually planned and wanted with full family support.⁴ This is in contrast with the trend in the western world where the majority of the pregnancies are unwanted and unplanned among the unmarried teenager.² The strict Islamic practice has controlled promiscuity in the society and more so among the teenagers. In this study all the primigravida had a stable marriage relationship and had their husband and parental support, and therefore the pregnancy was accepted in the family. The pregnancy was not concealed and the patients were able to book and attend antenatal clinics regularly. This probably contributed to early identification of any pregnancy complications, which were then treated promptly. This most probably contributed to the low level of pregnancy complications and the outcome of teenage pregnancy in this study. This is in contrast to the findings in other studies⁵⁻⁷ where significant complications were identified. Pregnancy induced hypertension, pre-eclampsia, diabetes and preterm delivery were not common complications identified as shown in the study. Anemia was the most commonly found complication, but it was not different from the prevalence in the general population of this area and Saudi Arabia in general as identified by Mohsen et al.⁸ The number of anemic patients though common in the teenage group was not statistically significant compared with the control group (X^2 test $p=0.10$). The mean hemoglobin (Hb) level was however lower in the young teenagers than that of the control group $F=12.44$, $P<0.0001$. Operative delivery was expected to be significantly increased among this age group due to their less developed birth passage but only 18 (15.5%) of 116 teenagers had LSCS and compared with the control group 8 (14.5%) of the 55 had LSCS. There was no statistical significant difference between the 2 groups as X^2 test $P=0.03$. The percentage of NVD among the 13 to 15 years old teenagers (39%) was significantly lower than that of the 16 to 19 years old teenagers and the control group, 77% and 74.5% where $X^2_{(2)}=15.35$ ($P<0.0005$). Ventouse assisted delivery (39%) was also higher in the 13 to 15 years old than in the 16 to 19 years old and the control groups with 9% and 16%, $X^2_{(2)}=14.14$ ($P<0.0008$). The mean length of the 2nd stage (in minutes) in the young teenagers (67.5 +/- 8.3 minutes) was significantly longer than that of the older age group and the control group, where $F=83.63$ ($P<0.0001$). The mean birth weight was significantly lower in the young teenagers (2.45 +/- 0.301 kgm) than those of the older teenagers ages 16 to 19 years and control group, 3 kgm (=/-0.25) and 3.25 kg (=/-0.378), where $F=65.45$ ($P<0.0001$).

The pregnancy outcome for the young teenagers was similar to the findings among the middle school age mothers by Satin et al,⁹ but in contrast to the study by Lubarsky et al,¹⁰ who found no abnormal

pregnancy outcome among the nulliparas under 15 years of age. The mean length of 2nd stage was significantly higher in the teenage groups (58.02 \pm 7.11 minutes) than that in the control group (48.7 \pm 3.9 minutes), where $T=6.2657$, ($P<0.001$). The mean Hb level was lower in the teenagers (10.33 \pm 2.19 gm/dl) compared to the control group (11.5 \pm 2.1 gm/dl) where $T=2.1631$ ($P<0.05$). There was no significant difference between the teenagers and the control group regarding other studied variable i.e. NVD, LSCS, VD, ASD, AP, MBW as shown by the P-values. The provision of primary health care system in this community and its utilization by the expectant teenagers mothers contributed to the good outcome of the teenage pregnancies in this study. This was similar to the findings by Mahfouz *et al.*¹¹

In conclusion, the study shows no significant high risk in teenage pregnancies in this community. The younger teenagers aged 13 to 15 years old were found to have poorer outcome than 16 to 19 years old and the control group of 20 years and above but the teenagers (13 to 19 years) generally shows no significant abnormal pregnancy outcome compared with the control group. Attention should therefore be on the young teenagers due to their youthful age and in order to improve their pregnancy outcome, the healthcare provider should be aware of their special needs and the community should be encouraged to improve on the age of first pregnancy to 16 years and above.

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