

Risks and Complications of Pregnancy among Teenager

Women-A prospective Study

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Original Article

ABSTRACT

Background: Complications during pregnancy and childbirth are the leading cause of death for 15 to 19 year-old girls globally. Adolescent mothers (ages 10 to 19 years) face higher risks of eclampsia, puerperal endometritis, and systemic infections than women aged 20 to 24 years and WHO considers risk pregnancy occurs in women under 20 years because it is the leading cause of death for young mothers.

Objective: To assess the complications, risks and outcome of pregnancies in pregnant teenage Iraqi women.

Methods: This was a prospective study conducted during a period of one year in the department of Obstetrics and Gynecology at Al Shamiyah Hospital, Diwaniyah, Iraq.

A total of 1280 teenage pregnant women were included. Demographic and clinical data were collected from all participant women. The data collected using a pre-constructed data collection sheet including demographic, clinical and laboratory data. Gestational age at delivery, mode of delivery, birth weight, Apgar score at one and five minutes of the neonate, complications and outcome were reported. Data analysis performed using the statistical package for social sciences (SPSS) version 23) and appropriate statistical tests were applied accordingly with a level of significance of less than 0.05.

Results: The total number of teenage pregnant women was 1280 women, primigravida (77.0%). The augmented vaginal delivery was occurred in (93,1%) and 64 women (6.9%) by induction. The main cause of induction was pre-eclampsia. Out of 1280 women, 291 delivered by cesarean section (C/S) of them elective C/S was (23.4%) and emergency C/S was (76.6%). Preterm labor occurred in (10,3%) while post term delivery occur (3.9%). The main indications of emergency C/S was fetal distress (31.4%), followed by cephalopelvic disproportion 49 (22.%).

Conclusions: Many complications and adverse outcomes associated with teenage pregnancy. Emergency cesareans sections were performed due to multiple indications.

Keywords: Teenage pregnancy, Adolescence Pregnancy, Epidemiology, Risks, Complications, outcome

1.INTRODUCTION

Pregnancy in teenage also called pregnancy in adolescence is defined as one that occurs in a woman between the beginning of childbearing age and the end of the adolescent stage. It is defined by the World Health Organization (WHO) as the time lapse between 10 and 19 years of age as the WHO establishes adolescence between 10 and 19 years (1–3). Obstetric complications refer to disruptions and disorders during pregnancy, delivery and labor, and the early neonatal period. The World Health Organization (WHO) defines direct obstetric morbidity resulting from obstetric complications related to pregnancy, childbirth and postpartum interventions, omissions, incorrect treatment, or a chain of events resulting from any of the foregoing(4–7). Approximately 16 million girls aged 15 to 19 years and 2.5 million girls under 16 years give birth each year in developing regions (8). Complications during pregnancy and childbirth are the leading cause of death for 15 to 19 year-old girls globally. Every year, some 3.9 million girls aged 15 to 19 years undergo unsafe abortions . Adolescent mothers (ages 10 to 19 years) face higher risks of eclampsia, puerperal endometritis, and systemic infections than women aged 20 to 24 years (9,10), and WHO considers risk pregnancy occurs in women under 20 years because it is the leading cause of death for young mothers between 15 and 19 years of age due to complications related to childbirth, and abortions performed in risk conditions (9). The International Federation of Gynecologists and Obstetricians (FIGO) defined the 'advanced maternal age' as that over 35 years (11). Adolescent puberty occurs before they are ready to become parents. In some cases adolescence is interrupted when the young woman becomes pregnant. It is estimated that one in five women in the world already has a child before age 18 and every year there are 16 million births of teenage mothers. In the poorest regions of the planet, one in three women are teenage mothers.

Teenage pregnancy is the pregnancy of a girl who has not yet become an adult in legal and medical terms. In most developed countries, the pregnancy of girls between the ages of 14-18 is often unplanned and therefore leads to abortions (12). Only 10-15% of teenage pregnancies end with childbirth. Reasons for teenage pregnancy are not related to medicine, but are social in nature. But the course of pregnancy at a young age can cause some medical complications (13).

Early pregnancy is a threat to the health of both the baby and the teenage mother. The body of a young mother withstands double load - accelerates maturation itself and bears a baby, therefore, many risks and complications could be associated with pregnancies among these teenage women. Due to the physiological features, pregnant teens are more likely to suffer from anemia during

pregnancy, so special attention should be paid to good nutrition, adequate rest and proper daytime regimen. The tendency to rapid fatigue of the nervous system should also be added to the characteristics of young women in childbirth. Sometimes it can cause unnecessary irritability, insomnia, anxiety and sometimes lead to depression (14–17). It is believed that the young body is stronger, and therefore able to cope with childbearing, but in real life, early pregnancy can cause many complications for a frail teenager. Among these complications (4–6,18–20)

The possibility of miscarriage due to underdevelopment of the uterus; risk of ectopic pregnancy due to immaturity of the internal genital organs

- Problems associated with fetal development.
- Disorders or detachment of the placenta.
- Premature labor.
- Sudden infant death or stillbirth.
- Postpartum bleeding.
- In adolescents under the age of 18, almost 38% have an abortion:
- Uterine rupture and breakthrough with surgical instruments;
- Complications caused by anesthesia (respiratory disorders, heart rhythm, liver dysfunction, allergic shock);
- Local inflammation after the procedure (inside the uterus, fallopian tubes, in the abdomen)
- Thrombosis. And
- Psychological trauma
- Chromosomal abnormalities in live-born offspring of teenager
- Low birth weight is common outcome of teenage pregnancies

Furthermore, changes in the body caused by pregnancy during the period when the girl is just beginning to establish the menstrual cycle, can cause serious consequences ; violation of bone structure due to lack of calcium (21,22), fetal hypoxia due to lack of progesterone (21,23), impaired development of the placenta and pathological course of childbirth(24). Therefore, one of the main guarantees of a normal course of pregnancy and childbirth in adolescence is a favorable climate in the family and psychological comfort of the future childbirth. In Iraq, few studies had been conducted concerned with this subject and there is inadequacy in the shedding light on this health problem which might lead to improper care to these mothers during and after pregnancies. Hence

the present study tried to shed the light on the complications and risks that associated with pregnancies among group of Iraqi teenage pregnant women..

2. PATIENTS and METHODS

This was a prospective study conducted during a period of one year in the department of Obstetrics and Gynecology at Al-Shamiyah Hospital , Diwaniyah, Iraq.

A total of 1280 teenage pregnant women were included . Demographic and clinical data were collected from all participant women . The data collected using a pre-constructed data collection sheet to gather the following : Age of women , residence, occupation, weight, height , date of last menstrual cycle , antenatal care booking and visits, obstetric and gynecological history; , gestations, parity and abortions. Medical history and chronic diseases. Gestational age at delivery , mode of delivery, birth weight, Apgar score at one and five minutes of the neonate complications (if any) were reported and outcome was recorded.

Statistical analysis

Data were entered and analyzed using the statistical package for social sciences (SPSS) version 23. Descriptive statistics presented as mean, standard deviation, frequencies and simple percentages. Appropriate statistical tests and procedures were applied according to the types of variables. Level of significance set at 0.05 or less to be significant.

3. RESULTS

During the period of study; 1280 teenagers pregnant women were included, primigravida were 986 women (77.0%) while 294 women (23%) were multigravida (**Figure 1**). Among the studied group, 291 women delivered by cesarean section while 989 delivered vaginally, (**Figure 2**).

Furthermore, augmented VD occurred in 866 women (93,1%) while 64 women (6.9%) by induction . The causes of induction of labor in 64 women were, 24 women(37.5%) due to pre-eclampsia, 17 women(26.6%) due to post term ,9 women(14.1%) due to fetal distress , 2 women (3.1%) due to gestational diabetes ,5 women(7.8%) due to antipartum haemorrhage, 7 women (10.9%) induced due to other causes (premature rupture of membrane, unstable lie congenital anomalies, or due to intra-uterine death), (**Table 1**). Regarding the 291 cesarean sections , elective was done for 68 women (23.4%) while the emergency C\S done for 223 women (76.6%), (**Table 2**). The indications of emergency C\S in 223 teenager women were fetal distress in 70 women (31.4%),

cephalopelvic disproportion in 49 (22.%), deep transverse arrest in 34 (15.2%), primibreech in 22 (9.8%), post term with fetal distress in 15 (6.7%), previous CS with fetal distress in 9 (4%), placenta abruption in 7 (3.1%), premature rupture of membrane in 7 (3.1%), compound presentation in 6 (2.6%) and preterm labor in 3 women (1.3 %), while only one woman had been indicated for emergency C\S due to twin gestation and had previous (**Table 3**).

There was 132 teenager women (10,3%) had preterm labor, 1098 women (85,7%) at term delivery, while 50 women (3.9%) had post term delivery occur in (**Table 4**). Out of the 132 teenagers women who were at preterm labor, 120 (90.9%) had delivered by vaginal delivery while, 12 women (9.1%) by C\S, (**Table 5**).

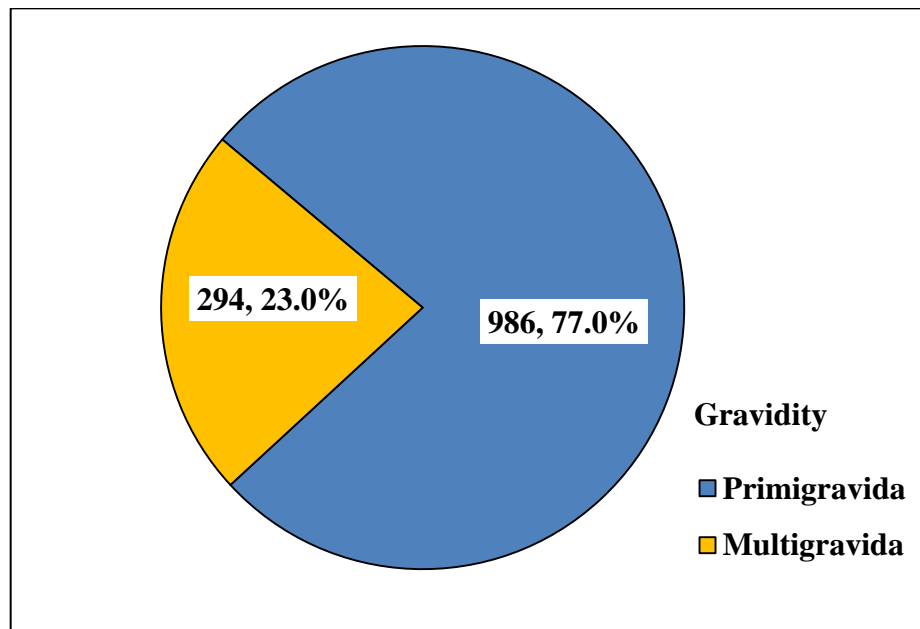


Figure 1. Distribution of teenagers women according to gravidity

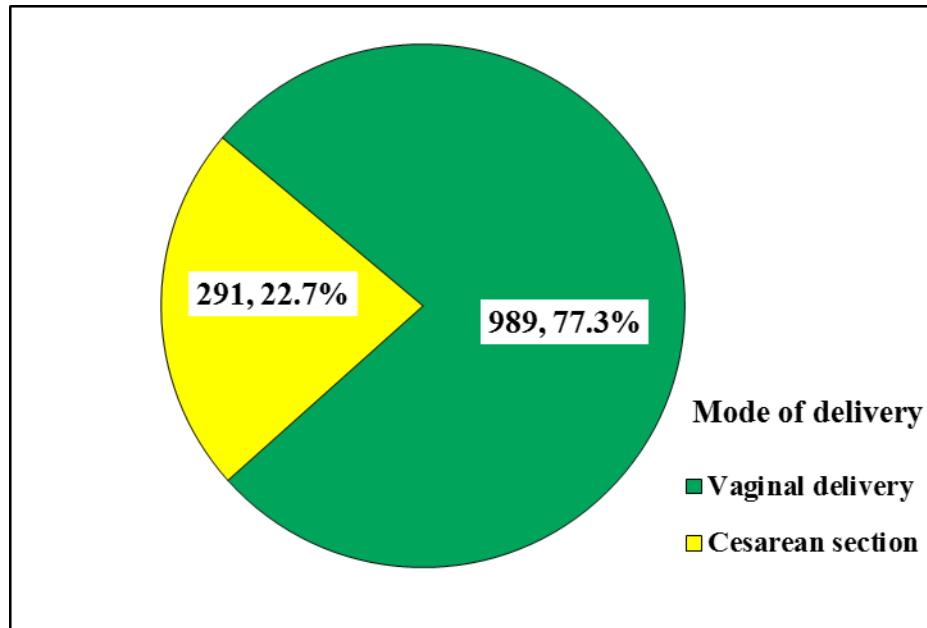


Figure 2. Mode of delivery among 1280 teenagers women

Table 1. Augmented and induced vaginal deliveries and causes of induction of vaginal delivery in teenager group.

	No.	%
Vaginal deliveries in teenagers		
Augmented vaginal delivery	866	93.1
Induction of vaginal delivery	64	6.9
Cause of induction		
Pre- eclampsia	24	37.5
Post- term	17	26.6
Decreased fetal movement	9	14.1
Diabetes	2	3.1
Anti-partum Hemorrhage	5	7.8
Other causes	7	10.9
Total	64	100.0

Table 2. Types of cesarean sections performed among the studied group

Type of cesarean section	No.	%
Elective cesarean section	68	23.4%
Emergency cesarean section	223	76.6
Total	291	100.0

Table 3. Indications of emergency cesarean sections among the studied group

Indication	No.	%
Fetal Distress	70	31.4
Cephalo-pelvic Disproportion	49	22.0
Deep-transverse Arrest	34	15.2
Primi breech	22	9.9
Post term with fetal Distress	15	6.7
Fetal distress with previous caesarian section	9	4.0
Placenta abruption	7	3.1
Premature membrane-rupture	7	3.1
Compound presentation	6	2.7
Pre-term labor	3	1.3
Twin and previous caesarian section	1	0.4
Total	223	100.0

Table 4. Preterm, Term and post term deliveries of teenagers women

Delivery	No.	%
Preterm delivery	132	10.3%
Term delivery	1098	85.8%
Post term delivery	50	3.9%
Total teenagers' deliveries	1280	100.0%

Table 5. Distribution of Preterm labors according to the mode of delivery

Mode of delivery	No.	%
Vaginal delivery	120	90.9
Cesarean section	12	9.1
Total preterm deliveries	132	100.0

DISCUSSION

The trend of teenage pregnancy in Iraq is quite different from the western countries ,as the teenage mothers are married ,their pregnancies are usually planned and wanted with full family support (25) 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 (26). 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 there for the pregnancy was accepted in the family .The pregnancy was not concealed and 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 teenagers' pregnancy in this study. This is in contrast to the findings in other studies where significant complications were identified. Pregnancy induced hypertension, pre-eclampsia, diabetes and pre-term delivery were not common complications identified as shown in the study. Operative delivery was expected to be significantly among this age group due to their less developed birth passage but only 291 (15.6%) of 1280 teenagers had lower segment C\S.

The percentage of normal VD among the teenagers (24.4%) women was significantly lower than the other deliveries in older women. The augmented VD was 866(93.1%) of 989 teenagers, and those by induction were 64 women (6.8%). There was a statistically significant difference between the two groups, (P. value < 0.05). The causes of induction in teenagers' pregnancy were pre-eclampsia 26 women (40%), post-term 17 women (26.5%), fetal distress 9 women (14%), diabetes 2 women(3%), anti-partum hemorrhage 5 women(7.8%) and others (pre-mature rupture of membrane, unstable lie congenital anomalies and intra-uterine death 7 women (10.9%)). There is statistical significant difference between these groups as (P<0.05). There was no significant difference between the teenagers delivered by elective and emergency CS, the elective was 68 women (23.3%), while emergency CS in 223 women (76.6%), (P>0.05). There is no significant difference between the teenagers delivery with pre-term labor (whether by CS or VD). There were 132 women (10.3%) of pre-term labor, the term delivery was 1098 women (85.7%), while post term delivery was 50 women (3.9%). There is no significant difference between the total pre-term with VD 120 women (90.9%) and 12 (9.1%) women with C\S (P. value >0.05). There is no significant difference between the indications of emergency C\S, (p>0.05). However, multiple complications had been reported among the teenager women in this study from fetal distress to premature rupture of membrane and higher proportion of preterm labor compared to older pregnant women, hence, teenage pregnancy should be considered as high risk pregnancy and should be managed carefully with precautions.

CONCLUSIONS

There are many complications and adverse outcomes associated with teenagers' pregnancies. Cesarean sections were more likely to be performed among these pregnancies as compared to pregnant women of older age, emergency cesarean sections were performed in a majority of cases delivered by cesarean sections due to multiple indications.

Ethical Clearance: The study protocol was approved by the scientific committee of the Iraqi Ministry of health, Diwaniya Health directorate . Signed informed consent was taken from each participant before the beginning of the study and patients were informed that all data in the current study were used confidentially and merely for the purpose of the study.

Conflict of interest: The authors declare that there is no conflict of interest

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