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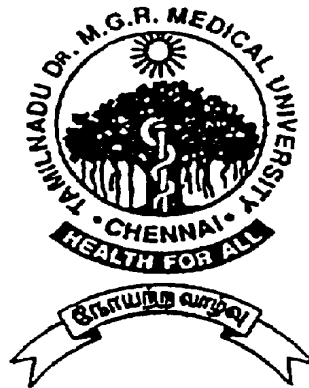
**MATERNAL AND FETAL OUTCOME IN  
TEENAGE PREGNANCY**

*Submitted for*

**M.D. (OBSTETRICS AND GYNAECOLOGY)**

**BRANCH – II**

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## **CERTIFICATE**

This is to Certify that this dissertation entitled "**MATERNAL AND FETAL OUTCOME IN TEENAGE PREGANCY**" is a bonafide work done by **Dr. C. RENUKA DEVI** at Kilpauk Medical College Hospital, under our supervision and guidance during the period 2005 – 2007. This has been submitted in partial fulfillment of the award of M.D. Degree in Obstetrics and Gynaecology (Branch II) by The Tamilnadu Dr. M.G.R. Medical University , Chennai – 600 032..

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## INTRODUCTION

Throughout the history of the world until the modern era, teen pregnancies were the norm. When a young girl becomes sexually mature, she was married off and was expected to accomplish what she was biologically designed for i.e. giving birth to the next generation. With modernisation, while teenage pregnancy rate is rapidly declining in developed countries, it is still high in developing countries like India.

The scenario of teenage pregnancy in developed countries is quite different from that of the developing countries and have distinctly different rates of pregnancy as well. In developed countries such as North America and western Europe, teen parents tend to be unmarried and adolescent pregnancy is a social issue. By contrast, in developing countries, teenage pregnancies occur among married women and their pregnancies are welcomed by the family and the society.

### **Incidence :**

A report by 'Save the Children' found that annually 13 million children are born to women under 20 years, worldwide. More than 90% of these births occur in developing countries.<sup>27</sup>

Complications of pregnancy and childbirth are the leading cause of mortality among women between 15-19 years in such areas.<sup>20</sup> In India, teenage pregnancy constitutes 8-14% of total pregnancies.

## **INDICATORS OF TEENAGE PREGNANCY**

### **1. Adolescent childbearing**

The proportion (percentage) of mothers (women having a child) before the age of 20 years among all women having had children.

### **2. Teenage pregnancy incidence**

The proportion (percentage) of births to women less than 20 years among all deliveries.

### **3. Teenage Birth rate**

The number of births to women less than 20 years of age per 1000 women aged less than 20 years. Frequently, this indicator is restricted to 15-19 years old subgroup as this subgroup is representation of the whole teenage birth rate. This is the most accurate, robust and reliable of the three indicators.

### **Teenage Pregnancy rates in various Asian countries (2002) <sup>10</sup>**

South Korea	-	2
China	-	5
Iran	-	33
India	-	45
Pakistan	-	50
Mongolia	-	54
Cambodia	-	60
Nepal	-	117
Qatar	-	69
Japan	-	4
Malaysia	-	18
Kazakhstan	-	45
Thailand	-	49
UAE	-	51
Afghanistan	-	111
Bangladesh	-	117

### **Factors Contributing to Teenage Pregnancy**

1. Early marriage
2. Social customs
3. Low literacy rate
4. Poverty
5. Lack of sex education
6. Non usage of contraceptives

## **1. Early Marriage**

In spite of legislation against early marriage, women in India marry at a younger age. The minimum age of marriage for girls was amended by the Government of India as 18 years in 1978.<sup>25</sup> By postponing the age at marriage to 21 years and above, the number of births would significantly come down and thus population explosion can be prevented to a certain extent in our country. Early marriage in turn is related to various factors like illiteracy, poverty, cultural background and trends of the society. The mean age of marriage in India is 17.1 years and because of high fertility rate in adolescents, there is an increased trend of teenage pregnancy.

## **2. Social customs**

In many parts of India, girls get married soon after menarche and get pregnant soon after marriage. Such practices are more prevalent among the lower socioeconomic strata.

## **3. Literacy**

The indisputable fact is that in all countries, less educated are more likely to have a child during adolescence. Boys are given good education as they have to find a job to earn for their living and their families, whereas a girl's education is considered unimportant as they are anyway



only going to take care of the house and the family. So, girls are not sent to school at all, or stopped from school soon after menarche, so that she learns to take care of her home before she gets married. In urbanised areas, marriage is postponed till the girl completes her education and gets a job. By that time she is in her early twenties or mid twenties which is the right age for marriage and pregnancy. So, teenage pregnancy rate is inversely proportional to the literacy rate of women in that particular area.

#### **4. Poverty**

In low socioeconomic group, the male member is the sole breadwinner of the family and has the responsibility of taking care of his children's needs financially. So he tends to get his girl child married off at an early age so that he no longer has to take care of her and his burden is lessened to an extent. Poverty leads to illiteracy which in turn leads to poverty and both lead to adolescent pregnancy.

#### **Out of Wedlock pregnancy**

Out of wedlock pregnancy among teens has always been seen as a problem of the western world, but the hard reality is that it exists as much in our society. Premarital sex has become a definite component of the society now. It mostly gets unnoticed due to the social stigma attached to it. With live in relationship, pre marital sex and free sex on the rampant, it is emerging as a new problem. With problems of premarital sex and

pregnancy comes with other issues like HIV and other STDs. Such pregnancy ends in an abortion or she is married off to the guy responsible for it. She drops out of school frequently. She experiences lots of mental trauma and depression. She is forced to have an unwanted baby. She has to pay dearly for her ignorance.

### **Causes for unmarried pregnancies**

1. Lack of sex education and lack of awareness of contraception.
2. Early dating behaviour
3. High risk behaviour - smoking, alcohol, substance abuse.
4. Peer pressure
5. Negative influence of the media.
6. Lack of a support group
7. Unhealthy environment at home.
8. Stress and depression
9. Exposure to domestic or sexual violence

The most important factor leading to pregnancy among unmarried teenagers is the lack of awareness of safe sex and choices of

contraception. Teenage children should be educated universally about the importance of abstinence till marriage, usage of contraceptives if they were to have sex and about emergency contraception if they had unprotected sex. Education should be given about the risks of STD's and HIV & ways to prevent it.

### **COMPLICATIONS OF TEENAGE PREGNANCY**

Maternal and perinatal complications are definitely increased in teenage pregnancy for the following reasons:

1. Physical immaturity
2. Lack of health care knowledge
3. Poor diet
4. Inadequate antenatal care
5. High levels of emotional distress
6. Smoking and alcohol usage

### **Impact of pregnancy on the mother**

A teenage mother is both physically and mentally immature for the ordeal of pregnancy, labour and child rearing. First and foremost is the emotional stress when encountered by an unplanned pregnancy. Because

of the gynecological immaturity, she develops all sorts of complications during pregnancy and labour like anemia, pregnancy induced hypertension, nutritional deficiencies, preterm labour, cephalopelvic disproportion, intrauterine death, prolonged labour and malpresentation. Following delivery, she has to take care of a demanding baby day and night which often leads to tiredness and frustration. Moreover, financial difficulties too put additional stress on her. To add to that, she is likely to have successive pregnancies which makes her whole life miserable.

### **Impact of teenage pregnancy on the baby**

Babies born to teenage mothers are at increased risk of low birth weight, congenital anomalies, early onset sepsis, respiratory distress & hyperbilirubinemia. There is increased rate of neonatal deaths in such babies.

Children of teen mothers often grow up in poverty, suffer health problems, suffer neglect and abuse and have academic and behavioural problems. Girls born to teenage mothers often become teenage mothers themselves and the problem gets carried on for generations.

## **MATERNAL COMPLICATIONS**

### **1. Anemia**

Anemia is an important risk factor for death following pregnancy related hemorrhage. Along with high growth rate around the time of puberty, the beginning of menstruation and poor nutrition, pregnancy can deplete body's iron reserves. Severe anemia leads to various complications like premature labour, cardiac failure, inability to tolerate even normal amount of blood loss at delivery and sepsis.

### **2. Pregnancy induced hypertension**

There is increased incidence of PIH in this group because of high proportion of primigravidae in this group. Complications of PIH are more in this group because of inadequate antenatal care and ignorance about imminent symptoms of eclampsia.

### **3. Nutritional deficiencies**

During pregnancy, nutritional needs of a teenager are increased to support the growing baby and for her own body which is in the growing phase. So she needs more nutrients during her pregnancy than an adult pregnant woman. But lack of awareness of this fact combined with inadequate antenatal care leads to many nutritional deficiencies. Also, the low status of women in the Indian society results in women getting less than their fair share of household food and healthcare. When a girl gets

pregnant she is advised to eat less to have a smaller baby in hope of having an easy delivery. A malnourished teenager has increased incidence of abortion, poor placental function, malformation, growth impairment and functional changes.

#### **4. Sexually transmitted diseases**

The incidence of STD in adolescent age group who are sexually active is greater whether they are married or unmarried. This is because of poor personal hygiene and lack of awareness about STD's. They are at increased risk for developing cancer cervix later because of early age at first intercourse and long duration of sexual activity.

#### **5. Cephalopelvic disproportion**

Earlier view was that there is an increased frequency of contracted pelvis during adolescent pregnancy. But studies show that prepubertal pelvis may be contracted from obstetric point of view but the growth spurt is adequate to prepare the pelvis for parturition. So high amount of CPD and dystocia is observed only in girls less than 15 years.

#### **6. Labour and delivery problems**

There is increased risk of prolonged labour, increased incidence of operative vaginal deliveries, increased incidence of malpresentation and increased incidence of perineal injuries.

## **7. Puerperial problems**

Puerperial infections are more common in teenagers because of predisposing factors such as anemia and poor personal hygiene. Also, they are more likely to suffer from puerperial blues due to psychological immaturity.

## **FETAL COMPLICATIONS**

### **1. Low birth weight**

There is a marked association between young age of the mother and low birth weight in all countries. Low birth weight is directly related to maternal weight gain during pregnancy and is much commoner in undernourished women. Even if there is adequate weight gain and increased fat stores during pregnancy in adolescent women, their babies have a lower fetal growth rate as a result of competition for nutrients between the maternal body and the growing baby. So their babies tend to have low birth weight.

### **2. Preterm baby**

There is a greater frequency of premature births among teenagers. This could be attributed to immaturity of uterine muscle fibres, deficient prenatal care, medical complications of pregnancy, mental and physical immaturity.

### **3. Perinatal mortality**

Perinatal loss is mainly due to prematurity and low birth weight and other complications like IUGR, early sepsis, respiratory distress and congenital anomalies. Increased perinatal mortality in teenage pregnancy is due to deficient antenatal care and late referral to hospital.

### **4. Congenital anomalies**

The adolescent is at a slightly greater risk of having a baby with congenital anomaly due to deficiency of essential nutrients during the formation of organ systems. In teenage pregnancies, anencephaly, spina bifida and meningocele are common among the congenital anomalies.

## **MANAGEMENT OPTIONS**

1. Prevention and prepregnancy management
2. Prenatal care.
3. Care during labour and delivery
4. Postnatal care.

### **1. Prevention and prepregnancy management**

Primary prevention is of utmost importance by way of sex education and creating an awareness in the society about the various risks of teenage pregnancy through educationists, social workers and medir.



Secondary prevention is by offering the various choices of contraceptives to sexually active teenagers and motivating them to use contraceptives.

Tertiary prevention is by providing teenagers with early, appropriate and adequate antenatal care and referral to a tertiary care centre when necessary.

## **2. Prenatal care**

Teenage gravidae receive less prenatal care than older women because of seeking prenatal care late in pregnancy being unaware that they are pregnant and also due to fear of pregnancy. They also have infrequent antenatal visits. Compliance is very poor among teenagers. Some teenagers do not receive prenatal care at all. Provision and utilisation of health care services are beneficial both for the mother and the baby. Adequate prenatal care prevents complications in the mother as well as the baby.

## **3. Care during labour & delivery**

There is no specific program for the intrapartum management of teenage mothers. Most important is continuous active support by the doctor and family members to help her face the problems in a better way.

## **4. Postnatal care**

Infant feeding problems, infant growth and infant safety factors should be taken care of. Effective contraceptive method should be implemented. Overall, the clinicians have an important role in providing guidance for pregnant teenagers and their families.

## **REVIEW OF LITERATURE**

### **Historical review**

The youngest mother in world's history is Lima Medina who delivered by caesarean section in Peru, in the year 1939. Her age at the time of delivery was 5 yrs 8 months.

### **Influence of age on complications**

Various studies show that teenagers encounter more maternal and fetal complications but the complications are more among the 15 - 17 age group. Bhalerao A.R. et al (1990) compared the outcome of pregnancy in the 15 -17 age group with that of girls in the 17- 19 age group<sup>4</sup>. In his study, he found out that 42.9% in 15 - 17 age group delivered prematurely, whereas only 14% of the girls in 17 - 19 age group had preterm labour. Only 28.6% girls in the age group of 15 - 17 yrs had fullterm normal delivery as compared to 60.8% girls in the age group of 17- 19 yrs.. 71.5% of mothers in the age group of 15 - 17 yrs were low birth weight as compared to 44.1% babies of mothers in the age group of 17 -19yrs. These findings signify that the outcome of pregnancy becomes worst in girls below the age of 17 yrs. According to Ballard and Gold, complications are more in women less than 15 yrs and the adolescent above the age of 15 who escapes toxemia, anemia and premature labour

seems to enjoy a relatively benign obstetric course<sup>3</sup>.

### **Incidence of teenage pregnancy**

Incidence of teenage pregnancy varies widely among various studies. Study made by T.Thekkekara and J. Venu (2006), shows a very high incidence of 52% which might have been due to illiteracy and social customs in the area where the study was conducted.<sup>26</sup> In India, teenage pregnancy constitute 8 - 14% of teenage pregnancies.<sup>20</sup>

### **Incidence of teenage pregnancy**

Bhalerao (1990) <sup>4</sup>	- 6.3%
Pratinidhi (1990) <sup>19</sup>	- 10%
Kumar Ashok (2006) <sup>13</sup>	- 4.1.%
T.Thekkekara J.Venu (2006) <sup>26</sup>	- 52%

Except for study by T.Thekkekara and J.Venu, studies show that teenage pregnancy incidence has come down over years.

### **Age at marriage**

Bhalerao A.R. et al observed that only 24% of the teenage women were married after 18 years which is the legal age of marriage in our

country. The mean age of marriage was 16.71 yrs in A.K.Sharma's<sup>1</sup> study and 16.5 yrs in T.Thekkekara's study..<sup>26</sup>

The main cause of teenage pregnancy is the girls marrying at an earlier age.

### Maternal complications

Universally all studies show increased rate of complications in the teenage mother because of her physical immaturity. The complications that are definitely increased in a teenage mother are anemia, pregnancy induced hypertension and preterm labour

Study		Anemia	PIH	Preterm Labour
Bhalerao	(1990) <sup>4</sup>	25.5%	10%	16%
-		30%	11.4%	26%
10.0%		68.6%	7%	18%
Pratinidhi et al.	(1990) <sup>19</sup>	26%	7.8%	14.7%
-		24%	8%	14.9%
11.4%				
A.K. Sharma	(2001) <sup>1</sup>			
-				

7%			
Israel and Wonderz <sup>11</sup> (1963)			
-			
7.8%			
Ghose and Ghosh <sup>9</sup> (1976)			

The incidence of CPD was 1.5% according to Bhalerao (1990) and 2.6% as reported by Philips and Sivakamasundari<sup>20</sup> (1978).

Kumar Ashok (2006) reported that frequencies of PIH, eclampsia and preterm labour were significantly increased in teenage pregnancy. At the same time, there was no difference in the incidence of gestational diabetes, oligohydramnios, polyhydramnios, and APH between cases and controls.<sup>13</sup>

### **Fetal complications**

All studies show statistically significant difference in the rate of low birth weight infants, still births and perinatal mortality rate between the teenage group and the control group.

Pratinidhi (1990) commented that perinatal mortality rate was 7 - 16 times greater when associated risk factor except anemia were present.<sup>19</sup> The neonatal mortality rate was 2.5 - 18 times greater when associated risk factors except anemia and edema were present. Late neonatal mortality was 2.2 times higher among infants with mothers under 18 yrs old. Kumar Ashok (2006) found that neonatal mortality was found to be almost 3 times more common in babies born to teenage mothers compared to the controls and the difference was statistically significant<sup>13</sup>. The most common cause of neonatal mortality in both cases and controls was prematurity followed by perinatal asphyxia.

All authors reported an increased incidence of low birth weight among babies born to teenagers. According to Bhalerao's (1990) study, 44.1% of the babies were low birth weight, 50.4% of teenage mothers gave birth to low birth weight babies according to Pratinidhi<sup>19</sup> (1990) and 87.2% of teenage mothers had low birth weight babies in Kumar Ashok's<sup>13</sup> study.

Kumar Ashok (2006) showed increased incidence of other neonatal complications such as perinatal asphyxia, Jaundice and respiratory distress syndrome.<sup>13</sup>

Incidence of meconium aspiration syndrome, congenital anomalies and sepsis were similar in both the groups.

M.K. Malviya (2003) recorded anthropometric measurement such as birth weight, crown heel length, head circumference, chest circumference and midarm circumference within 24 hrs in all newborns and were significantly reduced in children born to teenagers.<sup>16</sup>

The limitation of these studies is that all the studies are hospital based and therefore may not be a true reflection of the situation in the community especially in a country like India where home deliveries are still very common and home deliveries go unreported.

## **AIM OF THE STUDY**

### **Aim**

1. To find out the percentage of teenage pregnancy.
2. To analyse the factors contributing to teenage pregnancy.
3. To study the health problems of teenage mothers during pregnancy, labour and puerperium.
4. To study the fetal consequences of teenage pregnancy.

### **Objectives**

1. To find out strategies for prevention of problems of teenage pregnancies.



## **MATERIALS AND METHODS**

A prospective study of teenage pregnancy was carried out at Kilpauk Medical College Hospital, Chennai during the period May 2006 - April 2007.

Pregnant women admitted in labour ward were taken for study. 300 cases of teenage women upto 19 yrs were compared with 300 cases of 20 - 29 yr old gravida. Cases were selected randomly and randomisation was attained by randomly selecting same number of controls as number of index cases who delivered on that day. A structured proforma was used to collect information. The cases were followed till they got discharged.

Information regarding age, educational status, occupation, marital status, age at marriage, health awareness, knowledge about pregnancy and delivery, antenatal visits were obtained from history.

Basic checkup like Height and Weight of the patient, Haemoglobin and B.P checkup were done. Complications during antenatal period, delivery and postpartum were observed. Details regarding mode of delivery and birth weight of the baby were noted. Baby details noted and babies admitted in neonatal ward followed up till they were discharged. Patients and their babies were followed up at O.P. 1month later and any untoward events in the intervening period noted down.

### **Inclusion Criteria**

1. Study Group : 13 - 19 yrs  
Control Group : 20 - 29 yrs
  
2. As almost 95% of teenage pregnant women were only primigravidae, only primigravidae were included in both the study and control group to eliminate influence of parity on maternal complication and birth weight of the newborn.
  
3. Only primigravidae with singleton pregnancy were taken into account to avoid influence of multiple pregnancy on birth weight of the new born.

### **Exclusion criteria**

1. Multigravidae
  
2. Primigravidae undergoing abortions - only pregnancies that have crossed the period of viability were taken into consideration as this study mainly focuses on the neonatal outcome of teenage pregnancy.

## RESULTS AND ANALYSIS

TABLE - 1

### AGE DISTRIBUTION IN TEENAGE PREGNANCY

AGE	NUMBER	PERCENTAGE
15	2	0.66%
16	1	0.33%
17	4	1.33%
18	93	31%
19	200	66.66%
<b>TOTAL</b>	<b>300</b>	

### AGE DISTRIBUTION IN THE CONTROL GROUP

AGE GROUP	NUMBER	PERCENTAGE
20 - 22	161	53.66%
23 - 25	97	32.33%
26 - 29	42	14%
<b>TOTAL</b>	<b>300</b>	<b>100%</b>

About 2/3 of pregnant teenagers were 19 yr olds which is acceptable considering the legal age of marriage for girls to be 18 yrs. Among the control group more than half of the population belonged to 20 - 22 yrs who were just barely out of their teens.

**TABLE - 2**  
**MEAN AGE AT MARRIAGE**

<b>WOMEN</b>	<b>AGE (YRS)</b>
Teenage pregnant Women	17.08 Years
Non- teenage pregnant Women	21.52 Years

The difference in their mean age at marriage between the two groups is almost 4 yrs which means another 4 yrs of education which can increase their standard of living to a certain extent.

**TABLE - 3**  
**MARITAL STATUS**

<b>GROUP</b>	<b>TEENAGE</b>		<b>NON - TEENAGE</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Married	296	98.66%	300	100%
Unmarried	4	1.33%	0	0
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

All the women in control group were married, whereas 4 women were having children out of wedlock in the teenage group.

**TABLE - 4****EDUCATIONAL STATUS**

<b>EDUCATION</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Graduate & Post graduate	0	0	11	3.66%
XI - XII	3	1%	41	13.6%
VI - X	79	25.33%	165	55%
I - V	167	55.66%	44	14.66%
Illiterate	51	17%	39	13%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

Majority of the women in teenage group have had education upto primary level whereas majority of the women in non-teenage group were educated upto secondary level. None of the women in teenage group have attended college whereas 11 women in non teenage group had college education.

**TABLE - 5**

**OCCUPATIONAL STATUS**

<b>OCCUPATION</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Working	2	0.66%	29	9.66%
Non working	298	99.33%	271	90.33%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

Majority of the women both in study and control group were not working and they were dependent solely on their husbands for their living. Out of the minor working population in the control group, most of them had good jobs and were financially independent.

**TABLE - 6**

**KNOWLEDGE ABOUT PREGNANCY AND DELIVERY**

<b>KNOWLEDGE</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Good	50	16.66%	110	36.66%
Poor	250	83.33%	190	63.33%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

p value - 0.0000001

Most of the women in the teenage group did not know about the basics of pregnancy and delivery. About 1/3 of women in the control group had good knowledge about pregnancy and what constitutes high risk in pregnancy, need for antenatal checkups, nutritional requirement in pregnancy, basics of delivery, taking care of the baby, importance of breast feeding, immunisation and contraception.

**TABLE - 7**

**BOOKING**

<b>BOOKING</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Booked	258	86%	286	95.33%
Unbooked	42	14%	14	4.66%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

P = 0.00004256

14% of women in the teenage group were unbooked. Most of them had their I visit to hospital only at the time of delivery. 4.66% of the women in the non teenage group were unbooked.



**TABLE - 8**

**IMMUNISATION**

<b>IMMUNISATION STATUS</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Immunised	299	99.66%	300	100%
Not immunised	1	0.33%	0	0
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

Almost all patients in both the groups have received TT from health care workers eventhough they did not have regular checkups. Only one woman in teenage group was not immunised because being an unmarried girl she had kept her pregnancy concealed from her parents fearing consequences and had headed to hospital only after the start of labour pains but delivered at the hospital entrance itself.

**TABLE - 9**

**FIRST ANTENATAL VISIT**

<b>I ANC</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
I Trimester	36	12%	11	3.66%
II Trimester	222	74%	198	66%
III Trimester	42	14%	12	4%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

Only 12% of the teenage mothers booked in the I trimester because most of them were unaware that they were pregnant during the initial period. 30% of non teenage mothers had booked during the I trimester.

After booking, further antenatal checkups were also irregular among teenagers due to financial difficulties and inadequate knowledge.

**TABLE - 10**

**HEIGHT OF THE PATIENT**

<b>HEIGHT</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
≤145 cm	24	8%	9	3%
146 - 150 cm	173	57.66%	165	55%
151 - 155 cm	58	19.33%	99	33%
156 cm & above	45	15%	27	9%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

Majority of the patients in both the groups had height of 146 - 150 cm. 8% of teenage pregnant women were shortstatured i.e. <145 cm and 3% of women in non teenage group were short statured.

**TABLE - 11**

**WEIGHT OF THE PATIENT**

<b>WEIGHT</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
≤ 45 kg	6	2%	1	0.33%
46 - 50kg	58	19.33%	60	20%
51 - 55 kg	80	26.66%	125	41.66%
56 - 60 kg	133	44.33%	97	32.33%
> 60 kg	23	7.66%	17	5.66%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

There was not much difference in weight between the teenage group and the non teenage group.

**TABLE - 12**  
**ANEMIA IN PREGNANCY**

Hb	Anemia	TEENAGE GROUP		NON - TEENAGE GROUP	
		No.	%	No.	%
≥ 11g%	No anemia	16	5.33%	32	10.66%
10.1 - 10.9 g%	Mild	72	24%	139	46.33%
7.1 - 10 g%	Moderate	198	66%	128	42.66%
4.1 - 7 g%	Severe	13	4.33%	1	0.33%
≤ 4g%	Very severe	1	0.33%	0	0
<b>Total</b>		<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

Mean Hb in Teenage group - 9.58g%  
Mean Hb in Non teenage group - 10.11g%  
p value - 0.000002

Only 5.33% of teenage women had Hb level above 11 gm% whereas 10.66% of non teenage women had haemoglobin above 11 gm%. Majority of the women in teenage group had moderate anemia which often required blood transfusion and parenteral iron whereas majority of women in non teenage group belonged to the mild anemia category which could be corrected by oral haematinics. Severe anemia was more common in teenage group than in non teenage group.

**TABLE - 13**

## PREGNANCY INDUCED HYPERTENSION

PIH	TEENAGE GROUP		NON - TEENAGE GROUP	
	No.	%	No.	%
Mild PIH	12	4%	14	4.66%
Severe PIH	11	3.66%	3	1%
Eclampsia	5	1.66%	1	0.33%
<b>Total</b>	<b>28</b>	<b>9.33%</b>	<b>18</b>	<b>6%</b>

P = 0.06467

Incidence of PIH was greater in teenage group than the control group probably because of poor antenatal care. Incidence of severe PIH and eclampsia were more in teenage group because they did not seek medical treatment early and also because of their ignorance they did not have regular AN checkup. Severe PIH and eclampsia could have been prevented in such cases.

**TABLE - 14****OTHER COMPLICATIONS / RISK FACTORS DURING  
ANTENATAL PERIOD**

<b>COMPLICATIONS</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Malpresentation	8	2.66%	7	2.33%
Malposition	1	0.33%	0	0
Abruptio placenta	1	0.33%	0	0
Prolonged pregnancy	14	4.66%	18	6%
IUD	2	0.66%	0	0
GDM	1	0.33%	1	0.33%
Heart disease	1	0.33%	0	0
Oligohydramnios	6	2%	6	2%
IUGR	5	1.66%	2	0.66%
Residual Polio	0	0	2	0.66%
Asthma	1	0.33%	0	0
Hepatitis	0	0	1	0.33%
Leptospirosis	1	0.33%	0	0
Burns	1	0.33%	0	0

Among other complications, during antenatal period, 2 patients in the teenage group had intrauterine death. 5 patients had intrauterine growth retardation in the teenage group and 2 patients had the same in the non teenage group.

**TABLE - 15****COMPLICATION DURING LABOUR**

<b>COMPLICATIONS</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Cephalopelvic disproportion	32	10.66%	26	8.66%
PROM / MRO	27	9%	23	7.66%
Cervical dystocia	1	0.33%	1	0.33%
Cord prolapse	1	0.33%	0	0
Prolonged labour	6	2%	1	0.33%
Precipitate labour	1	0.33%	0	0
Retained placenta	3	1%	2	0.66%
Complete perineal tear	2	0.66%	0	0
Postpartum haemorrhage	2	0.66%	4	1.33%

Prolonged labour was more common in teenage group than in nonteenage group. There was a case of precipitate labour in the teenage group. There was not much difference in the number of cephalopelvic disproportion between the 2 groups though it has been postulated that the pelvic bone is not well developed in a teenager to deliver a baby normally.



**TABLE - 16****POSTPARTUM COMPLICATIONS**

<b>COMPLICATIONS</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Postoperative fever	1	0.33%	1	0.33%
Local sepsis	6	2%	3	1%
Septicemia	2	0.66%	0	0
UTI	2	0.66%	1	0.33%
Mastitis	3	1%	1	0.33%
Puerperal Psychosis	1	0.33%	0	0

All the complications occurring postpartum were more in the teenage group than in the non teenage group.

**TABLE - 17**

**MODE OF DELIVERY**

<b>MODE OF DELIVERY</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Labour naturale	176	58.66%	171	57%
LSCS	106	35.33%	114	38%
Assisted breech	3	1%	1	0.33%
LMC forceps	7	2.33%	5	1.66%
Outlet forceps	6	2%	9	3%
Spontaneous expulsion of deadborn	2	0.66%	0	0

There was no significant difference in the mode of delivery between the two groups.

**TABLE - 18**

**BIRTH WEIGHT OF THE BABY**

<b>BIRTH WEIGHT</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
≤ 2.5 kg	116	38.66 %	77	25.66 %
2.6 - 3 kg	128	42.66%	174	58%
3.1 - 3.5 kg	52	17.33%	43	14.33%
> 3.5 kg	4	1.33%	6	2%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

P = 0.001061

38.66% of the babies born to teenage mothers weighed less than 2.5Kg whereas 25.66% of babies born to mothers in non teenage group weighed less than 2.5Kg

**TABLE - 19**

**ADMISSION IN NEONATAL INTENSIVE CARE UNIT**

<b>NICU ADMISSION</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Admitted	104	34.66%	63	21%
Not admitted	196	65.33%	237	79%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

p = 0.00009396

More babies born to teenage mothers required admission in Neonatal intensive care unit than those born to non teenage mothers.

**TABLE - 20****NEONATAL COMPLICATIONS CAUSING ADMISSION**

<b>COMPLICATIONS</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Prematurity	12	4%	8	2.66%
Low birth weight	30	10%	22	7.33%
Respiratory distress	49	16.33%	21	7%
IUGR	2	0.66%	2	0.66%
Sepsis	5	1.66%	5	1.66%
Neonatal jaundice	5	1.66%	1	0.33%
LGA	0	0	1	0.33%
Birth asphyxia	6	2%	6	2%
Congenital anomaly	1	0.33%	0	0
Milk aspiration pneumonitis	2	0.66%	0	0

The two main reasons favouring admission in NICU were respiratory distress and prematurity / low birth weight. Both the complications were higher in babies born to teenage mothers than in babies born to non teenage mothers.

**TABLE - 21**

**PERINATAL MORTALITY**

<b>PERINATAL MORTALITY</b>	<b>TEENAGE GROUP</b>		<b>NON - TEENAGE GROUP</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
Expired	20	6.66%	5	1.66%
Baby discharged	280	93.33%	295	98.33%
<b>Total</b>	<b>300</b>	<b>100%</b>	<b>300</b>	<b>100%</b>

p = 0.001090

Perinatal loss was more in the teenage group than in the non teenage group. On analysing the cause for perinatal loss, the main reason was prematurity which was more common among teenage mothers.

## **DISCUSSION**

The present study on teenage pregnancy was undertaken with a view to understand the factors contributing to teenage pregnancy and to study the complications during antenatal, intrapartum and postpartum period and to study the neonatal outcome of teenage pregnancy and the above results were compared with the study group.

### **AGE OF THE PATIENTS**

In the study, no patient was less than 15 yrs and only 2.33% belong to the 15 - 17 yrs category, 31% were 18 yr olds. and 66.66% were 19 yr olds. These results show a declining trend in the extremely young teenage group compared to previous studies such as study by Bhalerao<sup>4</sup> et al showed that 7% of teenage pregnancies belonged to 15 - 17 yrs age group and in a study by Kumar Ashok<sup>13</sup> showed that about 33% of teenage pregnancies were from 15-17 years age group. This improvement in probably due to better awareness about the risks of teenage pregnancy in today's generation and also due to improvement in the literacy rate at present.

### **AGE AT MARRIAGE**

The mean age at marriage among the teenage women in the present study was 17.08 yrs. The mean age at marriage of teenage women in

T.Thekkekara's<sup>26</sup> study was 16.5 yrs & A.K.Sharma's study<sup>1</sup> was 16.71 yrs.

## **MARITAL STATUS**

In the present study 1.33% were unmarried in the study group whereas there was no unmarried pregnancy in the control group. In Bhalerao's<sup>4</sup> study 3% of the study group were unmarried and in Kumar Ashok's<sup>13</sup> study, all the teenagers in the study group were married. The main reasons for unmarried pregnancy are lack of sex education and illiteracy.

## **LITERACY**

Literacy is the most important direct and indirect factor contributing to the outcome of teenage pregnancy. The educational standard is more in the control group than the study group and the education seems to be the main reason for delaying marriage.

Even in this 21<sup>st</sup> century, many girls have never attended school and do not know to read and write. When the education status of the present study was compared with previous studies, we find that the status of women haven't changed over the years.



EDUCATION	PRESENT STUDY		A.K.SHARMA <sup>1</sup> (2001)	
	STUDY GROUP	CONTROL GROUP	STUDY GROUP	CONTROL GROUP
Illiterates	17%	13%	12.9%	10%
Upto class V	55.66%	14.66%	18.6%	5.7%
Upto class X	25.33%	55%	65.7%	55.7%
Class X and above	1%	17.33%	2.9%	28.6%

### ANTENATAL CARE

The incidence of complications are reduced in people having early booking and regular visits. Most of the teenage group book late and have reduced number of antenatal visits. Due to increased number of primary health centre and Health services in India, the high risk patients are identified by health workers & referred to tertiary levels. Most of the previous studies show that the teenage pregnant women had their I AN visit very late and none of them had periconceptional counselling.

M..K. Malviya in his study has stated that only 25% of the teenage pregnant women had their I visit during I trimester and 12% during their III trimester and the rest during II trimester<sup>16</sup>. In our study 12% of the women in the study group booked in their I trimester, 14% in the III trimester and the rest during II trimester.

## Height and weight of the patient

In our study 8% of the study group were short statured whereas 3% of women in the control group were short statured. Only 2% of the study population were undernourished (<45kg). In study by Anandalakshmi, (1993) 18% of the study population were below 45Kg.<sup>2</sup> Mapanga K.G. (1997) showed that 16% of the study population were below 45 kg.<sup>15</sup>

The improvement in the nutritional status of the teenage was due to better nourishment and better care given to the pregnant women by the family while she is pregnant.

## ANEMIA

According to ICMR classification, Haemoglobin level > 11 gm% is considered normal for pregnant women. In our study, only 5.33% women in the study group had Haemoglobin more than 11 gm%

Hb	Anemia	PRESENT STUDY		A.K.SHARMA <sup>1</sup> (2001)	
		STUDY GROUP	CONTROL GROUP	STUDY GROUP	CONTROL GROUP
≥ 11g%	No anemia	5.33%	10.66%	31.4%	51.4%
10.1 - 10.9 g%	Mild	24%	46.33%	41.4%	40.0%
7.1 – 10 g%	Moderate	66%	42.66%	24.3%	08.6%
4.1 - 7 g%	Severe	4.33%	0.33%	2.9%	0
≤ 4g%	Very severe	0.33%	0	0	0

In the present study, the majority of the women (66%) in the study group had moderate anemia, the reason being lack of awareness about iron rich foods and not taking iron supplements during AN period. The incidence of anemia in Bhalerao, (1990), Pratinidhi et al., (1990), Israel and Wonderz (1963) and Ghose and Ghosh (1963) were 25.5%, 30%, 26% and 24% respectively. The vast difference is because of using different cut off for anemia in different study groups.

## **PIH**

Incidence of PIH in the study group was 9.33% out of which more than 50% had complications of PIH. Whereas in the control group, these who had PIH belonged only to the mild variety mostly. The incidence of PIH in various studies were almost similar.

Bhalerao (1990) <sup>4</sup>	-	10.0%
Pratinidhi et al. (1990) <sup>19</sup>	-	11.4%
A.K. Sharma (2001) <sup>1</sup>	-	7%
Israel and Wonderz <sup>11</sup> (1963)	-	7.8%
Ghose and Ghosh <sup>9</sup> (1976)	-	8%
Present Study	-	9.33%

## **OTHER COMPLICATIONS**

The incidence of CPD in our present study in the teenage group was 10.66%. Incidence of CPD in Bhale Rao (1990) was 1.5% and in Philips and Sivakamasundari (1978) was 2.6%. The increase in incidence of CPD in the present study is probably due to over diagnosis of CPD since among the cases diagnosed as CPD, most of them came under the category of first degree CPD. As in other studies, there was no significant increase in other complications.

## **FETAL COMPLICATIONS**

The most common cause of perinatal mortality in women born to teenage mothers is low birth weight which could be either due to prematurity or small for gestational age babies. 38.66% of babies born to teenage mothers were less than 2.5 kg in the present study.

### **Incidence of Low birth weight**

Bhalerao (1990)	-	44.1%
Pratinidhi (1990)	-	50.4%
Kumar Ashok (2006)	-	87.2%
Present Study	-	38.66%

In the present study, other complications like respiratory distress (16.33%) and neonatal jaundice (1.66%) were increased in the study group.

In Kumar Ashok's<sup>13</sup> study, neonatal morbidities like perinatal asphyxia (11.7%), jaundice (5.77%), respiratory distress syndrome (1.9%) were increased.

In the present study 6.66% of babies born expired in the study group whereas 1.66% babies expired in the control group. In Kumar Ashok's study, perinatal mortality was 6.7%, the commonest cause being prematurity.

Globally researchers have gathered substantial evidence in favour of the fact that pregnancy among adolescents is associated with maternal complications and fetal complications. It is also emphasized by Mapanga that the health related disadvantage of adolescents who become pregnant heavily outweigh advantages that there may be.<sup>15</sup> So teenage pregnancies should be discouraged by increasing the age at marriage for girls and providing better educational facilities for them.

## SUMMARY

- The incidence of teenage pregnancy during the study period in KMCH was 9.6%.
- 2/3 of pregnant teenagers were 19 yr olds, and almost the rest belonged to the 18 yrs category. Only 2.33% belonged to the 15 - 17 yrs category. Among the control group, about half of the population belonged to 20 - 22 yrs group.
- Women in the study group had a mean age at marriage of about 17.08 yrs whereas women in the study group had a mean age of marriage of about 21.52 yrs.
- 1.33% of the study group were unmarried whereas all were married in the control group. The unmarried women were illiterate and lacked basic knowledge about pregnancy. Ignorance about safe sex and casual relationship had led to this situation in them.
- 17% of the study group were illiterate and 13% of the control group were illiterate. About ½ of the study group have stopped attending school after primary level of education whereas more than half of the control group have attended school till secondary level.

- None of the women in the study group have attended college whereas 3.66% of the control group had college education after school education.
- Most of the women in both the groups were not working and were solely dependent on their husbands for their living. About 9.66% of the study group belonged to the working category which made them financially independent.
- Only 1/6 of the study group had awareness about pregnancy and its complications whereas about 1/3 of the control group had enough knowledge. They acquired the knowledge from books, media and from friends.
- 14% of the women in the study group were unbooked i.e. they didn't have adequate antenatal checkup whereas only 4.66% of the women in the control group didn't have adequate antenatal checkup.
- Almost all patients have had 2 doses of TT in both the study and control group except one patient in the study group who was an unmarried teenager.

- 12% of women in the study group booked in the I trimester whereas 30% of women in the control group booked during the I trimester. 14% of the women in the study group had their first visit during III trimester after they had developed complications and 4% of women in the control group had their first visit during III trimester.
- Height of most of the women ranged between 146 - 150 cm, the average height in Indian women. 8% of women in the study group were short statured i.e. <145 cm and 3% of women in the control group were short statured.
- There was not much difference in the weight between the study and control group.
- Mean Hb in study group was 9.58% which belongs to moderate anemia category and mean Hb in control group was 10.11 g% which belongs to mild anemia category according to ICMR classification of anemia. Severe anemia is more common in the study population than the control population.
- Pregnancy induced HT was prevalent in both the groups because they were primigravidae. Incidence of mild PIH was almost same in both the groups. Incidence of severe PIH was 3.66% in the study



group and was 1% in the control group. Incidence of eclampsia was 1.66% in the study group and 0.33% in the control group.

- Among other complications, incidence of malpresentation and malposition was not significantly different.
- 2 patients in the study group had intrauterine death.
- 5 patients had IUGR in the study group and 2 patients had IUGR in the control group.
- There was 1 case of abruptio placenta in the study group.
- 10.66% of the study group had cephalopelvic disproportion whereas 8.66% of the control group had cephalopelvic disproportion.
- 9% of the study group had prelabour rupture of membranes whereas 7.66% of the control group had the same.
- 6 patients from the study group had prolonged labour and 1 patient had prolonged labour among the control group. One patient from the study group had precipitate labour.

- All complications occurring postpartum such as local sepsis, mastitis and UTI were increased in the study group than in the control group.
- There was not much difference in the mode of delivery between the 2 groups. Labour naturale was 58.66% in the study group and 57% in the control group. Caesarean rate was 35.33% in the study group and 38% in the control group. Instrumental delivery was seen in 4.33% among the study group and 4.66% among the control group.
- About 38.66% of babies born to mothers in the study group were low birth weight (<2.5kg). About 25.66% of babies born to mothers in the control group were low birth weight.
- About 1/3 of babies born to mothers in the study group required NICU admission whereas only 1/5 of babies born to mothers in the control group were admitted in NICU.
- Leading causes of admission in NICU were respiratory distress and LBW / preterm babies. 16.33% of babies born to mothers in the study group had respiratory distress and 7% of babies born to mothers in the control group had respiratory distress.

- 14% of babies born to mothers of study group required admission for low birth weight / prematurity whereas 10% of babies born to mothers of control group required admission for the same.
- Incidence of sepsis was same in both the groups.
- 2 babies from the study group had milk aspiration pneumonia as the mothers had no idea how to feed the babies.
- 6.66% of the babies born to mothers of the study group expired whereas 1.66% of the babies born to mothers of the control group expired. Main reason for perinatal loss in both the groups was prematurity.

## CONCLUSION

Teenage pregnancy is a serious problem today all over the world and more so in developing countries like India. Throughout the world, various measures are being taken to prevent teenage pregnancy. Educating and creating awareness about the perils of teenage pregnancy is the best approach for this problem.

In U.S., a national campaign has been started in February 1996 with the goal to reduce teen pregnancy rate by 1/3 over 10 yrs and in 2006, the goal was again revised to reduce teen pregnancy rate by another 1/3 between the years 2006 - 2015<sup>24</sup> In U.S. schools, a popular video '**Too young**' is being telecasted, where teen parents from a variety of backgrounds share their stories and in their own words offer their candid view about the difficulties they have faced. In the same lines, Jason Reitman, has directed a film '**Juno**' which is about the pathetic situation of an American teenager facing an unplanned pregnancy and the film has won the best film award at Rome film festival in October 2007.

In Jharkand, a 16 hour course prepared by UNESCO, named '**Learning for life**' '**Jeevan ke liye siksha**' has been made compulsory for class 11 and class 12 students which educates about HIV, STDs, teenage pregnancy and ways to prevent it.

All over India, 2 programmes have been initiated by FOGSI. '**Growing Up**' program initiated by FOGSI in partnership with Johnson and Johnson educates schoolgirls on menstruation, its myths and hygiene, anatomy and functioning of the reproductive system, value of good nutrition and exercises, problems of drugs alcohol and smoking and about sexual abuse. Another program '**Let's talk**' initiated by FOGSI in association with Organon educates college going women about various forms of contraception. '**Teenage girl clinic**', set up in various Government hospitals tackles various problems encountered by teenage girls and distributes iron tablets to teenage girls to improve adolescent health. '**Family Welfare Clinic**' offers excellent services in the form of contraceptive measures including emergency contraception and by providing with MTP services in case they get pregnant. With these measures, we can hope to eradicate teenage pregnancy at least in the future generation, just as we have brought 100% immunisation among antenatal women through various Government programmes.

The present approach is to provide general health education about the risks of teenage pregnancy, strictly enforce the minimum age at marriage law, screen all pregnant mothers for risk factors and provide at risk mothers with education about childbearing and rearing and referral to a tertiary hospital for safe delivery. A multidisciplinary approach involving educationists, health workers, social workers and obstetrician and gynaecologists is required to improve the adolescent's reproductive health.

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**FAMILY HISTORY**

1. HT            2. DM            3. Heart Disease            4. Asthma

**PERSONAL HISTORY :**

Diet - Vegetarian / Mixed

Addiction - Alcohol / Smoking / Betel nut / Drugs / Nil

**PAST HISTORY :**

Any Medical or Surgical illness, specify \_\_\_\_\_

**OTHERS :**

Knowledge about Pregnancy / Delivery

Knowledge about high risk factors in pregnancy -Good / Poor

**Source of Information:**

1. Parents
2. Friends & Relatives
3. Mass Media
4. Health Personnel
5. Others

**DETAILS OF PRESENT PREGNANCY**

Planned / Unplanned

Booked / Unbooked

I ANC at \_\_\_\_\_

No. of ANC \_\_\_\_\_

Immunized / not immunized

Prophylactic Iron - Yes ./ No

Weight gain during Pregnancy

Screening for risk factors - Yes / No.

Ultrasound taken - Yes / No.

**RISK FACTORS OF PREGNANCY DURING AN PERIOD**

1. Short Stature < 145 cm
2. Malnourishment
3. Malpresentation
4. Bad Obstetric History
5. Anemia
6. PIH & Eclampsia
7. G D M
8. Heart Disease
9. I U G R
10. Rh Incompatibility
11. Previous LSCS
12. Twins
13. Placenta Previa
14. Abruption Placenta
15. Preterm / Low Birth weight
16. Oligohydramnios
17. Polyhydramnios

Any hospital admission during antenatal period - Yes / No.

**EXAMINATION :**

Height :

Weight

Urine : Albumin / Sugar

Hb %

Anemia

Jaundice :

Pedal edema:

Temperature:

Pulse:

BP:

RR :

Breast :

Thyroid:

CVS :

RS:

Spine :

Gait:

P/A :

P/V:

**LABOUR :**

Onset of Labour : Spontaneous / Induced

Period of Gestation : Preterm / term /Post term

Gestational Age in weeks :

**Intervention during labour :**

1. Oxytocin

2. ARM

3. Misoprostol

4. Dinoprostone

5. Epidosin

6. Others

**Mode of Delivery :**

Duration of I Stage

Duration of II Stage

Duration of III Stage

Total Duration :

Colour of Liquor :

Delivery of Placenta :

If LSCS done, indication - Elective / Emergency

**COMPLICATION DURING LABOUR:**

1. Prolonged Labour
2. Obstructed Labour
3. CPD
4. Cord Prolapse
5. Eclampsia
6. Inversion of Uterus
7. Rupture Uterus
8. Post Partum Haemorrhage
9. Retained Placenta
10. Perineal Injuries
11. Shock / Cardiac Failure



**COMPLICATIONS:**

1. Congenital Defects
2. Low birth weight
3. Birth Asphyxia
4. Respiratory Distress
5. Neonatal Jaundice
6. Hypothermia
7. Hypoglycemia
8. Hypocalcemia
9. Neonatal Infections
10. Neonatal Convulsions

Whether admitted to NICU : Yes / No

No. of days in NICU :

Whether baby discharged / expired.



## **ABBREVIATIONS**

APH	-	antepartum haemorrhage
CPD	-	Cephalopelvic disproportion
GDM	-	Gestational diabetes mellitus
HIV	-	Human immunodeficiency Virus
ICMR	-	Indian Council for Medical Research
IUD	-	Intrauterine death
IUGR	-	Intrauterine growth restriction
LGA	-	Large for gestational age
LMC	-	Low midcavity
LSCS	-	Lower segment caesarean section
MTP	-	Medical Termination of pregnancy
NICU	-	Neonatal intensive care unit
PIH	-	Pregnancy induced hypertension
PROM	-	Prelabour rupture of membranes
STD	-	Sexually transmitted diseases
TT	-	Tetanus toxoid
UTI	-	Urinary tract infections

## KEY TO MASTER CHART

A.M.	-	Age at Marriage
EDU	-	Education
OCC	-	Occupation
M.S.	-	Marital Status
Know	-	Knowledge
Boo	-	Booked
IMM	-	Immunised
IANC	-	First Antenatal Checkup
Ht	-	Height
Wt	-	Weight
Hb	-	Haemoglobin in Gm%
M.D.	-	Mode of Delivery
B.Wt.	-	Birth Weight in kg
NICU	-	No. of Days in NICU
B.D.	-	Baby discharged
UM	-	Unmarried
M	-	Married
P	-	Poor
G	-	Good
B	-	Booked
UB	-	Unbooked
I	-	Immunised
NI	-	Not Immunised
LN	-	Labour naturale
LSCS	-	Lower Segment Caeserean Section