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RETROSPECTIVE OBSERVATIONAL STUDY OF FETO – MATERNAL OUTCOME OF TEENAGE PREGNANCY IN TERTIARY CARE CENTRE, TRIHMS, ARUNACHAL PRADESH

Medical Science

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ABSTRACT

Background: Teenage Pregnancy is associated with Low Birth weight, Prematurity, anaemia, Increased rate of Cesarean Section due to cephalon-pelvic disproportion. The objective is to study the Feto – Maternal outcome of Teenage Pregnancy at TRIHMS for the study period of 1 year from April 2021 to March 2022. Teenage Pregnancy is a worldwide public health problem especially in the context of developing country like India. **Method:** It is a retrospective study conducted in the Department of Obstetrics and Gynaecology, TRIHMS, a tertiary care hospital over a period of 1 year from April 2021to March 2022. In the study period, 200 teenage pregnant women were selected out of 3578 total deliveries at the health facility. Parameters including age, mode of delivery, complications during pregnancy and neonatal outcome were noted. **Results:** Study showed the prevalence of Teenage Pregnancy is 5.59 % . The median age of teenage mother is 19 years. Among the teenage pregnant women Anaemia was prevalent in the teenage group. Mild Anaemia was seen in 89 %, moderate anaemia 7.5 % and severe anaemia 3.5 %. Preterm Labour19 % , Oligohydramnios 10 % , PROM 6.5 %, Study also showed an increase in the rate of C – section due to CPD which was 14.5 % . The other indications of C – section were Prolonged Labour 5 % , Fetal Distress 4.5 % , Contracted Pelvis 3 % , Failed Induction 3 % , Non Progress of Labour 2.5 % , Obstructed Labour 1 % . The neonatal outcome in teenage mothers showed LBW of 18.5 % and Preterm Birth 19 % . NICU admission was required in 7.5 % and Neonatal Resuscitation in 8.5 %

KEYWORDS

Teenage Pregnancy, Adolescent pregnancy, Anaemia, Feto – Maternal Outcome, Retrospective Observational Study.

INTRODUCTION:

WORLD HEALTH ORGANIZATION (WHO) defines Teenage Pregnancy as any pregnancy from a girl who is 10 to 19 years of age , age being defined as her age at the time of delivery. [1]The incidence of teenage pregnancy varies dramatically between the different countries, out of which 90 percent is contributed by developing countries .[2]Teenage Pregnancy is a global phenomenon with health ,economic and social problem distributed worldwide has serious implication on maternal and child health especially in context of developing country like India . In India the incidence of teenage Pregnancy is 2 women per 1000 pregnancies .[3] Every year an estimated 21 million girls aged 15 – 19 years in developing regions become pregnant and approximately 12 million of them give birth . Socio demographic factors surrounding teenage pregnancy are different in developing and developed countries of the world .[4]

Various factors are found to be responsible for adolescent pregnancy. They are early marriage , sexual violence , limited maternal education , lack of availability of contraceptives , lack of parental support , lack of financial autonomy , religious beliefs , child of a broken family .[5] Girls with the teenage pregnancy are at higher risk of PPROM , increased incidence of Anaemia , occurrence of PIH , increased risk of operative vaginal deliveries , maternal deaths and postpartum depression. [6] Various neonatal outcomes also occur as a result of teenage pregnancy. They are low birth weight, congenital anomalies , prematurity , still birth and small for gestation age .[7]

There is abnormal biological, mental or social maturation and that will have the effect on the maternal and fetal outcomes due to stress , anxiety, malnutrition, insufficient antenatal care, biological immaturity and depression . [8]

Teenage Pregnancy is itself a ' high risk ' or ' at risk ' Pregnancy due to its association with series of maternal and fetal complications. Anaemia, preterm delivery, increase cesarean rate due to cephalopelvic disproportion, fetal distress, low birth weight are associated compplications in teenage pregnancy.

OBJECTIVES:

1. To assess complications in Teenage Pregnancy
2. To assess Fetal Outcome in Teenage Pregnancy

METHODOLOGY:

This is a retrospective observational study conducted in the Department of Obst etrics and Gynaecology at TRIHMS , medical college and hospital , a tertiary care centre , Naharlagun , Arunachal Pradesh . A review of teenage pregnancies was made over a period of 1 year from April 2021 to March 2022. The study was conducted after taking Approval of Institutional Ethics Committee. Data was retrieved from hospital record for the study period . Maternal details like gestational age , complications during pregnancy , mode of delivery and Baby details were noted . Data was entered in excel Sheet and statistical analysis done by software SPSS 16.0.

Study Population:

Inclusion Criteria:

Only singleton pregnancy was included in study group upto 19 years of age at the time of delivery .

Exclusion Criteria:

a) Elderly Primigravidae
b) Age above 20 years
c) Multiple Gestation
d) Women with major illness during Pre – Pregnant state was excluded from the study.

RESULTS:

Table1: Age Distribution Of Mother

Age of Mother	Number	Percentage
12	1	.5
16	9	4.5
17	14	7.0
18	61	30.5
19	115	57.5
Total	200	100.0

Table 1 shows Median Age of Mother: 19 years, Minimum age: 12 years, Maximum age: 19 years

Table 2 : Complications In Teenage Pregnancy

Complication		Number	Percentage
Preterm Labour		38	19%
Oligohydramnios		20	10 %
PROM		13	6.5 %
Mild Anaemia		178	89 %
Anemia	Moderate	15	7.5 %

	Severe	7	3.5 %
Antepartum Haemorrhage		1	0.5%
Gestational Hypertension		1	0.5 %
RH Negative Pregnancy		1	0.5 %

Table 2 shows varying degrees of Anaemia was seen in Teenage mothers ,Mild Anaemia 178 (89 %),Moderate Anaemia 15 (7.5 %) ,severe Anaemia in 7 (3.5 %) ,The Other complications were Preterm Labour 38 (19 %) , Oligohydramnios 20 (10 %) ,PROM 13 (6.5)%) , Gestational Hypertension 1 (0.5 %), R h Negative Pregnancy 1 (0.5 %) Antepartum Haemorrhage 1 (0.5 %)

Table 3: Mode Of Delivery

Mode Of Delivery	Number	Percentage
Vaginal Delivery	94	47%
Cesarean Section	91	45.5%
Ventouse Delivery	15	7.5%
TOTAL	200	100%

Table 3 ,Out of 200 Teenage Mothers who delivered , majority had vaginal delivery 94 (47 %) ,Cesarean Section was seen in 91 (45.5 %) and Ventouse assisted vaginal Delivery in 15 (7.5 %).

However its noteworthy to find 38 (19%) had pre term delivery, whereas 162(81%) was delivered at term pregnancy.

Table: 4 Neonatal Outcome In Teenage Pregnancy

Neonatal Complications	Number	Percentage
Preterm Birth	38	19 %
Neonatal Resuscitation	17	8.5 %
NICU Admission	15	7.5 %
Fetal Distress	9	4.5 %
Meconium Stained Liquor	4	2 %
Intrauterine Death	1	0.5%

Table 4 shows Low Birth weight contributing to 37 (18.5 %) which is significant , Preterm Birth was observed in 38 (19 %) , Fetal Distress in 9 (4.5 %) ,IUD 1 (0.5 %) , Neonates requiring Resuscitation was 17 (8.5 %) and NICU admission was required in 15 (7.5 %).

Table :5 Distribution Of Birth Weight In Newborn Infants

Birth Weight (KG)	Number
Extreme low birth weight<1	0
Very low birth weight 1 - <1.5	0
low birth weight 1.5 - <2.5	45(22.5%)
Normal birth weight 2.5 - <4	152(76%)
>4	3(1.5%)
Total	200

Table 5 shows Average baby weight (median): 2.7 kg, Minimum weight: 1.8 Kg, Maximum weight: 4.34 Kg

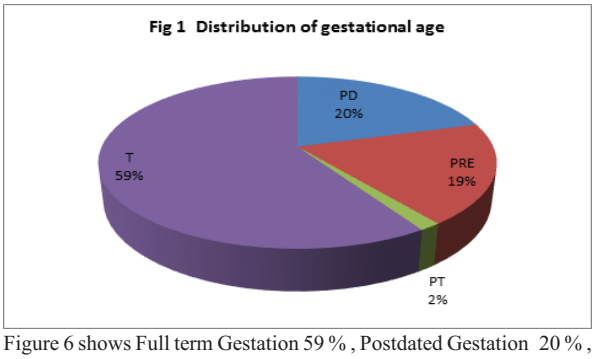

Figure 6 shows Full term Gestation 59 % , Postdated Gestation 20 % , Preterm Gestation 19 % and Post Term Gestation 2 % in Teenage Mothers .

Table 6 : Indication For Caesarean Section

Indication	Number	Percentage
CPD	29	14.5 %
Prolonged Labour	10	5 %
Fetal Distress	9	4.5 %
Failed Induction	6	3 %
Contracted Pelvis	6	3 %
Non Progress of Labour	5	2.5 %
Obstructed Labour	2	1 %

The caesarean section rate in our study was 45.5 %. The various indications of caesarean Section was CPD 29 (14.5 %), Prolonged Labour 10 (5 %) , Fetal Distress 9 (4.5%) ,Contracted Pelvis 6 (3 %) , Failed Induction 6 (3 %), Non Progress of Labour 5(2.5 %), Obstructed Labour 2 (1 %).

DISCUSSION:

Teenage Pregnancy exposes mothers to many health related complications and newborn to poor birth outcome . The incidence though falling continues to be sizable especially in developing countries of the world .[9,10]

Teenage constitutes a " high risk " group in reproductive terms because of double burden of reproduction and growth.

The Prevalence of Teenage pregnancy in our study is 5.59 %.

This is attributed to the fact that our institute being a tertiary care centre caters a high number of cases referred from other peripheral centre.

In our study median age and maximum age of teenage mothers were 19 years (57.5 %) , 18 years (30 .5%) , 17 years (7 %) , 16 years (4.5 %) , 12 years (0.5 %) being the minimum age of mother.The distribution of gestational age of teenage mothers showed Term pregnancy (59 %), Preterm (19 %) , Post-dated Pregnancy (20 %) and Post Term in 2 %.

In our study, 47 % of Teenage mothers had a normal vaginal delivery. The rate of caesarean section in present study is 45.5 % . The most common indication of caesarean section is CPD (14.5 %) due to immaturity and underdeveloped pelvis in teenagers[11,12,13] followed by Prolonged Labour (5 %) , Fetal Distress (4.5 %) , Contracted Pelvis (3 %), Failed Induction (3 %), Non Progress of Labour (2.5 %), Obstructed Labour (1 %).

Varying degrees of anaemia was seen in teenage mothers which is one of the most prevalent complication . Mild anaemia was seen in 89 % , moderate anaemia in 7.5 % and severe anaemia in 3.5 % . Previous studies in North East India also found high prevalence of anaemia among teenage pregnant girls.[14,15] This may be due to inadequate nutrition intake which occurs due to poor eating habits which is common in adolescents. Severe anaemia leads to preterm labour , low birth weight, sepsis, post partum complications, in addition to impaired physical and cognitive development. Iron deficiency anaemia is one of the most common cause of anaemia during pregnancy that can be corrected by proper diet and oral iron supplementation.

In our study PROM was seen in 13% of adolescent mothers. Adolescent females are more prone to PROM as they have immature uterine and cervical blood circulation, making them prone to underdiagnosed or diagnosed infections leading to PROM by increasing inflammatory markers such as interleukins and prostaglandins ,leading to chorioamniotic and decidual inflammation. Markovic ' et al conducted a comparative teenage and adult group prospective study over a four year period and found that adolescent females had significantly high PROM.[16]

In our study Oligohydramnios was seen in 10% of teenage mothers. A study by Derme and his colleagues also reported oligohydramnios and PROM were the most common among teenage pregnant women .[17]

Neonatal complications were seen in our study group among which Low Birth weight was most common . Low Birth babies born between 1.5 kg - < 2.5 kg were 22.5 % and normal birth weight babies 2.5 kg - < 4 kg were 76 % . Average baby weight was 2.7 kg ,minimum baby weight was 1.8 kg and maximum baby weight was 4.34 kg . In a study conducted by Agarwal N and Reddaiah V P , LBW babies were born to mothers age below 20 years . They concluded that the prevalence of LBW was significantly associated with mothers age .[18] Low birth weight is a key indicator of malnutrition and important determinant of child mortality.

In our study Preterm birth was seen in 19 % of babies . This is similar to studies done by Bhaduria et al , Bhattacharya et al and shravage et al which showed high incidence of preterm delivery in teenage primigravidae .[19,20,21] This could be explained due to incidence of anaemia in teenager group.

Preterm Babies and Low birth weight babies require NICU admission .

In our study NICU admission was required in 7.5 % of babies and Neonatal Resuscitation was required in 8.5 % of babies.

The other complications seen in teenage mothers were Gestational Hypertension 1 (0.5 %). This is not consistent to studies done by Sharma et al and Sarkar et al.[22,23] APH (Placenta Praevia) was seen in 1 (0.5 %) , Rh Negative pregnancy in 1 (0.5 %).

Meconium Stained Liquor was seen in 2% of Teenage Babies.

IUD was seen in 1 (0.5 %) case of Complete Placenta Praevia at term . No maternal mortality was reported in present study.

CONCLUSION:

The present study aimed to assess the outcomes and complications of teenage pregnancy . It was concluded from present study that , Preterm labour, Premature rupture of membranes , anaemia , Oligohydramnios, increased rates due to CPD. Low birth weight , Preterm birth was major adverse fetal outcome.

The healthcare provider should consider teenage pregnancy as a high risk pregnancy and should educate the teenagers to have more number of antenatal visits so that signs and symptoms of various complications could be recognized at the earliest.

Proper antenatal care , institutional delivery and postnatal care help in reducing maternal, Perinatal morbidity and mortality in adolescent pregnancy . Prevention of adolescent pregnancy can only be achieved by education of girl child, marriage at legal age, prevention of unwanted pregnancy along with proper health and life skill education to both boys and girls irrespective of whether they live in rural or urban areas. School based programs are needed that will provide student with knowledge of pregnancy, contraception, sexually transmitted diseases.

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