

A STUDY OF TEENAGE PRIMIGRAVIDA AND ITS EFFECTS ON MATERNAL AND FETAL OUTCOME

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Abstract

Background: A Teenage Pregnancy rate varies vastly between different countries and different regions within a country. Such Pregnancies are seen mostly amongst the poorer and less educated sections of the society. In developed countries majority of teenage pregnancies occur to unmarried girls unlike developing countries including India where teenage pregnancies occur to married girls and are associated with early marriages.

Aims: To find the incidence of teenage pregnancy.
To evaluate the maternal and fetal outcome in teenage primigravida.

Materials and Methods:

Study Design: A Prospective Cross sectional observational study done for 12 months from 07.08.2019 to 21.08.2020 at OBG Department, Mysore, Medical College.

Inclusion Criteria:Primigravida 15 - 19 years of age, singleton pregnancy with term gestation with cephalic presentation.

Exclusion Criteria: Pregnant women with pre-existing medical disorder, surgical disorders, abortion, molas, pregnancies were excluded.

Results: The incidence of teenage pregnancy in OBG Department MMCRI is 13.05% of the 150 study population, 90% belong to the age group of 19 year and 10% were of 18 years old. 83.3% had anaemia, 12.7% has hypertension disorder of pregnancy, 8% has oligohydrominios, 0.7% has polyhydrominios, 4% has post-term pregnancy, 1.3% had IUGR ,15.4% had LSCS (Lower segment Caesarean section) under spinal anaesthesia for various indications among which fetal distress being the commonest. 8.7% of those delivered vaginally, 20.7% were induced and 1.3% had instrumental deliveries,12% had low birth weight babies and 30 needed NICU admission, there were 2 perinatal mortalities.

Conclusion: Teenagers have significant number of complications during pregnancy, Anaemia being the commonest. Various awareness, program should be taken up to educate people regarding the adverse outcomes of teenage pregnancy on the mother and her family.

Key words: Teenage pregnancy, primigravida, anaemia, spinal anaesthesia.

BACKGROUND

A variety of term have been used in the literature to define the age period encompassed by the term 'Teenage'. The teenage period however is defined as that period from 13-19 completed years. The burden of pregnancy takes its role on teenage as they are still incomplete in their growth, development and mental maturity as they have now an additional responsibility of being a mother, woman and ultimately have to take care of her child and family. In India this problem is interconnected with issue of child marriage. India is the second most population country in the world. Teenage constitute about 22%, factorsmainly contributing to teenage pregnancy are early onset of puberty, early marriage, socio-cultural reason, illiteracy, early onset of sexual activity, lack of awareness and access to contraception, ignorance and poverty. Hence, study was conducted in OBG Department, Mysore Medical College and Research Institute to analyse the outcome of teenage primigravida.

Aims:

To find the incidence of teenage pregnancy.
To evaluate the maternal and fetal outcomes in teenage primigravida.

MATERIALS AND METHODS

Prospective Cross sectional observational study done for the period of 12 months from 07.08.2019 to 21.08.2020 for cases attending OBG Department, Mysore Medical College who were primigravida, 15-19 years ages with term gestation with cephalic presentation were studied:

The detailed history includes demographic, socio-economic, marital reproductive, investigation and treatment history, a review of available medical records and an examination of the mother and infants to determine the pregnancy outcomes.

Any medical or obstetrics complications in antenatal, intra natal, postnatal period were noted. Labour and its progress, mode of delivery and perinatal outcomes were studied in both the groups. Maternal outcomes measures including presence of anaemia, pregnancy induced Hypertension, preterm labour, IUGR, Abruption placentae, post- partum haemorrhage, mode of delivery, number of operative deliveries under spinal anaesthesia were noted.

Perinatal outcomes measures including birth weight, APGAR score, perinatal mortality and perinatal morbidities leading to admission to the neonatal care unit like respiratory distress syndrome, neonatal sepsis, meconium aspiration syndrome, jaundice and hypoglycemia were noted.

Inclusion Criteria: Primigravida 15 - 19 years of age, singleton pregnancy with term gestation with cephalic presentation.

Exclusion Criteria: Pregnant women with pre-existing medical disorder, surgical disorders, abortion, molas, pregnancies were excluded.

Sample Size: Using estimation methodology for the level of significance (a) 5%, allowable error 5% upper limit of incidence of teenage pregnancy in India is 5.6%, approximately n = 43, for this study 150 cases will be considered.

Results

Table 1: Age distribution of study participants (N = 150)

Age (in years)	Numbers	%
18	15	10%
19	135	90%
Total	150	100%

Of the 150 study participants, 135 participants were of 19 years old comprising 90% of the study group and 15 were of 18 years old comprising 10% of the study group. Mean age of the teenagers at first pregnancy in the study is 18.9 years. None of the teenagers in the study group were less than or equal to 17 years.

Table2: Distribution of residence of study participants (N = 150)

Age (in years)	Numbers	%
Rural	102	68%
Urban	48	32%
Total	150	100%

Teenage pregnancy is more common in rural area due to many reasons. In this study 102 teenagers belong to rural area, contributing to 68% and 48 (32%) are from urban area.

Table 3: Antenatal complication among study participants (N = 150)

Complication	No.	%
* None	25	16.6
* Hyperemesis	1	0.7
* Polyhydromnios	1	0.7
* Oligohydromnios	12	8
* Preterm Labour	1	0.7
*Hypertensive disorder of pregnancy	19	12.7
• Gestational HTN	5	3.3
• Mild Pre-eclampsia	6	4
• Severe Pre-eclampsia	7	0.7
* Anaemia	125	83.3%
• Mild Anaemia	33	22
• Moderate Anaemia	87	58
• Severe Anaemia	5	3.3
* Intrauterine grown restriction	2	1.3
* Post term Pregnancy	7	4.6
* Gestational Diabetes Mellitus	1	0.7

Incidence of complication in the study group is 39.3%, most common complication is Anemia (83.3%), followed by Hypertensive disorder in pregnancy (12.7%), followed by oligohydromnios (8%), Hypertensive disorder of pregnancy are the second most common complication in the study group, of which severe pre-eclampsia is the most common complication (37%).

Table 4: Mode of delivery of study participants (n = 150)

Mode of delivery	Number	Percentage
- Vaginal delivery	127	84.6%

• Induced	31	20.7
• Spontaneous vaginal delivery	94	62.7
• Ventouse	2	1.3
- Lower segment Caesarean section (under spinal anaesthesia)	23	15.4
• Arrest of descent	1	0.7
• Cephalo-pelvic disproportion	1	0.7
• Deep transverse arrest	2	1.3
• Failed Induction	2	1.3
• Failure to progress	1	0.7
• Fetal Distress	13	8.7
• Obstructed labour	3	2
Total	150	100

Incidence of LSCS which required spinal anaesthesia in the study population is 15.4%, Of the teenagers who delivered vaginally 31 were induced and 2 required instrumental assistance (ventouse). Most common indication for uses among the study population is fetal distress (57%), followed by obstructed labour (13%).

Table5: Birth weight of babies born to teenage mothers in the study (N = 150)

Birth weight	Number of babies	%
< 2.5 Kg.	18	12
2.5 – 3.5 Kg.	120	80
> 3.5 Kg	12	8
Total	150	100%

Incidence of low birth weight babies is 12%

Table6: APGAR Scores among babies of study participants (N = 150)

APGAR Score at 1 minute	Number of babies	%
< 7	13	8.6
> 7	137	91.3
APGAR at 5 minute		
< 9	19	12.6
> 9	131	87.4
Total	150	100%

Mean APGAR score at 1 minute was 8.50 with a standard deviation of 1.29. Mean APGAR scores at 5 minutes were 9.39 with a standard deviation of 0.95.

Table7: Neonatal Morbidity / Mortality

Neonatal Morbidity / Mortality	Number	%
NICU Admission	30	20
Meconium stained amniotic fluid	11	7.3
Neonatal Hyperbilirubinemia	6	4
RDS	5	3.3
Neonatal Care	5	3.3
MAS	3	2
Birth Asphyxia	3	2
Sepsis	2	1.3
Perinatal mortality	2	1.3

NICU admissions were required for 30 babies. meconium stained amniotic fluid was encountered in 11 cases, 3 babies had birth asphyxia and 2 babies died.

Discussion

The incidence of teenage pregnancy in our college is 13%, the incidence is quite high as compared to similar studies (Garala Yasmin et al²¹ (5.10%), SamasRudra et al²² (4.33%). In the present study most of the mothers belong to age group of 19 years (90%) and the rest belong to 18 years Similar with samasRudra et al²².

In our study, population belong to low socioeconomic status similar to other study Pranay Gandhi et al²⁰. This shows that low socioeconomic status is a strong determinant of early marriage and teenage pregnancy. The incidence of anemia in the present study is more compared to Dr. Rajat V. Thakur et. al¹⁹ (56.7%) to counter this problem more focussed national programmes like "12 by 12" where aim is to achieve 12 gm% of Hb% by the age of 12 are necessary.

Teenage pregnancy is known risk factor for developing hypertensive disorder in pregnancy. Compared to other studies (Gazala Yasmin et. Al²¹ (20.11%), Verma V. et. al¹⁸ (18.8%) the incidence is less in the present study (12.7%). Early antenatal care helps in diagnosing hypertensive disorder in teenagers.

In the present study 0.7% of the teenagers have eclampsia other studies (indranilDutt et. at²³ (1.2%) show higher incidence of eclampsia compared to present study.

Conclusion

From the present study it is concluded that teenage pregnancy is influenced by many socio-demographic factors like educational status, socioeconomic status and residence. They are also associated with significant number of complications in the pregnancy like Anaemia, Pre-eclampsia, Eclampsia. Maternal morbidity is increased due to increased rates of operative deliveries, LSCS under spinal anaesthesia. Neonatal morbidity and mortality were more due to NICU admissions due to low birth weight, RDS, birth asphyxia. Since teenage is a multifaceted problem, it demands multidimensional solutions. Pregnancy itself has a tremendous effect on teenage and has family. Here it was seen that teenage pregnancy was more common in low socio-economic status, due to lack of education, awareness of complications of teenage pregnancy. This indicates that awareness regarding teenage pregnancy, sex education and access to effective contraception are essential to improve, social, psychological and mental status of teenage mother.

Author Contribution: The first author Dr.VijayalaxmiDavalagi and the second author Dr.Poolan Devi. K. were involved in study conception and design, Data collection, Data analysis and interpretation, while the third author Dr.Sreeraghu G. M. and the corresponding Author (fourth author) Dr.Vinuth K. Murthy were involved in the technical aspect, revision and drafting of the manuscript, approval of final version of the manuscript.

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