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Original Research Article

MATERNAL AND FETAL OUTCOME IN YOUNG AGE PREGNANCY (18-20 YEARS): A HOSPITAL BASED PROSPECTIVE STUDY

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ABSTRACT

Background: Early age pregnancy has a high bearing on morbidity and mortality killing about 70,000 of them annually.[3] In addition to risk to the young woman, young age pregnancy is associated with adverse outcomes.
Objective: To study maternal and fetal outcome in young age pregnancy (18-20 years).
Materials and Methods: Present study was a cohort study. All young age pregnant women found eligible were included. History, general examination, necessary investigations were carried out. At the time of delivery, maternal and fetal outcome were recorded.
Results: 58% were booked pregnancies. 78% belonged to lower social class. 64% were illiterate. 99% were married. Only 5% were of 18 years of age. 40% were of 19 years of age. 88% were primi. Most common complication was anemia in 48% of the cases followed by CPD in 20% of the cases and PIH in 18% of the cases. 16% had preterm labour and 12% had fetal distress. 11% had oligohydramnios. Most common mode of delivery was spontaneous vaginal delivery in 54% of the cases. 38% had cesarean section. Majority delivered within 12 hours of labour pains in cases of spontaneous vaginal delivery.62% had low birth weight. 39.2% had APGAR score of 4-7 at one minute but it improved by five minutes as this proportion fell down to 6.1%. 97% were live births. One each was a perinatal death, still birth and intrauterine death. 18.3% required NICU admission.
Conclusion: Incidence of young age pregnancy was quite high i.e. 15.3%. Incidence of maternal and fetal adverse outcomes were also very high.
Key words: delivery, fetal distress, preterm labour, admission.

INTRODUCTION

Pregnancy that takes place below 20 years of age is known as teenage pregnancy as per World Health Organization.[1] Though the age-old traditions and customs have been the most important cause of young age pregnancy in the recent past, the western culture has also put its influence by encouraging early sexual activity. One fourth of world's early age pregnancies occurs in India, out of which 11% are young age pregnancies (18-20yr). In absolute numbers, it is 16-17 million in 15-20 years of age. It was seen from NFHS that at least 27% of Indian girls are married below the age of 18 years. The pregnancy rates in 15-20 years during NFHS 2005-2006 was 16% and during NFHS 2015-2016 was 7.9%.[2]

Early age pregnancy has a high bearing on morbidity and mortality killing about 70,000 of them annually. 3 In addition to risk to the young woman, young age pregnancy is associated with adverse outcomes. They include preterm, anemia, pregnancy induced hypertension, abortions etc. Those included in the adverse fetal outcomes are low birth weight, trauma during birth, respiratory distress syndrome etc. These may be due to neglected prenatal care and social stigma attached to unmarried pregnancies. Most important need in developing countries is to improve female literacy, economic and social circumstances thereby making the young age (18-20) women aware of their choices and rights to decide their reproductive health at an early stage of their life. Preventing unwanted pregnancy in young age (18-

20years) women has become high priority for health care providers. This requires either reduced exposure to risk (that is sexual intercourse), prevent early marriages or effective contraceptive use.[4]
Present study was carried out to study maternal and fetal outcome in young age pregnancy (18-20 years).

MATERIALS AND METHODS

Present study was a cohort, hospital-based study. It was carried out among a total of 100 women who were known cases of young age pregnancy in the age group of 18-20 years. The period of study here was around two years.
Institutional Ethics Committee permission was ascertained before the data collection after due procedure and protocol. Written informed consent was documented from all eligible study participants.
Those pregnant women in the age group of 18-20 years irrespective of their parity and booked status were included in the present study. Those with age more than 20 years of age and had a miscarriage were excluded.
The data related to history, general examination, relevant investigations and maternal and fetal outcome was recorded in the semi-structured, pre-designed, pre-tested study questionnaire. Fundoscopy, Antenatal Doppler scan, Biophysical profile. They were followed until delivery to know the fetal outcome along with maternal health status.
Patients presenting with preterm labour were admitted and managed by provision of bed rest, tocolytics and corticosteroids till 34 weeks of gestation. All outcomes whether positive or negative were noted down.
The data was entered in the Microsoft Excel worksheet and analyzed using proportions.

RESULTS

Total No. of Deliveries: 3852 (September 2017- August 2019)
Total No. of Young Age Pregnancies: 592 (September 2017- August 2019)
Incidence of Young Age Pregnancy: 15.3%
Maternal and Fetal outcomes in 100 Young age pregnancies were studied and analyzed.

Table 1: Distribution as per baseline characteristics

Characteristics		Number	%
Registration status	Booked	58	58
	Unbooked	42	42
Socioeconomic status	Lower	78	78
	Middle	20	20
	Upper	2	2
Education	Illiterate	64	64
	Primary	20	20
	High school and above	16	16
Marital status	Married	99	99
Age	18	5	5
	19	40	40
	20	55	55
Parity	Primi	88	88
	Multi	12	12

58% were booked pregnancies. 78% belonged to lower social class. 64% were illiterate. 99% were married. Only 5% were of 18 years of age. 40% were of 19 years of age. 88% were primi.

Table 2: Complications

Complications	Number	%
Anemia	48	48
CPD	20	20
PIH	18	18
Preterm labour	16	16
Fetal distress	12	12
Oligohydramnios	11	11
Postdated pregnancy	5	5
PROM	4	4
IUGR	3	3
Malpresentation	2	2
APH	2	2
PPH	2	2
Still birth	1	1
IUD	1	1
Jaundice	1	1
Congenital anomaly	0	0

Most common complication was anemia in 48% of the cases followed by CPD in 20% of the cases and PIH in 18% of the cases. 16% had preterm labour and 12% had fetal distress. 11% had oligohydramnios.

Table 3: Distribution as per mode of delivery and duration of labour

Characteristics		Number	%
Mode of delivery	Spontaneous vaginal delivery	54	54
	Caesarean section	38	38
	Forceps delivery	4	4
	Ventose delivery	2	2
	Assisted breech	2	2
Duration of labour in vaginal deliveries (N=62)	< 12 hours	45	45
	12-24 hours	15	15
	> 24 hours	2	2

Most common mode of delivery was spontaneous vaginal delivery in 54% of the cases. 38% had cesarean section. Majority delivered within 12 hours of labour pains in cases of spontaneous vaginal delivery.

Table 4: Distribution as per neonatal outcome and other fetal parameters

Parameters		Number	%
Neonatal outcome	Low birth weight	62	62
	Normal birth weight	38	38
APGAR score at 1 min (N=97)	8-10	57	58.7
	4-7	38	39.2
	< 3	2	2.1
APGAR score at 5 min (N=97)	8-10	89	91.8
	4-7	6	6.1
	< 3	2	2.1
Fetal outcome	Total live births	97	97
	Perinatal death	1	1
	IUD	1	1
	Still born	1	1
NICU admission	Yes	18	18.3

62% had low birth weight. 39.2% had APGAR score of 4-7 at one minute but it improved by five minutes as this proportion fell down to 6.1%. 97% were live births. One each was a perinatal death, still birth and intrauterine death. 18.3% required NICU admission.

DISCUSSION

In the present study, 15.3% of the total pregnancies belonged to the age group of 18-20 years. This is low compared to Pawar S et al 5 where it was 29.3% and Gandhi P et al,[6] where it was 19.9%. The incidence of young age pregnancy is high (15.3%) in the present study. This high incidence can be attributed to the prevalent custom, religion and traditions of the rural area where the study was undertaken.

In this study, it was seen that majority of the young age (18-20) who came for delivery were booked cases 58% and 42% were unbooked cases, even few booked cases had irregular in attending antenatal care. Similar findings were reported by Kale KM et al.[7] The high incidence of unbooked cases may be due to the rural background with little awareness, low socio-economic status, illiteracy and gender discrimination.

In the present study, 78% of the women were from low socio-economic status. As low socioeconomic status has early marriage, early child bearing and poor control over fertility, this may be the cause of increased incidence. In the present study, 64% of the women are illiterate. In the present study 99% of the young women are married and 1% unmarried. In the present study, 88% of the young age (18-20) pregnancies were primiparas. Multiparity is seen in 12% of the cases. Similar finding (17.8% multipara) was reported by Sobhana et al,[8] but Das CR et al,[9] had 31.31% multipara in their study. The reason for multiparity at a younger age in India is child marriages, low socio-economic status, illiteracy and poor spacing due to lack of contraceptive knowledge and shy to use.

48% of the late young age (18-20) women were found to be anemic in our study. Mild anemia was found in 58.3% of the cases, 25% were moderately anemic, 15% of the young age (18-20) women were severely anemic and 4% were very severely anemic. Higher rates of anemia were reported by Chhabra S,[10] (79%), Banerji et al,[11] (62.9%). The cause is mainly the nutritional status of the mother. Most of the young age (18-20) women were unaware of the nutritious diet. Adolescence itself is a period of rapid growth and therefore adolescent girl has increased nutrition needs for herself alone and pregnancy as such needs increased nutritional demands for the fetal growth adding nutritional stress upon the young age girl leading to anemia. Therefore, contributing and the causative factors could be the growth period of young age mothers, wherein pregnancy is super added along with poor economic resources, poor dietary habits, ignorance regarding diet and inadequate parenteral care. Good antenatal care, advice on adequate dietary intake is very helpful. Every attempt should be made to correct the Hemoglobin levels in all pregnant patients.

In this study, the incidence of PIH is 18%, 50% had non severe PIH, 33.3% had severe PIH and the incidence of eclampsia was 16.6%. In the present study, incidence of pre-eclampsia was 33.3% in contrast to Shobana PS et al,[8] which was 11.2%. There are studies showing incidence varying from 3.4% to 30%.

The incidence of eclampsia in the present study was 16.6% compared to 5.22% observed by Das CR et al 9 and Kale KM et al,[7] which was 3.2%. Majority belong to first order of pregnancy. The reason for the high rate of PIH and eclampsia in this age group is not known. It is postulated that it could be probably related to the immaturity of maternal organs in relation to the pregnancy changes.

The incidence of preterm labour was 16% compared to 16% as reported by Bhalerao et al,[12] Davidson et al,[13] where it was 14%, Shobana PS et al,[8] where it was 12.83%. The incidence in our study was comparable to other studies. The etiology of preterm labour remains obscure. Low socio-economic class, poor economic conditions, inadequate prenatal care, malnutrition, anemia, and toxemia in pregnancy, infection may be partly responsible.

The incidence of cephalopelvic disproportion was 20%. The increased incidence of CPD may be due to malnutrition, poor development of pelvis due to increased demands of pregnancy in addition to demands of growing teenage. Similar finding was reported by Madhuri et al,[14] where it was reported to be 23%. The incidence of malpresentation is 2%. This could be due to increased incidence of prematurity, preterm labour, underdeveloped pelvis and congenital anomalies.

Some young age (18-20) women came to the Shadan Hospital in 2nd stage of labour. When the reason for such delay was enquired, lack of transport facilities and moreover, the women are brought to the hospital only after a trial by dais. Most of them were from the villages. Some women came in 1st stage of labour and only a few came in when the patients were not in labour. In our study, out of 100 women only 54 women delivered normally by vaginal delivery and 38 needed LSCS and 4 cases needed outlet forceps application, 2 needed vacuum assisted and 2 had assisted breech delivery. Kale KM,[7] found that incidence of Spontaneous Vaginal delivery was 77.9%, that of LSCS was 13.6%, that of Forceps delivery was 8.2%. Shobhna et al,[8] reported these figures as 57.0%, 31%, and 11.25% respectively. These rates of instrumental delivery may be due to the fact that adolescent girls are not physically or psychologically mature enough for reproduction. Being her 1st experience of labour and delivery, the young age mother is unaware of what is expected of her. By the time 2nd stage is reached, she is too exhausted to bear down effectively. Hence, the need for instrumental delivery for prolonged 2nd stage of labour. There have been two distinct trends in young age women labour patterns, an increased incidence of precipitate labour (under 3 hours for all stages) and a tendency to permit more patients to experience prolonged labour (labour exceeding 20 hours). The conduct of labour and the method of delivery obviously have a more direct effects on the outcome of any given pregnancy. The proper documentation of the course of labour and selection of optimum time for augmentation is important. The assessment of physical and mental stamina, the motivation and desires of the patient are equally important for a successful termination of labour. The principal concern must be the physical status, her physiological response to a labour and the fetal capacity to adopt to these forces, the pelvic architecture and development of the fetal distress. Complications to be noted at delivery are: 1) Early labour: a) Anemia b) Preeclampsia c) Preterm labour d) Cephalopelvic disproportion e) Premature rupture of membranes f) Fetal heart rate abnormality g) Prolonged labour h) Meconium staining i) j) Abruption placenta previa k) Cord prolapse. 2) During 2nd and 3rd stage of labour: a) Fetal heart rate abnormality b) Prolonged second stage c) Secondary arrest of dilatation d) Any anesthetic complications in case of operative intervention.56 e) Evidence of intrapartum sepsis.

It is not clear whether the smallness of infants of young mothers is a result of biologic process or late entry into prenatal care. Majority of the babies had an APGAR score of 8 at 1 min and 10 at 5 minutes of birth. Only 1% of the cases had an APGAR less than 3 at the end of 5 minutes and died in perinatal period. Only 1 baby was still born the cause being prematurity. The incidence of intrauterine death was 1%. Congenital anomalies were not seen in this study. Incidence of congenital anomalies in a study by Shivakumar Sundari,[15] was 0.48% and that by Madhuri TN,[14] was 0.24%. Increased perinatal mortality in young age groups is the result of neglect of antenatal and intranatal care and prematurity.

Maternal morbidity was seen in young age (18-20) women. PPH was seen in 2% of the women. The major cause of PPH was seen to be traumatic. This may be because of the increased need for instrumental delivery in young age (18-20) women. Harisson et al,[16] reported low incidence of puerperal complications. Maternal mortality There was no maternal mortality noted in this study.

CONCLUSION

Incidence of young age pregnancy was quite high i.e. 15.3%. Incidence of maternal and fetal adverse outcomes were also very high.

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