Study of outcome of primigravidas after 28 weeks of gestation

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<u>Abstract</u>

Aim: Aim is to study the outcome of primigravidas after 28 weeks of gestation. **Design:** Study was carried out in Obstetrics Ward of Bharati Vidyapeeth (Deemed To Be) University Medical College and Hospital, Sangli. A total of 110 patients were included in the study. An inclusion criterion was all third trimester primigravidas, both booked as well as unbooked patients. Evaluation was done by taking detailed history, clinical examination and relevant investigations. Antenatal, intrapartum and postnatal complications were noted in the mothers. Perinatal morbidity and mortality was assessed in this group. All the patients with Primigravidas, obstetric complications attending labor ward of Bharati Medical College and Hospital were enumerated randomly after obtaining written consent from the patients. Thus a total of 110 patients were included in the study. Data was collected using predesigned, pretested questionnaire and by review of hospital records. The data obtained was compiled, tabulated and analyzed by using appropriate statistical tools. **Results :** Study will find out no of patients with Primigravida in third trimester of pregnancy and maternal obstetrics complications like placenta previa, PPROM, diabetes mellitus, preterm labor, oligohydramnios, polyhydramnios, IUD and fetal complications in fetus like IUGR, fetal distress, meconium stained liquor, low birth weight or NICU admission and associated congenital malformations. Also maternal morbidity in the form of operative delivery and induced labor. **Conclusion:** Primigravidas are high risk patients. Comprehensive antenatal care should be provided in this group of patients to have better maternal and fetal outcome.

Key Words: Primigravidas, third trimester, unbooked, NICU.

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INTRODUCTION

Primigravida is defined as, a woman who conceived for the first time and they are a high risk group and needs regular assistance in terms of antenatal, natal and post natal care, and this will help these patients during pregnancy, labor and puerperium. The Obstetric complications have become a major health issue resulting in poor maternal and perinatal outcome. The global maternal mortality rate has decreased, but more than 50% of all maternal deaths were recorded in only six countries namely India, Nigeria, Pakistan, Afghanistan, Ethiopia and Democratic Republic of Congo¹. Complications of pregnancy can involve the mother's health, the baby's health, or both. It is very important for women to receive health care before and during pregnancy to decrease the risk of pregnancy complications. There could be many causes of obstetric complications but the most common causes both in developed and developing countries are prolonged obstructed labor, hypertensive disorders of pregnancy, hemorrhage, sepsis and complications of unsafe abortion³. Lack of access to health care along with the poor quality of the delivery system and also social causes like lack of providing proper nutrition, medical treatment, education, malnutrition, infection also causes pregnancy complications. According to WHO reproductive health problems account for more than one

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third of the total burden of disease in women^{2,4,5}. The World Health Organization estimates that 5,00,000 women die every year from complications of pregnancy, including abortion and virtually all these deaths occur in developing countries(99 percent). Obstetric complications result in large number of babies with low birth weight (LBW), requiring neonatal intensive care.

AIM AND OBJECTIVES

Aim

Aim is to study the outcome of Primigravidas after 28 weeks of gestation.

Objectives:

- To assess the prevalence of obstetric complications.
- To assess the outcome of pregnancy in primigravidas beyond third trimester.
- To assess detail clinical history and examination, investigation, source and reasons for referral.
- To assess mode of delivery and maternal outcome.
- To study neonatal outcome in the form of birth weight and NICU admission.
- To assess number of booked and unbooked cases.

MATERIALS AND METHODS

Present cross-sectional retrospective study was conducted in the department of Obstetrics and Gynaecology at Bharati Hospital (Deemed To Be) University Medical College and Hospital Sangli, India during the period of January 2019 to April 2019. 110 primigravidas were included in this study. A questionnaire consisting of demographic variables, obstetric history, medical history, family history, maternal outcome and neonatal outcome were designed to meet the requirement of the study. The study was approved by BVD (To Be) U, MCH Ethical Review Committee with IEC approval letter number BV (DU) MCandH/Sangli/IEC/359/19. Informed consent was obtained from women admitted during study. All patients (booked and unbooked) were managed according to the protocol of the department. Technically, booked mothers were defined as those who had at least 2 antenatal visits at our center while unbooked mothers included those who had no prenatal care during their whole pregnancy and those who were referred in emergencies from other medical centers and hospitals. Obstetric history included maternal health before and during pregnancy, significant clinical events and information regarding complication occurring antepartum, intrapartum or postpartum and mode of delivery. Detailed family history including history of congenital abnormalities in babies and twins were also taken. Neonatal outcome such as gestational age, birth weight and NICU admissions were also documented. Per abdominal examination was done for the assessment of fundal height and its correlation was done with period of gestation according to mothers' dates, fetal lie and presentation was noted. Clinical assessment of fetal weight and volume of liquor was done. Fetal heart sounds were auscultated. The results were analyzed and tabulated statistically in terms number of patients and their percentage. Investigations done in all the patients included, checking of blood group and rhesus factor, hemoglobin percentage, random blood sugar, routine urine analyses, hepatitis B and hepatitis C, HIV status and detailed ultrasound examination. Specific investigations were done relevant to medical disorders.

RESULTS

Table 1: Demographic variables			
Parameter	Number of Patients	Percentage	
AGE(years)			
< 20	26	23.6	
21- 25	56	50.9	
26 – 30	22	20.0	
> 30	6	5.4	
Rh BLOOD GROUP			
Rh – positive	104	94.6	
Rh – negative	6	5.4	
ANTENATAL CARE			
Booked	43	39.1	
Unbooked	67	60.9	

A total of 110 patients were included in the study. Table 1 shows demographic variables of primigravidas. Among 110 patients majority of primigravidas belong to 21- 25yrs age group (50.9%). Most of the patients are Rh positive (94.6%). As this is tertiary care hospital maximum patients are referred as around 60.9% cases are unbooked and 39.1% cases are booked patients.

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Table 2: Event outcomes			
Category	Number of Patients	Percentage	
GESTATIONAL AGE			
Preterm	42	38.1	
Term	61	55.4	
Postdatism	7	6.3	
MODE OF DELIVERY			
Vaginal deliveries	35	31.8	
Instrumental deliveries	6	5.4	
Elective Caesarean	21	19.0	
Emergency Caesarean	48	43.6	
BIRTH WEIGHT AND NICU ADMISSIONS			
≤ 2.5kg	46	41.8	
>2.5kg	64	58.1	
NICU admission	52	47.2	

Table 2 reflects the event outcomes, as out of 110 patients 61 (55.4%) reached term pregnancy, but 42 patients (38.1%) landed up in preterm delivery and 7 patients (6.3%) were postdated pregnancy. Among these patients Caesarean rate was more than vaginal delivery in that also around 43.6% were emergency caesarean sections and 19% were elective caesarean sections, while 31.8% were delivered by vaginal deliveries and only 5.4% were instrumental deliveries. Of all deliveries, 41.8% babies are low birth weight below 2.5kg and 51.8% babies were above 2.5kg. Around 47.2% babies shifted to NICU for further care.

Table 3: Obstetric Complications			
Obstetrics Complications	Number of Patients	Percentage	
PIH	10	9.0	
Preterm labor	10	9.0	
IUGR	16	14.5	
Malpresentation	3	2.7	
Oligohydramnios	18	16.3	
Polyhydramnios	3	2.7	
Diabetes Mellitus	3	2.7	
Intra Uterine Demise	4	3.6	
Meconium Stained liquor	16	14.5	
Umbilical Cord Prolapse	1	0.9	
Fetal Distress	7	6.3	
Twins	4	3.6	
Placenta previa	4	3.6	
PPROM	14	12.7	
Anemia	32	29.0	

The prevalence of complications in primigravidas is evident from Table 3. Incidence rate of Anemia is higher (29%), other conditions like hypertensive disorder of pregnancy (9%), preterm pregnancy (9%), IUGR (14.5%), oligohydramnios(16.3%), meconium stained liquor(14.5%), premature preterm rupture of membranes i.e. PPROM (12.7%), fetal distress (6.3%).

• Whereas other complications are less likely but occurs as malpresentation, diabetes mellitus and polyhydramnios is 2.7% each, intrauterine fetal demise (3.6%), twins (3.6%), placenta previa(3.6%) and least complication is umbilical cord prolapse (0.9%).

Table 4: Indications for Caesarean Section			
INDICATIONS FOR CAESAREAN	Number of Patients	Percentage	
Cephalopelvic disproportion	14	12.7	
PIH with fetal distress	10	9.0	
Eclampsia	4	3.6	
Severe Oligohydramnios	13	11.8	
Antepartum haemorrhage	3	2.7	
Obstructed Labor	2	1.8	
Prolonged labor with fetal distress	11	10.0	
Malpresentation	2	1.8	

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Placenta Previa	4	3.6
POST PARTUM COMPLICATIONS		
Post Partum Hemorrhage	13	11.8
Puerperal Pyrexia and Infection	6	5.4
Wound Gape	1	0.9

Table 4 shows indications for caesarean section and postpartum complications in primigravidas. It is noted that, 12.7% caesarean sections were done for cephalopelvic disproportion, hypertensive disorder of pregnancy with fetal distress (9%), severe oligohydramnios (11.8%), prolonged labour with fetal distress (10%), eclampsia (3.6%), placenta previa (3.6%), antepartum hemorrhage (2.7%), malpresentation (1.8%) and obstructed labour (1.8%). Among post-partum complications; post-partum hemorrhage is most common complication occurring in 11.8%, other like puerperal pyrexia and wound infection 5.4% and least is wound gape 0.9%.

DISCUSSION

In this study, demographic characteristics, obstetrical complications and pregnancy outcomes in primigravidas beyond third trimester mothers were studied during antepartum, intrapartum and postpartum phases of pregnancy. Majority of our patients were in age group 21–30 years showing that the trend of early marriages is reduced. It is the age group where the obstetric complications are usually less. Majority of the primigravidas had no previous booking. This shows lack of awareness and provision of antenatal services in our community, which leads to high rate of obstetric complications, low birth weight babies and a very high incidence rate of emergency caesarean rates. Proper antenatal monitoring during first pregnancy helps in avoiding problems associated with Rh incompatibility if the baby is Rh-positive and mother is Rh-negative. This is only possible if the patients, especially the primigravidas are booked for antenatal care and also adequate antenatal care and hospital deliveries enable obstetricians to diagnose complications at an early stage when intervention brings about better results. This high risk of obstetric complications in primigravida patient has been supported by various other studies⁶⁻⁹. The same has also been supported by Owolabi et al. 10. Nearly only half patients reached to term pregnancy (55.4%) but considerable number of patients delivered by preterm delivery (38.1%) and it leads to low birth weight (<2.5kg) in 41.8% patients and also it is the main reason for NICU admissions (47.2%)(Table2). My study shows that emergency caesarean sections in primigravida mothers have been rising. Prolonged labor with fetal distress, severe oligohydramnios, hypertensive disorder of pregnancy along with fetal distress and cephalopelvic

disproportion are the main indications for caesarean sections. It could have been because of referral system and unbooked status among this group. Reason for delay may be due to negligence of understanding the seriousness of patient's condition and financial obstetric constraints etc. When we compared complications in primigravidas (Table 3) Anemia is the major complication observed in almost 29% cases. Idowu et al.¹¹ also observed the prevalence of anemia higher in primiparous mothers. High incidence of hypertensive disorder of pregnancy (9%), preterm labour (9%), intra uterine growth restriction (14%), oligohydramnios (16.3%), preterm premature rupture of membranes (12.7%) are the most common complications seen. Acharya *et al*¹² and Al'Essa *et al* have also reported the higher occurrence of intra uterine growth restriction in primigravidas. Higher fetal distress among primigravida mothers (6.3%) might be due to meconium stained liquor (14.5%) as reported in my study. Other studies also support the same findings¹³⁻¹⁷. Other complications like malpresentation, polyhydramnios, diabetes mellitus, twins, placenta previa also causes complications in pregnancy. Around 3.4% cases shows intrauterine fetal demise and umbilical cord prolapse is a rare complication (0.9%). This shows that primigravida in itself is an important risk factor for these obstetric complications along with various other risk conditions like; prepregnancy weight, maternal age, maternal education, gestational weight gain, caloric intake during pregnancy, maternal height, socio-economic condition, general morbidity, birth interval, strenuous maternal work, sexual activity during pregnancy, urinary tract infection, first antenatal visit, number of antenatal visits and quality of antenatal care. Also lack of transport facility, absence of patient counselling prior to planning of mode of delivery particularly in primigravidas are the important reasons behind high prevalence rate of these complications. In present study, no maternal mortality was recorded. This could be possible only through provision of tertiary health care at our setup. To work on the same track, Janani Suraksha Yojna (JSY) which literally means 'Pregnant Women Safety Scheme' has been introduced. JSY is a 100% centrally sponsored scheme under National Rural Health Mission being implemented with the objective of reducing maternal and neonatal mortality by promoting institutional delivery among poor pregnant women. It gives a cash incentive for institutional delivery to women from low performing states. There is separate provision

for transport in case of emergency.¹⁸ These steps proposed that all primigravida mothers must be delivered at tertiary level hospital and promote institutional deliveries. All primigravidas should have at least three antenatal examinations by consultant and delivery at district levels hospital, with all facilities for caesarean section if required 19. High maternal morbidity and sometimes mortality mainly among un-booked patients due to postpartum hemorrhage, puerperal pyrexia, wound infections and anemia¹⁶. The limitation of this study is the retrospective method of collecting data which might have missed some adequate information. It should have been done in prospective way for the better outcome. The comparison rate of many complications is not statistically significant which might be due to small sample size but trend in their outcomes shows the higher prevalence of obstetric complications in primigravidas. As the number of unbooked cases are higher in primigravida mothers, it makes them high risk group. There is a need to mobilize and motivate government as well as a private sector to play active role and go long way to improve the availability and accessibility of good quality antenatal care and delivery services that are urgently needed. Also health insurance scheme like JSY can ensure adequate antenatal care utilization; supervised delivery by trained attendants can also help in eliminating deliveries under substandard facilities.

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