

## Clinical Audit of Births in 1 Year in a Tertiary Care Referral Teaching Institute

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### How to cite this article:

Yashwant Kulkarni, Aniket Kakade. Clinical Audit of Births in 1 Year in a Tertiary Care Referral Teaching Institute. Indian J Obstet Gynecol. 2019;7(2):217-219.

### Abstract

**Background & Aim:** • To evaluate the outcome of births in last one year. • To evaluate the occurrence, indications, complications, interventions and outcomes of obstetric patients admitted in the Labor room. • To gather baseline data for expansion of the Obstetrics High Dependency Unit. **Methods and Materials:** A retrospective record based study was done for one year from 1<sup>st</sup> January 2018 to 31<sup>st</sup> December 2018 in a tertiary care referral hospital attached to a teaching medical institute. Institutional ethics committee approval was obtained for this observational study. The labor room record log was used to study the selected parameters. **Results:** There were total 1658 births in the study period of 1 year in 2018. 52 (3.1%) women were unregistered during their antenatal period and 298 (17.9%) women were referred for deliveries from other hospital. There were total 639 caesarean section performed and the section rate was 38.5% of all deliveries. The incidence of instrumental deliveries was 5.9%. Labor was induced in 97 (35.8%) women and post-dated pregnancy was the commonest indication for induction of labor. There were total 47 (2.8%) vaginal births after caesarean section. The incidence of still births was 103 (6.2%). **Conclusion:** The study depicts a summary of the births and deliveries occurring in a teaching hospital based on selected

parameters. These findings can be utilized for refining the current quality of care, to help formulate the logistics of high risk pregnancy workload and provide a framework for establishment of Obstetrics High Dependency Unit.

**Keywords:** Birth audit; Caesarean section; Still births; High risk pregnancy.

### Introduction

Clinical audit of the labor and deliveries is going to unfold various aspects of the patient profile and outcomes associated with child birth.

Hence, this study was undertaken to have an in-depth analysis of the pregnancy outcomes along with the high risk factors associated with the births.

This study is going to give a brief summary of the number of births occurring along with the analysis of associated risk factors. The birth audit is also an important health parameter [1] and will be helpful to plan and formulate various health interventions, logistics and workload of high risk pregnancies.

### Material and Methods

A retrospective, audit based study of all births and deliveries

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**Received on** 07.01.2019

**Accepted on** 02.02.2019

in a tertiary care referral 831 bedded hospital attached to a medical college was undertaken. Institutional ethics committee had approved this observational study. Consecutive admissions in the labor ward in 1 year from 1<sup>st</sup> January to 31<sup>st</sup> December 2018 were audited. The selected patient information with respect to the type of delivery, abnormal labor, complications, any antecedent high risk factor, age of the patient, gravida status and fetal outcome was obtained from the labor log register. The data was analyzed, tabulated and studied.

## Results

The current study audit revealed total deliveries of 1658 in the year 2018. Total number of un-registered births was 52 (3.1%) and 298 (17.9%) women were referred for delivery from other hospital. Being a tertiary care referral centre there is an increase in the number of un-booked, high risk pregnancies and unregistered patients.

**Table 1:** Analysis of births

Parameter	Incidence
Total births	1658
<i>Labor Analysis</i>	
Registered	1360
Un-registered	52
Out-Registered	246
Total Referral	298 (17.6%)
Preterm Births	179 (10.7%)
Induced labor	97 (5.8%)
Breech presentation	90 (5.4%)
Twin Pregnancy	28 (1.6%)
<i>Analysis of operative births</i>	
Caesarean Section [total]	639 (38.54%)
Elective sections	149
Emergency sections	490
Instrumental Deliveries	99 (5.9%)
Outlet forceps	30
Ventouse	69
<i>Obstetric History: Gravida</i>	
Primigravida	670
Gravida 2-5	928
Gravida 5 & above	60 (3.6%)
<i>High Risk Pregnancy</i>	
VBAC	47 (2.8%)
Anaemia in Pregnancy Hb <7 gm%	36 (2.17%)
Hypertensive Disorders [total]	194 (11.7%)
Pre-eclampsia	111
Eclampsia	7
HELLP	7

Gestational Hypertension	33
Ante-Partum Hemorrhage	34 (2%)
Placenta Previa	10
Abruptio Placentae	19
Still births	103 (6.21%)
Fresh still births	29
Macerated still births	74

The incidence of grand multi-gravida (Gravida 5 and more) was also high 60 (3.6%). These patients are at inherent risk of complicated labors with increased risk of post-partum hemorrhage.

Labor was induced in 97 women (5.8%), and post-term pregnancy was the commonest indication for induction of labor. Breech presentation was the commonest malpresentation with a incidence of 5.4%. There were 28 (1.6%) patients who delivered twins.

The incidence of caesarean section was 38.54% (639/1658). This rise in the section rate is due to significant amount of high risk pregnancies being referred to our centre which has excellent neonatal, Intensevist and blood bank backup. There were 149 elective caesarean sections and 490 patients underwent emergency caesarean section.

There were 99 (5.9%) instrumental deliveries with 30 patients who required outlet forceps delivery and ventouse was applied in 69 parturients.

The incidence of preterm births was 10.7%, as maximum patients were referred for neonatal services and high risk pregnancy care. 47 women (2.8%) had a vaginal delivery after previous caesarean birth.

Hypertensive disorders in pregnancy was the commonest high risk factor present with an incidence of 11.7% followed by gestational diabetes mellitus 4.82% and severe anemia 2.17%. Severe pre-eclampsia, eclampsia and HELLP syndrome were also the commonest reasons for referral from other hospitals. We observed ante-partum hemorrhage in 34 patients (2%), with abruptio placentae in 19 and placenta previa in 10 patients. There were total 103 still births (6.2%) with 29 fresh still births and 74 macerated still births.

## Discussion

Outcome of births and deliveries is an important health parameter [1] to gauge the obstetric workload. This analysis gives an overview of the outcomes and the incidence of high risk pregnancies who presented to the labor room.

Unregistered patients are always at a risk of complications during labor and delivery. In the present study 52 (3.1%) patients were unregistered. Also there were 298 (17.6%) patients who were referred for various complications and the admission to the ICU for complicated births was highest amongst the referred patients. This emphasizes the need for proper antenatal care and triage of high risk pregnancies and mothers.

The total number of caesarean section done was 639 (38.54%), which is on the higher than the 18.6% global average [2]. This increase caesarean section rate is due to significant referral (17.6%) of high risk pregnancy and complicated labors.

The significant high incidence of anemia, pre-eclampsia, elderly gravidas, pre-term labor, and significant referral of high risk pregnancies with medical disorders has triggered the need to develop an dedicated Obstetrics High Dependency Unit [HDU] in our hospital. There were in total 47 Obstetric admissions in ICU amounting to 2.8% of all births in 2018 which are due to a sizable amount of high risk pregnancies being managed to our hospital. Constant vigilance, judicious judgment along with provision of adequate resources is the major stepping stones on the road to maternal safety [3].

## Conclusion

A detailed analysis of the births will help in improving the quality of care in the labor room and help in better planning of the resources and chart out the logistic issues. Analysis of births should be routine part of audits in all hospitals to help plan the strategies for improvement in quality of health care. With increase in the incidence of high risk pregnancy and complications during child birth: obstetric units in Government hospitals, teaching institutes and private hospitals with significant confinement rate should establish Obstetric HDUs for better patient care.

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