ORIGINAL ARTICLE

A RETROSPECTIVE ANALYSIS OF VAGINAL DELIVERY OUTCOME IN A. J. INSTITUTE OF MEDICAL SCIENCES, MANGALORE

Pradeep Ganiga¹, Samantha Delia Mascarenhas², Naimisha K. Reddy³

HOW TO CITE THIS ARTICLE:

Pradeep Ganiga, Samantha Delia Mascarenhas, Naimisha K. Reddy. "A Retrospective Analysis of Vaginal Delivery Outcome in A. J. Institute of Medical Sciences, Mangalore". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 60, July 27; Page: 10421-10434, DOI: 10.14260/jemds/2015/1504

ABSTRACT: NEED FOR THE STUDY: Worldwide over 500,000 women die every year as a result of complications arising from pregnancy and childbirth. This audit has been conducted to ascertain the quality of the health system at A.J. Institute of Medical Sciences Labour Theatre, Mangalore, to identify the root of problems and plan on corrective and preventive actions. The audit was also conducted to achieve better allocation of resources and to eventually avoid potentially problems in the health set up.

ANALYSIS OF LITERATURE: With appropriate care and support the majority of healthy women can give birth with a minimum of medical procedures.^[1] Giving birth is a life changing event. The care that a woman receives during labour, has the potential to affect her- both physically and emotionally in the short and longer term- and the health of her baby.^[2] Good communication, support, and compassion from staff, and having her wishes respected can help her feel in control of what is happening and contribute to making birth a positive experience for the woman and her companions.^[3]

Clinical care (Medical and Nursing) practices at labour ward are an important tool to identify the gaps/strengths. As well as providing ongoing quality assurance, it can also be used as an early warning tool, to highlight areas where performance might be suboptimal.^[4] This Clinical audit thus initiated help to describe the care pattern during intra partum period in Labour Ward at A.J. Institute of Medical Sciences, Mangalore.^[5]

OBJECTIVE OF THE STUDY:

1. To study care as per evidence based standards.
2. To study antepartum and intra partum maternal outcome.
3. To study postpartum maternal outcome.
4. To study the neonatal outcome.

MATERIALS AND METHODS:

Study Design: It is a "Retrospective" Analysis.

Sample Size: n=104.

Place: A.J Institute of Medical Science, Mangalore and A.J Hospital and Research Centre, Mangalore.

Duration: February 2015 – March 2015.

METHODS: This is a hospital based retrospective study.

Inclusion Criteria: All patients who delivered at A.J. Institute of Medical Sciences Labour Theatre, Mangalore.

Exclusion Criteria:

- a) Electively planned Caesarean Sections.
- b) Emergency Caesarean Sections.

Standards of Documentation:

- Each encounter is documented in the medical records.
- Communication is established with the patient.
- **Notes Include:** History, Physical signs, Vital signs, Test Results, Assessment, Plan of care and Instructions.
- Documentation of Electronic Foetal Monitoring pattern terminology, pattern recognition and interpretation is consistent with ACOG and RCOG Guidelines.
- An Antenatal Record is completed on every obstetric patient and a copy is maintained in the Medical File.
- Patients are priorly given Antenatal Cards for reference in case of after-hours admissions.
- A copy of any EFM strips and recorded ultrasound images is maintained as part of the patient's permanent medical records.

Intra Partum Standards:

- Consent is to be taken prior to the labour process.
- High risk consent is to be taken prior to management of a high risk case.
- To measure foetal heart rate as part of initial assessment.
- Decisions about a woman's care in labour are not taken on the basis of cardiotocography alone.
- Clinical intervention is not offered or advised if the labour is progressing normally and the woman and the foetus are well in the first stage of labour.
- In the third stage of labour, after administration of oxytocin, the cord is clamped not earlier than a minute from the birth of the baby unless there is a concern.
- Good communication during the labour process with both the patient and her party are mandatory.
- Educating the patient about what to expect during her labour process, and what the possible mishaps may be in a subtle manner.
- Hygienic measures are mandatory.

Post-Partum Standards:

- Post-partum maternal assessment.
- Check for uterine contractions and lochia.
- Examination of the placenta and membranes.
- Early assessment of the woman's emotional and psychological condition in response to labour and birth.
- Successful voiding of the bladder- Obstetric led care is recommended after 6 hours if the patient's bladder is palpable and she is unable to pass urine.
- Assessment for genital trauma.
- Effective analgesia is recommended while performing episiotomy and cervicovaginal laceration repair.

VARIABLES MEASURED:**Preliminary Assessment:**

- Hospital Number:
- Booked/ Unbooked case:
- Consent for interventions during labour:
- Age:
- Gravidity Index:
- Gestational Age:
- Induction of Labour/ Indication/ Consent:
- Antenatal Classes/ Counselling:
- Maternal Assessment:
- Foetal Assessment:
- Assessment of High risk Cases:
 - Grand Multipara.
 - Preterm Labour.
 - Gestational Diabetes Mellitus.
 - Hypertensive Diseases of Pregnancy.
 - Malpresentation.
 - Twins.
 - VBAC.
 - Previous History of PPH.
- High risk consent taken:
 - Documentation of each encounter with the patient on admission:

INTRAPARTUM ASSESSMENT:**First Stage of Labour:**

- Duration of the first stage of labour.
- Membrane Rupture.
- Colour of Liquor.
- Administration of Labour Analgesia.
- Maintenance of Partogram.

Second Stage of Labour:

- Duration of the second stage.
- Episiotomy.
- Operative Vaginal Delivery.
- Perineal tears if any.

Third Stage of Labour:

- Duration of the third stage of labour.
- Method of placental delivery.
- Placental Assessment.

ORIGINAL ARTICLE

- Measure of blood loss.
- Post-partum haemorrhage.

Fourth Stage of Labour:

- Antibiotic administration post-partum.
- Maternal assessment postpartum.
- Complications if any.

Newborn Assessment:

- Weight.
- APGAR SCORE: at 5 minutes.
- Anomalies.
- NICU Admission.

Other Details:

- Duration of hospital stay.
- Post-partum complications if any.
- Counselling for breast feeding.
- Counselling for contraceptive measures.
- Staff adequacy.
- Presence of Obstetric Staff/Paediatrics Staff for High Risk Cases.
- Patient feedback.

RESULTS:

	NUMBER	PERCENTAGE
BOOKED CASES	95	91.35%
UNBOOKED CASES	9	8.65%

Table 1

BOOKED/UNBOOKED CASES:

ORIGINAL ARTICLE

AGE DISTRIBUTION:

AGE	NUMBER	PERCENTAGE
<19yrs	1	0.96%
20-30yrs	72	69.2%
31-40yrs	31	29.8%

Table 2

GRAVIDITY INDEX:

GRAVIDITY	NUMBER	PERCENTAGE
PRIMIGRAVIDA	51	49.03%
MULTIGRAVIDA	53	50.96%

Table 3

ORIGINAL ARTICLE

GESTATIONAL AGE:

G. A.	NUMBER	PERCENTAGE
<37 Weeks	6	5.76%
37-40 Weeks	78	75%
>40 Weeks	20	19.23%

Table 4

INDUCTION OF LABOUR:

	NUMBER	PERCENTAGE
INDUCED	34	32.6 %
SPONTANEOUS LABOUR	70	67.3 %

Table 5

ORIGINAL ARTICLE

Consent for induction of labour achieved: 100%.

Counselling prior to labour: 100%.

Maternal assessment prior to labour: 100%.

Foetal assessment prior to labour: 100%.

ASSESSMENT OF HIGH RISK CASES:

	NUMBER	PERCENTAGES
RELATIVELY LOW RISK	83	79.81%
GRAND MULTIPARA	7	6.73%
PRETERM LABOUR	6	5.77%
GESTATIONAL DIABETES MELLITUS	5	4.81%
HDP	3	2.88%
PREVIOUS HISTORY OF PPH	1	0.96%

Table 6

Documentation of each encounter with the patient on admission: 100% first stage of labour results:

DURATION	NUMBER	PERCENTAGE
PROLONGED	0	0%
NOT PROLONGED	104	100%

Table 6

ORIGINAL ARTICLE

MEMBRANE RUPTURE:

	NUMBER	PERCENTAGES
PPROM	4	3.85%
PROM	21	20.19%
SPONTANEOUS	36	34.62%
ARTIFICIAL	43	41.35%

Table 7

COLOUR OF LIQUOR:

	NUMBER	PERCENTAGE
CLEAR LIQUOR	96	92.31%
MECONIUM STAINED LIQUOR	8	7.7%
BLOOD STAINED	0	0%

Table 8

ORIGINAL ARTICLE

MAINTENANCE OF PARTOGRAM DURING LABOUR:

	NO. OF CASE FILES	PERCENTAGE
PARTOGRAM MAINTAINED	86	82.7%
PARTOGRAM NOT MAINTAINED	18	17.31%

Table 9

LABOUR ANALGESIA:

LABOUR ANALGESIA	NUMBER	PERCENTAGE
ADMINISTERED	35	33.65%
NOT ADMINISTERED	69	66.35%

Table 10

SECOND STAGE OF LABOUR:

DURATION	NUMBER	PERCENTAGE
PROLONGED	5	4.81%
NOT PROLONGED	99	95.2%

Table 11

ORIGINAL ARTICLE

TYPE OF VAGINAL DELIVERY:

TYPE	NUMBER	PERCENTAGE
NORMAL	103	99.04%
FORCEPS APPLIED	0	0%
VACCUM APPLIED	1	0.96%

Table 12

EPISIOTOMY IF GIVEN:

	NUMBER	PERCENTAGE
GIVEN	73	70.19%
NOT GIVEN	31	29.81%

Table 13

ORIGINAL ARTICLE

PERINEAL TEARS IF ANY:

	NUMBER	PERCENTAGE
PERINEAL TEARS	6	5.77%

Table 14

THIRD STAGE OF LABOUR RESULTS:

Duration of the Third Stage of Labour:

	NUMBER	PERCENTAGE
PROLONGED	2	1.92%
NOT PROLONGED	102	98.1%

Table 15

Method of placental delivery:

Controlled cord traction: 100 %

Placental assessment: 100%

MEASURE OF BLOOD LOSS:

No well-defined method to measure blood loss:

Approximate assessment done: 100%

Blood loss is Estimated as Follows:

- As per soakage level of the perineal drape.
- Blood and blood clots in the collection bucket are assessed.
- Counting and weighing of the mops is done.

ORIGINAL ARTICLE

POST PARTUM HAEMORRHAGE:

PPH	NUMBER	PERCENTAGE
PRESENT	2	1.92%
NOT PRESENT	102	98.1%

Table 16

FOURTH STAGE OF LABOUR RESULTS:

Antibiotic Administration Post-Partum: 100%

Recommended antibiotic: Ampicillin and Cloxacillin Combination.

In case of PROM: Cepalosporins with or without anaerobic coverage.

COMPLICATIONS IN THE FOURTH STAGE: 0%

Newborn Assessment Results:

Weight of the Baby:

WEIGHT	NUMBER	PERCENTAGE
<2 kg	5	4.81%
2-3 kg	47	45.2%

Table 17

APGAR SCORE:

5 minute apgar score >6: 98 babies.

5 minute apgar score <6: 6 babies.

IUD: 1 BABY.

ORIGINAL ARTICLE

Anomalies Detected at Birth: 0%.

Nicu Admissions: 4.

OTHER DETAILS:

Hospital stay for a minimum of 72 hours post-delivery: 100%.

Post-partum complications: 0%.

Counseling for contraceptive measures: 100%.

Staff adequacy: 1:1 midwife ratio is not available.

Round the clock monitoring of all high risk and low risk pregnancies by team of pgs. Interns and obstetric consultant on call (first on call and second on call): 100 %.

CONCLUSION:

- The basic obstetric practice in this institution is good and adheres to international guidelines for intrapartum care (History taking, Examination and Documentation etc.)
- The level of healthcare awareness in the society catered by the institution is clearly by the number of booked cases which comprise a majority (Booked: 91.35%, Unbooked: 8.65%). The socio-economic status and awareness can also be reflected by the age distribution (<19 years: 0.96%, 20-30 years: 69.2%, 31-40 years: 29.8%)
- The adequacy and quality of Antenatal care in the institution can be clearly demonstrated by the majority of term deliveries (<37 weeks: 5.76%, 37-40 weeks: 75%, >40 weeks: 19.23%). This can also be demonstrated with the majority of low risk cases as compared to high risk cases (Low risk: 79.81%)
- It has been noted that patients with irregular antenatal visits are pre disposed to unfavourable maternal outcomes as well as unfavourable foetal outcomes (1 case of IUD).
- Planned interventions and round the clock surveillance of the patient in the intra-partum period are reflected in the miniscule percentage of intrapartum complications (Eg. Prolonged second stage of labour: 4.81%)
- Neonatal outcome clearly reflects the superiority of antepartum and intrapartum care of the patient
- Operative deliveries in the institution comprise only 0.96%.

REFERENCES:

1. Intrapartum Care- Clinical Guideline 190. NICE Clinical Guidelines. 2014.
2. Rudman, Ann, Bassam El-Khour, and Ulla Waldenström. "Women's satisfaction with intrapartum care—a pattern approach." *Journal of Advanced Nursing* 59.5 (2007): 474-487.
3. Delivering Quality and Value: Focus on High Volume Care. NHS. 2006;
4. Sibanda, Thabani, et al. "Intrapartum care quality indicators: a systematic approach for achieving consensus." *European Journal of Obstetrics & Gynecology and Reproductive Biology* 166.1 (2013): 23-29.
5. Hoque AK, Edelstein. Clinical audit report. Lower Umfolozi District War Memorial Hospital 2005;

ORIGINAL ARTICLE

AUTHORS:

1. Pradeep Ganiga
2. Samantha Delia Mascarenhas
3. Naimisha K. Reddy

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor, Department of Obstetrics & Gynaecology, A. J. Institute of Medical Sciences, Mangalore.
2. Post Graduate Resident, Department of Obstetrics & Gynaecology, A. J. Institute of Medical Sciences, Mangalore.

FINANCIAL OR OTHER

COMPETING INTERESTS: None

3. Post Graduate Resident, Department of Obstetrics & Gynaecology, A. J. Institute of Medical Sciences, Mangalore.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Samantha Delia Mascarenhas,
Rose Villa, Bishop Compound,
Valencia, Kankanady Post,
Mangalore-575002.
E-mail: dr.samanthamascarenhas@gmail.com

Date of Submission: 02/07/2015.

Date of Peer Review: 03/07/2015.

Date of Acceptance: 16/07/2015.

Date of Publishing: 24/07/2015.