

STUDY OF MATERNAL AND PERINATAL OUTCOME IN REFERRED OBSTETRICS CASESUmesh Sabale¹, Alka Murlidhar Patankar²**HOW TO CITE THIS ARTICLE:**

Umesh Sabale, Alka Murlidhar Patankar. "Study of Maternal and Perinatal Outcome in Referred Obstetrics Cases". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 26, March 30; Page: 4448-4455, DOI: 10.14260/jemds/2015/643

ABSTRACT: OBJECTIVE: To review the referred obstetric cases for reason of referral and to study the maternal and perinatal outcome. **DESIGN:** Prospective Observational study. **STUDY POPULATION:** 380 cases referred from periphery to tertiary care institute in one year duration. **METHODS: INCLUSION CRITERIA:** All referred ANC cases to our tertiary care institute >20 weeks gestation. The total number of deliveries during this period were 11106. The total number of referred cases in above study period was 1980. Out of these 1520 met the inclusion criteria & according to the sample size calculated 380 cases were selected for the study. Selection of cases were done by systematic sampling technique. **RESULTS:** The proportion of referral cases to the tertiary care institute is 17.83%. Majority (42.37%) of referred cases were from district level hospitals showing lacunae in the emergency obstetric care given at the district level hospitals. In present study, there was unavailability of ambulance in 65.26% of cases for transport. Most (92.89%) of the patients were not accompanied by any medical assistance during transport. Major complication during immediate postpartum period was postpartum hemorrhage (19.99%). In our study, 31.84% of the patients required blood/blood products transfusion. There were 3(0.79%) maternal mortalities in present study & behind these there were total 70(18.42%) near miss cases which provide valuable information on the quality of antenatal care at the periphery. 54.87% of all neonates had low birth weight in this study. In present study, 45.90% babies were preterm. Total NICU admission rate was 14.36%. Neonatal mortality documented in present study was 5.38%. **CONCLUSION:** The present study has shown that improper antenatal & intranatal care at the periphery level is responsible for poor maternal & perinatal outcome. Rural women have very poor access to MCH services. There is lack of Transportation facilities for referral patients & they have to travel a longer distance to seek emergency obstetric care. Even today, obstetric hemorrhage is the leading cause of maternal mortality.

KEYWORDS: Referred, Tertiary Health Care, MCH Services, Maternal Morbidity & Mortality, Perinatal Outcome.

INTRODUCTION: The objective of antenatal care is to detect high risk cases as early as possible from large group of antenatal patients and arrange for them skilled care. Therefore antenatal care, the primary aim of which is to achieve at the end of pregnancy a healthy mother and a healthy child should be provided to every woman.

Moreover in obstetrics apparently normal is potentially abnormal and change can occur with frightening rapidity and requires experience to detect the patients at risk before emergency arises. Obstetrics is a one way traffic. This demands eyes trained to see, hands skilled to feel and brain disciplined to coordinate and act.

ORIGINAL ARTICLE

The rural population in our country is suffering due to negligible availability of high quality of health services to them because of lack of monetary aid and medical personnel available to them.

The emergency admissions to tertiary health care centre contain large number of patients referred from rural areas. The condition of patient, on admission to such referral hospitals and institutions reflects the quality of health services in that particular area, availability of transport facility and efficiency on the part of medical personnel in screening high risk patients who require referral to better equipped and specialized institution. Hence we must make utmost effort to utilize the existing resources for the benefit of our rural population.

So the present study was undertaken to evaluate referred obstetric cases and its maternal & perinatal outcome with following aims & objectives.

AIMS: To review the referred obstetric cases for reason of referral and to study the maternal and perinatal outcome.

OBJECTIVES:

- To review the primary reasons for referral to hospital.
- To study the clinical course of patient in the antenatal, intra partum and postnatal period & to document maternal outcome.
- To study the neonatal course during first 7 days of delivery and to document the perinatal outcome.

MATERIAL & METHODS: The present study was undertaken at Department of Obstetrics & Gynaecology, GMC Nagpur from September 2011 to August 2012. It was Prospective, Observational study.

Permission from ethical committee had been taken. Proper consent of the study population was taken.

Study Population consists of 380 cases of obstetrics referrals from periphery to tertiary care institute. The total number of deliveries during this period were 11106. The total number of referred cases in above study period was 1980. Out of these 1520 met the inclusion criteria & according to the sample size calculated 380 cases were selected for the study. Selection of cases were done by systematic sampling technique.

Inclusion Criteria:

All referred ANC cases to our tertiary care institute >20 weeks gestation.

Exclusion Criteria:

- Booked cases at our tertiary care institute.
- Referred cases <20 weeks gestation.
- Post-partum referrals.
- Self-referrals.

METHODS:

All the cases were interrogated with the use of following methods.

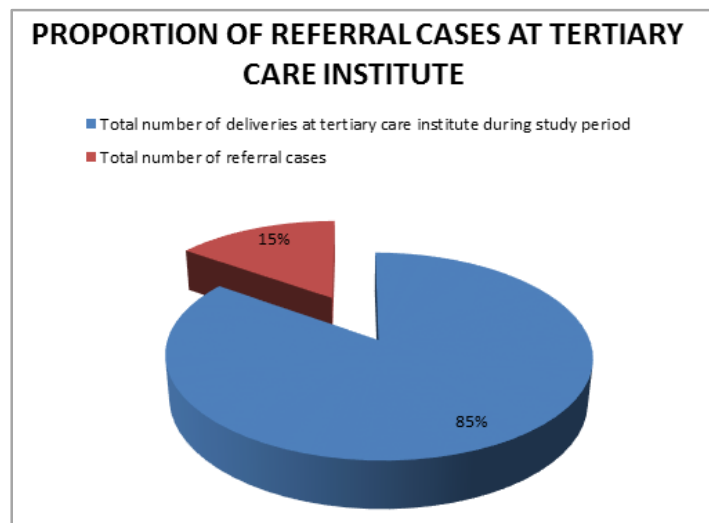
- Thorough history taking
- Complete physical and obstetric examination.

ORIGINAL ARTICLE

- Basic investigations like CBC, blood grouping, urine routine and microscopy, obstetric ultrasound.
- Case specific investigations were carried out as mandated by clinical condition of the patient.
- Management of the patient was documented, whether conservative or interventional.
- Mode of delivery was noted, vaginal or operative.
- Factors contributing to decision making on mode of delivery were noted.
- Maternal outcome in the form of maternal morbidity & mortality were noted.
- Neonatal outcome documented under following headings: term\preterm, live\still birth, birth weight, stay in NICU, clinical course of baby in first 7 days, complications if any were also noted.

RESULTS:

After thorough analysis of data following observations are put forwarded: The proportion of referral cases to our tertiary care institute is 17.83%. Maximum number of cases in present study were in the age group of 21-25 years comprising 58.16% of total cases. Majority of referral cases were nulliparous (58.94%). In the present study, 63.42% cases were from rural area while 36.58% were from urban area reflecting major population catered by tertiary care institute is from rural area. 12.90% of patients had to travel from more than 100 km to seek an emergency obstetric care which is an important contributing factor for maternal & perinatal outcome. Majority (42.37%) of referred cases were from district level hospitals showing lacunae in the emergency obstetric care given at the district level hospitals. In this study, 75% patients were booked at the centre from where they were referred again showing need for improvement in health services at the periphery.



Graph 1

	No. of cases		Total %
	Booked	Un booked	
PHC	33(8.68%)	27(7.10%)	60(15.79)
RH	90(23.68%)	42(11.05%)	132(34.74)
District hospital	138(36.32%)	23(6.05%)	161(42.37)
ESIS	10(2.63%)	0(0%)	10(2.63)

ORIGINAL ARTICLE

private hospital	14(3.68%)	3(0.79%)	17(4.47)
TOTAL	380		380(100)

Table 1 : DISTRIBUTION OF CASES ACCORDING TO PLACE FROM WHERE THEY WERE REFERRED

Majority (42.37%) of referred cases were from district level hospitals showing lacunae in the emergency obstetric care given at the district level hospitals.

In present study, there was unavailability of ambulance in 65.26% of cases for transport. Most (92.89%) of the patients were not accompanied by any medical assistance during transport. 75.53% of the referred cases were stable on admission, so it questions whether there was an actual need of the tertiary care for these patients.

Mode of transport	No. of cases	%
Ambulance	132	34.74
Private vehicle	166	43.68
Public transport	82	21.58
TOTAL	380	100

Table 2 : DISTRIBUTION OF CASES ACCORDING TO MODE OF TRANSPORT

In present study, there was unavailability of ambulance in 65.26% of cases for transport.

Preeclampsia & related conditions was the major indication of referral to the tertiary care institute comprising 25.79% of the cases. Though prevalence of anaemia is very high in pregnancy (88.69% in present study), only 6.84% of the patients were referred for anaemia per se shows that most of the patients of anaemia were missed at the periphery.

In the present study, caesarean section rate was 42.10% in the referred cases. 1(0.26%) patient had undergone obstetric hysterectomy for control of post-partum haemorrhage. Admission to delivery interval in majority (46.97%) of the patients was 6 hours or less. 3.95% of the total referred cases were managed conservatively & were discharged. Here arises a concept of Day care management of referral cases at tertiary care institute which might be helpful in reduction of burden of tertiary care institute.

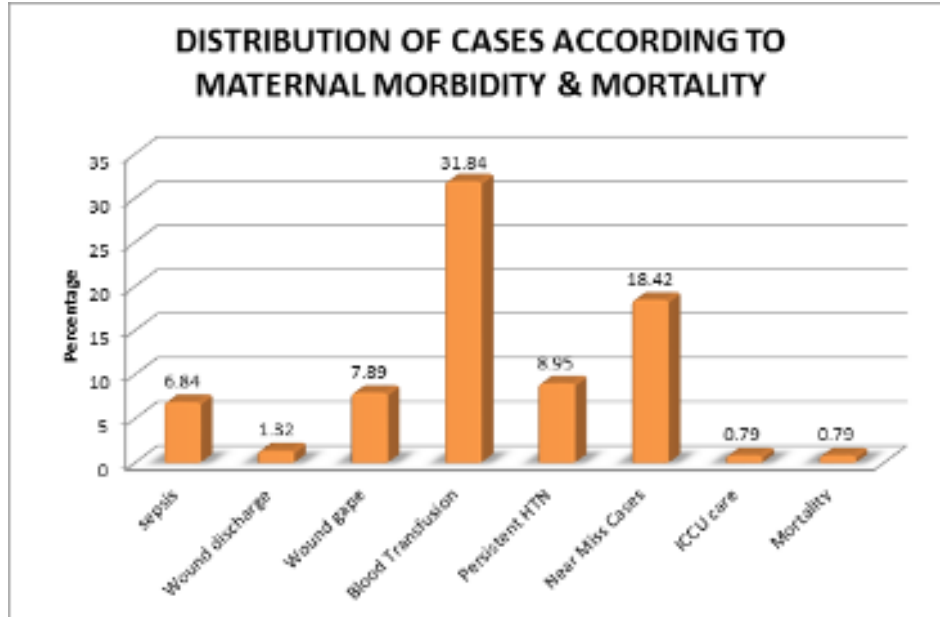
In our study, 31.84% of the patients required blood/blood products transfusion. There were 3(0.79%) maternal mortalities in present study & behind these there were total 70(18.42%) near miss cases which provide valuable information on the quality of antenatal care at the periphery.

Mode of delivery	No. of cases (%)		
		<37 weeks	>37 weeks
Vaginal Spontaneous Induced	40(10.53)	11(2.89)	29(7.64)
	179(47.11)	75(19.74)	104(27.37)
LSCS emergency elective	150(39.47)	85(22.37)	65(17.10)
	10(2.63)	0	10(2.63)
Undelivered	1(0.26)	0	1(0.26%)
TOTAL	380(100)	171(45)	209(55)

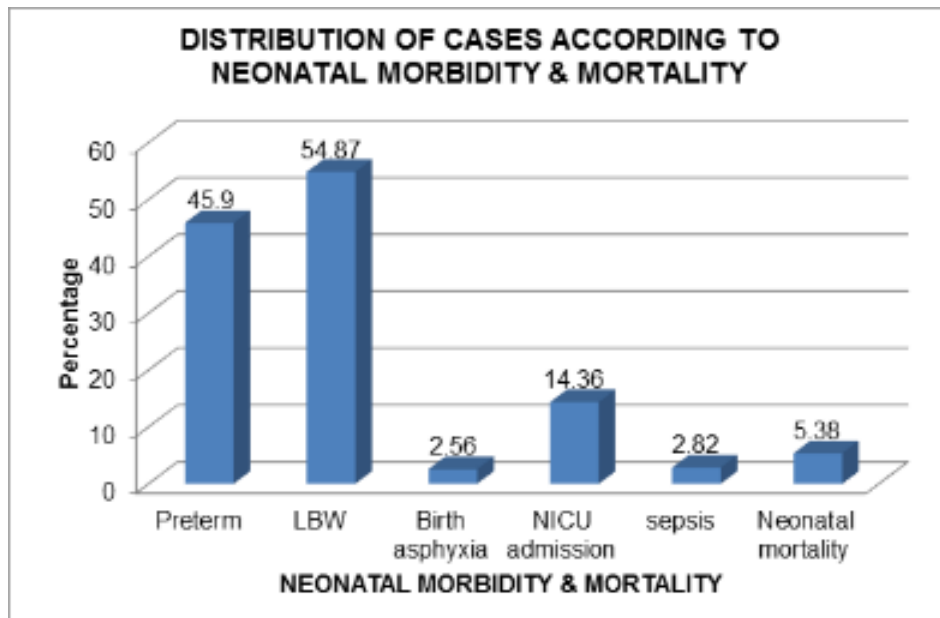
Table 3 : DISTRIBUTION OF CASES ACCORDING TO MODE OF DELIVERY

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Caesarean section rate was 42.10% in the referred cases. Out of that majority (39.21% of total) were done on emergency basis.



Graph 2



Graph 3

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54.87% of all neonates had low birth weight in this study. In present study, 45.90% babies were preterm. 52.60% of total babies had low apgar score (<7) at 1 min while only 9.83% had score <7 at 5 min. Total NICU admission rate was 14.36%. Neonatal mortality documented in present study was 5.38%.

DISCUSSION: Puri Alka, Yadav Indra, Jain Nisha (2011).¹ in their study noted that out of 92.31% of unbooked cases 24.16% were referred cases. The proportion of referral cases to our tertiary care institute was 17.83%. Morsheda Banu et al (2010).² in assessing the MANOSHI Referral System showed that overall age distribution in majority (74%) of the respondents were between age 20-35 years. In the present study, maximum number of patient (58.16%) were in the 21- 25 years of age group which is comparable to the above authors. Morsheda Banu et al (2010)² had found that around 50% of the women were primigravida.

In our study, majority of patients were primigravida (53.95%). Owolabi A T et al (2008).³ in their study observed that 29% of the 1,154 deliveries were unbooked. Our study also had similar findings as that of Owolabi A T et al study with only 25% being unbooked at referring centre. Ayesha Khatoon et al (2011).⁴ reported that 35% of cases were referred from Dai's, 27% from Primary health care units and 41% from Secondary care hospitals. On the contrary, in our institute maximum patients were referred from district level hospitals (42.37%) followed by RH (34.74%) A.P. Sakhare, Pravin Thakare (2008).⁵ observed that 65% cases travelled more than 50 kilometer distance before reaching to hospital & had increased incidence of intraoperative complications & haemorrhage.

Majority of the patients in our study were referred from less than 20 km (35.79%), followed by 41-60 km(21.05%), 61-80 km(15.26%) but some of the patients (12.90%) have to travel more than 100 km to seek emergency obstetric care which is important factor for delay in referral & poor maternal & perinatal outcome. Rathi Charu et al (2010).⁶ noted that Majority of the cases were referred for hypertensive disorders of pregnancy (26%), preterm labour (26%), and medical disorders complicating pregnancy (21%). Major indication of referral to the tertiary care were preeclampsia & related conditions (25.79%). Rathi Charu et al (2010)⁶ noted that condition of patients on admission was stable in 54.54% rural, 58% urban patients, poor in 36.36% rural, 29% urban, and critical in 9.09% rural & 11.9% urban patients. While in present study, 75.53% of the referred patients referred were in stable condition, while 6.05% patients were irritable & 18.42% were critical on admission. The results are comparable with above studies. Sorbye et al (2011).⁷ found that referral status contributed substantially to the increased caesarean section rate, which was 55% in formally-referred. In present study, 42.11% underwent caesarean section, the results of which are comparable with above study & we can conclude that rate of caesarean section is substantially high in referral cases.

Surabhi Sharma et al (2007).⁸ reported 1.55% mortalities in their study. Rathi Charu et al (2010)⁶ in their study observed that 1 patient required ICCU care, 7 patients required basic +advanced life support. They had only rural referral mortality in a patient where referral-admission interval was more than 24 hours. Yara Almerie et al (2010)⁹ in their study showed a MNMR of 32.9/1000 live births, a MMR of 54.8/1,00,000 live births. There were 901 near miss cases for 15 maternal deaths. In our study, ICCU care & ventillatory support was required in 3 patients (0.79%) which is comparable with above study. There were 70(18.42%) near miss cases in present study which were comparable to Yara Almerie et al study.

ORIGINAL ARTICLE

Ayesha Khatoon et al (2011).⁴ had total number of births 204(87%) while 30(13%) were abortions. Of these total number of live births were 177(87%) & 27(13%) were still births. In present study, 89.51% of the babies were liveborn out of that 50.38% were term & 39.13% preterm, 10.23% were stillborn. Rathi Charu et al (2010).⁶ noted 56% of all neonates were low birth weight in their study. Similar results were found in our study with 54.87% of the babies having low birth weight (birth weight <2.5kg). Amina S. Gonied (2011).¹⁰ observed that babies of un booked mothers were twice as likely as booked mothers to have asphyxia as indicated by an Apgar score of <7 at one minute (35%, 16.5%, respectively) and at five minutes (18.7%, 8.2%, respectively). In present study we found similar results with 52.60% of babies had 1 min apgar score 6 or less & 9.83% babies had apgar score 6 or less at 5 min. Rathi Charu et al (2010).⁶ observed that those neonates requiring nursery care, 56.25% were 28-32 weeks of gestation at birth while 55% of those roomed in were 37 weeks or more at the time of birth. Ayesha Khatoon et al (2011).⁴

In their study reported 26.5% preterm births. In present study, 45.90% babies were preterm, 54.87% were low birth weight. 2.56% had birth asphyxia, 14.36% had NICU admission. The neonatal mortality rate was found to be 5.38%.

CONCLUSION: Child birth is a normal physiologic process, but emergencies can arise any time. The present study has shown that improper antenatal & intranatal care at the periphery level is responsible for poor maternal & perinatal outcome. Rural women have very poor access to MCH services. There is lack of Transportation facilities for referral patients & they have to travel a longer distance to seek emergency obstetric care. The traditional birth attendants should be trained properly and their main contribution should be for health promotion rather than disease intervention (Especially in complicated cases). Health education and awareness by mass media and non-government organizations can improve the health and social status of women in rural areas.

Thus health education to the community, better antenatal care up to grass root level, emergency intranatal care, availability of services of skilled birth attendants at the time of child birth, well organised first referral centre with better transportation facility, availability of blood round the clock, anaesthetic facilities & availability of specialist in the field of obstetrics at the referral unit will definitely reduce maternal & perinatal morbidity & mortality.

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