Review of Referred Obstetric Cases – Maternal and Perinatal Outcome

Rathi Charu*, Gajria Kamal**, Soni Neelu***

Abstract

Background: Only 20% of the Indian population resides in urban areas, whereas the rest resides in rural areas, therefore, referral to urban areas for complications during pregnancy are common place.

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

Methods: A prospective observational study, comprising the first 100 referred obstetric cases. Complete history, basic investigations and specific investigations as required were carried out for each case. Mode of delivery was documented, maternal complications if any, were managed and maternal and perinatal outcome was documented.

Results: 67% of the referrals were from urban areas and 33% from rural areas. Educational status of the urban patients was markedly better than the rural patients. Majority of referrals were for hypertensive disorders (26%) and preterm labour (26%). 60% of the rural population was anaemic. 62% of the total liveborns required nursery care.

Conclusion: The current study shows that delay in referral and referral to intermediary centres are the main causes for adverse maternal/perinatal outcome. Peripheral healthcare system needs to be strengthened and practice of early referral needs to be implemented for better maternal and perinatal outcome.

Introduction

In India women of child bearing age (15-45 years) constitute 22% of the population. They are a vulnerable special risk group. The risk is due to pregnancy and child bearing. Women who have lived within reach of technical, educational and social developments of past 50 years have been liberated from many of the risks surrounding pregnancy and childbirth. Our chance of falling ill or of dying an untimely death still depends largely on the country we live in. Place of residence (urban/rural), economic status, educational background, social and cultural factors influence the maternal morbidity and mortality profile in a country.

The purpose of antenatal care is to identify 'High Risk' cases as early as possible from a large group of antenatal mothers, and arrange for them timely and appropriate skilled care. The present study was carried out with the following aims and objectives.

To review the primary reasons for referral to our hospital.

To study the clinical course of mother in the antenatal, intrapartum and postnatal period and to document the outcome.

To study the neonatal course during first 7 days of delivery and to document the
Material and Methods

Study Population
First 100 referred obstetric cases, admitted to Department of Obstetrics and Gynaecology of Choithram Hospital and Research Center, Indore during the study period.

Methods
Thorough history taking.
Complete physical and obstetric examination.
Basic investigations like CBC, blood grouping, cross matching, urine routine and microscopic, and obstetric ultrasonography.
Case specific investigations were carried out as mandated by the 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.
Neonatal outcome was documented under the following headings: term/preterm birth/live/still birth, birth weight of the baby, stay in the nursery, clinical course of the baby in the first 7 days and the complications if any were also noted.
Condition of mother on discharge was also noted.

Results
1. In the present study 67% patients were from urban area and 33% from rural area.
2. 63% in the referred rural group were illiterate while only 8.9% urban patients were illiterate.
3. Majority of the cases were referred for hypertensive disorders of pregnancy (26%), preterm labour (26%), and medical disorders complicating pregnancy (21%).
4. Of the urban cases, 30% reached the hospital within 6 hours of referral. However a surprising 25% delayed admission by 24 hours or more (Table 1).
5. In the rural cases a majority (63.6%) of cases had delayed referral (Table 1).
6. The main reasons for delay were referral to an intermediary centre, financial constraints, ignoring of warning signs of diseases by the patients and family members and poor transport facilities.
7. 45% of the rural patients were in unstable or critical condition at the time of admission (Table 2).
8. Anaemia was present in 46% of all patients.
9. In the rural patients anaemia was more prevalent (60.1%) as compared to urban patients (38%).
10. 42% patients required blood or blood products transfusion (Table 3).
11. There were 7 deaths during the study period. In these cases, the time interval between referral and arrival was 12-24 hours in 4 (57.2%) patients and more than 24 hours in 3 (42.8%) patients.
12. Of the total live born neonates 62.37% required nursery – care while 37.67% were shifted with mother after delivery (Table 4).
13. Of 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.
14. Perinatal mortality was 28.23% in the present study (Table 5).
Discussion

Educational Status

In the referred group 63% cases from rural areas were illiterate while only 9% of urban women were illiterate.

68% of urban women had attended school and 22% had graduated in contrast to only 3% of rural women who attended college.

At D.K. Hospital Raipur (1991), 100% rural referred cases were illiterate. This shows increasing awareness in women over a period of time. The high prevalence of illiteracy in women contributes to maternal mortality and morbidity.

Time Interval between Referral and Admission

In the present study, in the urban referrals, 30% cases reached the hospital within 6 hours of referral. However a surprising 25% delayed admission by 24 hours or more. This can be explained on the basis prevalent social taboos, negligence of patients and financial constraints.

In the rural cases a majority (63.6%) of cases had delayed referral. The main reasons for this delay were referral to an intermediary centre, financial constraints, ignoring of warning signs of diseases by the patients and family members and poor transport facilities.

According to Maitra, Govinda and Hazra, the reasons for delay in referral were negligence of patient and family members in 2.5% - 8.5% non availability of treatment in 32.9% - 43.9%, transport problem in 14.6% -
32.79%, reluctance of patient to go to larger hospital in 10.02% - 17.3% and undiagnosed complications in 8.4% - 26.4% cases.

**Condition of patients on admission**

In the present study 58% patients from urban areas were admitted in a stable condition while 54% of rural patients were admitted in stable condition. This reflects practice of early referral and quick transport in the periphery. However 45% of rural patients were in an unsatisfactory condition on admission. This reflects a delay on the part of patients in seeking and getting health care. The general conditions of patients on admission in M.Y. Hospital, Indore was unsatisfactory in 69.5% cases. Gandhiali\textsuperscript{4} reported that 0.88% were in poor condition on admission. At D.K. Hospital, Raipur, 53.33% rural referrals were in unsatisfactory condition on admission.

**Management of Complications**

In our study 42% patients required blood or blood product transfusion. In contrast, Surabhi Sharma \textit{et al.}\textsuperscript{3} reported only 9% of patients required transfusions. This can be due to higher incidence of PPH in our study. ICU care was required in 8% cases. Subtotal hysterectomy was performed in 1% of patients for PPH.

**Maternal Mortality**

The maternal mortality in this study was 7 out of 100.85% of the mortalities being urban and 15% from rural areas.

There were seven maternal mortalities in this study.

**Causes of Mortality**

Meningitis, thrombotic thrombocytopenic purpura and subsequent MODS, postpartum, ARF, hepatic encephalopathy, congestive cardiac failure, (one duct to RHD one due to severe anaemia).

The time interval between referral and arrival was 12-24 hours in 4 (57.2%) patients and more than 24 hours in 3 (42.8%) patients. The lone rural referral mortality was in a patient where referral-admission interval was more than 24 hours. Gandhiali\textsuperscript{4} reported 1.2% maternal mortality. At D.K. Hospital, Raipur there were 6% maternal mortalities. Surabhi Sharma \textit{et al.}\textsuperscript{3} reported 1.55% mortalities in their study.

High mortality rate as seen in this study can be attributed to the fact that being a tertiary care centre, patients with critical clinical condition are referred to our institute.

**Perinatal Outcome**

In the present study total number of births was 85 while 15 were abortions. Of the total births 90% of births were live births while 9.09% were stillbirths. All the stillborn babies were pre term. Of the total live born neonates 62.37% required nursery-care while 37.67% were shifted with mother after delivery.

Of 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.

Neonatal mortality in this study was 16%. 75% of neonatal deaths occurred in pre term neonates.

26% of all live born had respiratory distress, 24% had necrotizing enterocolitis, 14% had neonatal hyperbiliurinaemia and 9% had septicaemia.

56% of all neonates had LBW.

Gadhiali\textsuperscript{4} reported a perinatal mortality of 28.20%.

At D.K. Hospital, Raipur (1990-91) the perinatal mortality in the referred cases was 49.7%.

These high rates of perinatal mortality reflects the inadequate and inefficient
obstetric services in the peripheral rural areas.

In the M.Y. study (1997-98), the total perinatal mortality was 39.89%.

Surabhi Sharma et al reported 74.01% live births, 25.98% still births and 9.25% neonatal deaths and total perinatal mortality of 30.63%.

**Conclusion**

The referrals from rural areas were totally unaware of the existing antenatal services in the rural areas. The existing antenatal clinics are inadequate and inaccessible to most of the rural patients.

In the rural areas, interference by untrained dais and quacks increases the maternal and perinatal morbidity by performing unsafe deliveries and abortions, carrying out dangerous practices and giving detrimental advice to the patients.

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.

There is indeed no doubt that rural health care infrastructure is lacking. However, developing the proper attitude and will for improving maternal and child health would go a long way in optimally utilizing the existing infrastructure.

**References**


---

**ENDOSCOPIC VERSUS OPEN VEIN-GRAFT HARVESTING IN CORONARY-ARTERY BYPASS SURGERY**

Endoscopic vein-graft harvesting is often used in coronary-artery bypass grafting (CABG) to prevent post-operative wound complications. However, in this study, which had a 3-year follow-up, *endoscopic harvesting was associated with a higher rate of graft failure* and adverse clinical outcomes. Although this is not a randomized study, it calls into question the use of endoscopic vein-graft harvesting in CABG.