

A Clinical Study of Foeto - Maternal Outcome in Referred Cases in Tertiary Care Centre in Rural Medical College

Ravindra S Pukale¹, Guna Sanjana S²

Adichunchanagiri Institute of Medical Sciences and Research Centre, Karnataka, India

Abstract: *Pregnancy is a normal physiological process. Low - risk pregnancy can be managed by primary healthcare centers. Pregnant women are at high risk for life threatening complications throughout the pregnancy and during delivery as well. Most of these complications are unpredictable with routine clinical examination. The term referral is used to indicate the recommendation of a healthcare provider at one level of the health system, having limited resources (medications, equipment, skilled professional) to manage a clinical condition for the assistance of an improved resourced facility, which is of similar or higher level to assist in or take over the management of patient. In light of this, the current study was conducted to assess the distribution of obstetric cases referred to a tertiary teaching hospital and their outcome. This is a Retrospective Observational study conducted in the Department of Obstetrics and Gynecology at Adichunchanagiri Hospital, a tertiary care centre. The data collected are the referred cases from near by PHCs, CHCs, and private Hospitals from September 2020 to December 2021. The total number of referred cases opted for the study are 250. The major cause being for referral was the Hypertensive Disorder of Pregnancy 34.4% and the highest number of delivery was through the vaginal route 56.4%, without no maternal or neonatal mortality observed during the study period. Therefore, High quality health care is a right of every woman, thus to fulfill this right, we must improve the way the maternal and child health care is being.*

Keywords: Referred case, complications, Maternal, Neonatal

1. Introduction

Pregnancy is a normal physiological process. Low - risk pregnancy can be managed by primary healthcare centers. Pregnant women are at high risk for life threatening complications throughout the pregnancy and during delivery as well. Most of these complications are unpredictable with routine clinical examination. Skilled medical interventions such as blood transfusion, caesarean delivery, expert surgical team, medicines etc. are required to prevent these complications.¹ Obstetric complications (defined as acute condition, such as eclampsia, sepsis, obstructed. Majority of these conditions can be managed with timely intervention with a package of evidence - based care known as emergency obstetric care [Emoc].^{2, 3} An emergency can be defined as a situation of serious and often dangerous nature, developing suddenly and unexpectedly and demanding immediate attention in order to save life

A proper antenatal care should be provided to all pregnant women, the goal of antenatal visit's is to quickly and skillfully treat high risk individuals by identifying them. An healthy mother and baby are what antenatal care seeks to attain at the end of pregnancy.⁴

The referral system is the basis of the healthcare delivery system.⁵ It is crucial for facilitating access to emergency obstetric care during pregnancy and labour. The term referral is used to indicate the recommendation of a healthcare provider at one level of the health system, having limited resources (medications, equipment, skilled professional) to manage a clinical condition for the assistance of an improved resourced facility, which is of similar or higher level to assist in or take over the management of patient.⁶ The promptness and appropriateness of the referral play a crucial role in the final

outcome. A key element of primary health care is connecting the primary, secondary, and tertiary levels of treatment.

In light of this, the current study was conducted to assess the distribution of obstetric cases referred to a tertiary teaching hospital and their outcome.

Aims and Objectives

To the study the foeto - maternal outcome in referred antenatal and intranatal cases in a tertiary carecentre.

2. Materials and Method

This is a Retrospective Observational study conducted in the Department of Obstetrics and Gynecology at Adichunchanagiri Hospital, a tertiary care centre. The data collected are the referred cases from nearby PHCs, CHCs, and private Hospitals from September 2020 to December 2021. The total number of referred cases opted for the study are 250.

This study included all the referred antenatal and intranatal cases. The Gynecological referred cases were not included in the present study.

A performa was designed specially to cover all the aspects of referral including cause, maternal outcome. Management of the patient was documented in detail. Mode of delivery was noted. It also included perinatal outcome. Fetal outcome was noted regarding gestational age, live or stillbirth, Birth weight, NICU admissions and reasons for NICU admission, clinical course of the baby before discharge of mother and if any complications occurred.

3. Statistical Analysis

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Normality of the continuous data, was tested by Kolmogorov–Smirnov test and the Shapiro–Wilk test. Continuous data was represented as mean and standard deviation. Categorical data was represented in the form of frequencies and proportions.

4. Results

Among 250 referred cases, Our study included mothers who were aged in the range of 19 to 36 years. The mean age was 24.18 ± 4.27 years (Figure 1). Majority of the mothers (69.2%) were primigravida. (Figure 2)

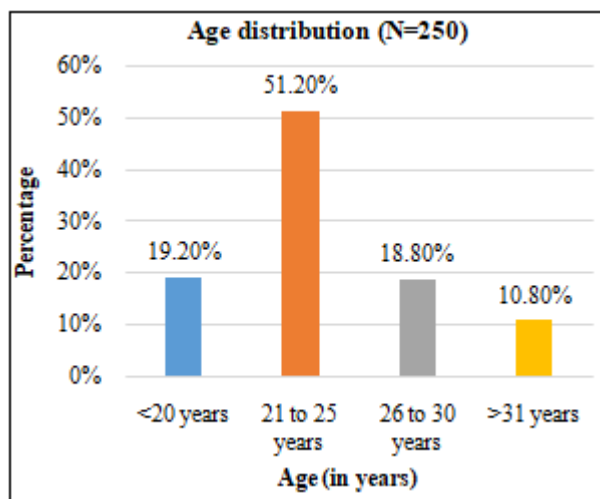


Figure 1: Age distribution of the study subjects

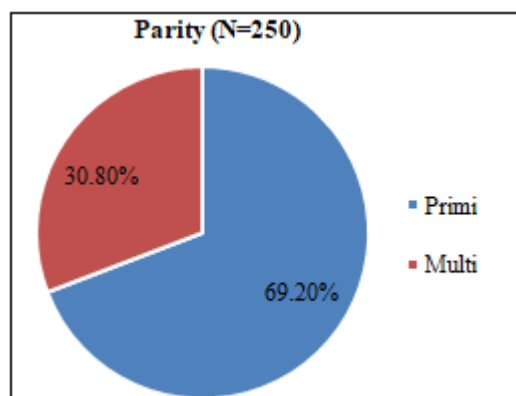


Figure 2: Distribution of the study subjects based on parity

The most common cause for referral of the subjects in our study was Hypertension (34.4%), followed by anemia (13.6%), and eclampsia (12.4%). In 25 cases (10.0%), the child had already died in - utero due to failed management in the first referral unit, and those subjects were immediately referred to our hospital for the safety of the mother. Also 9.6% and 4.4% of the subjects had been referred due to the non - availability of obstetrician and NICU facilities respectively (Table 1).

Table 1: Reasons for referral of the study subjects to the tertiary care centre

Reasons (N=250)	Frequency (N)	Percentage (%)
• Anemia	34	13.6%
• Hypertension	86	34.4%
• Eclampsia	31	12.4%
• Previous LSCS	15	6.0%
• Second Stage Arrest	8	3.2%
• Failure to Progress	25	10.0%
• Meconium Stained Amniotic Fluid	30	12.0%
• Fetal Distress	17	6.8%
• Intra - Uterine Death	25	10.0%
• Retained Placenta	4	1.6%
• Post - Partum Hemorrhage	20	8.0%
• Non - availability of Obstetrician	24	9.6%
• Non - availability of NICU	11	4.4%

In our study, except 24 cases (retained placenta – 4, post - partum hemorrhage – 20), all other mothers had delivered the child in our hospital. More than half of the subjects (56.4%) delivered the child through normal vaginal route, and the remaining (43.6%) were subjected to lower segment caesarean section (Figure 3). Those cases that delivered the child before referral and all the IUD cases were delivered through normal vaginal delivery.

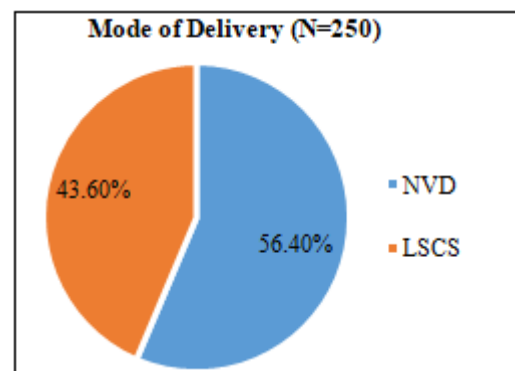


Figure 3: Distribution of the study subjects based on mode of delivery

Overall, our study found no maternal and neonatal mortality. The maternal outcome was observed to be good in majority (87.2%). About 14 mothers (5.6%) presented with episiotomy wound infection, and all those were the cases that delivered the child before referral. During stay at our hospital, 10 mothers (4.0%) were diagnosed with moderate anemia, and 8 mothers (3.2%) suffered single episode of seizure post - delivery (Figure 4). Before being discharged, all the mothers were managed for respective conditions, and made sure that the final outcome was good and healthy for all 250 mothers.

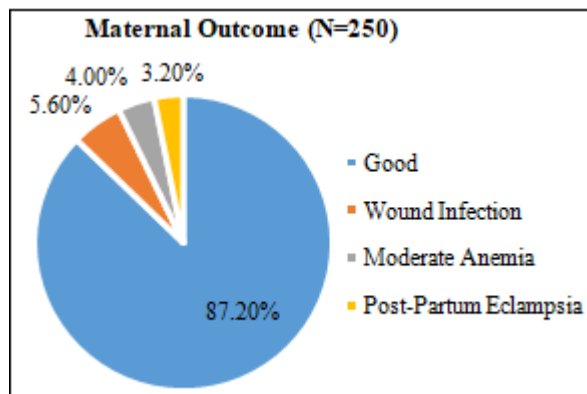


Figure 4: Maternal outcome in the study

Excluding 25 IUD cases, majority of the neonates (89.2%) got shifted to mother side soon after providing necessary care. However, 27 neonates (10.8%) had to be shifted to NICU for immediate management, and all those neonates got shifted to mother side within 7 days of delivery (Figure 5).

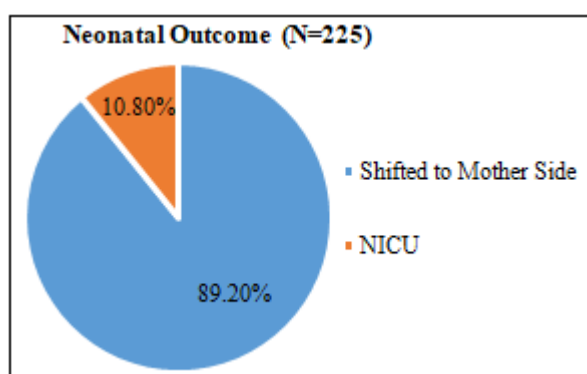


Figure 5: Neonatal Outcome of the study

5. Discussion

The obstetric emergencies can occur suddenly or develop gradually as a result of complication that are not managed properly. Therefore, timeliness and appropriateness of referral are a challenge to obstetricians, since the delay in referral affects the maternal and perinatal outcome adversely, hence identification of at risk patients and obstetric emergencies and timely referral is of immense importance.⁷

In the present study, maximum number of patient (51.2%) was in the 21 - 25 years of age group. Morsheda Banu et al; in assessing showed that overall age distribution in majority (74%) of the respondents were between 20 - 35 years. In present study, majority of patients were primigravida (69.2%), which is comparable. Morsheda Banu et al; had found that around 50% of the women were primigravida.⁸

In the present study the highest number of cause of referral is due to hypertensive disorders (34.4%) anemia (13.6%) while in the study done by Patel HC et al; causes of referral were preeclampsia (16%), MSL (5%).⁹ This may be not only due to unavailability of blood transfusion facilities in case of severe anemia at primary health care and community health care, but also cost factor in case of referral from private sectors. Rathi et al noted that majority of the cases were

referred for hypertensive disorders of pregnancy (26%), preterm labor (26%), and medical disorders complicating pregnancy (21%).¹⁰

Previous caesarean section was the cause of reference in 6% of cases in our study; while in study conducted by Khatoon A et al, previous caesarean section was the cause of reference in 15% of cases.¹¹ The patients with previous caesarean section are referred to higher centers from PHC/CHC due to unavailability of operation theatre, gynecologists, anesthetics, trained staff or basic infrastructure deficits.

In present study, 56.4% - referred cases had vaginal delivery (either spontaneous or induced), 43.6% had caesarean section. The commonest indication of caesarean section amongst referred patients was fetal distress. Sorbye et al found that referral status contributed substantially to the increased caesarean section rate, which was 55% in formally referred.¹² In present study, 43.6% referred cases underwent caesarean section so we can conclude that rate of caesarean section is substantially high in referred cases.

Most of NICU shifted babies delivered by the patients, who had hypertensive disorders of pregnancy, fetal distress, PROM, antepartum hemorrhage, preterm labor pains, and obstructed labor. Main causes of NICU admission were respiratory distress due to meconium aspiration syndrome, birth asphyxia, preterm, septicemia and neonatal jaundice. Rathi C et al in their study reported 62.37% babies with live birth required NICU, 37.67% of live born babies were alive and healthy, still birth was 9.09%.¹³

6. Conclusions

Patients can easily receive high quality care inside the health care system with a timely referral. Health care practitioners must quickly decide whether to intervene and must recognize high risk pregnancies. To improve services and minimize the burden on tertiary care hospitals, First referral units must be strengthened. These services should ought to incorporate emergency obstetric care and the availability of an operating theatre, an anaesthetist, a paediatrician and a blood bank through out the day. Routine blood pressure checks, haemoglobin measurements, iron and folic acid treatments, deworming, early ANC registration, and teaching women about contraception and birth spacing are all things that health care professionals should receive thorough training in.

High quality health care is a right of every woman, thus to fulfill this right, we must improve the way the maternal and child health care is being delivered.

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