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Research Article

Study of Maternal and Fetal Outcome of Patients Referred In Third Trimester of Pregnancy at Tertiary Care Hospital

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Abstract: To describe the perinatal and maternal outcomes in patients referred to a Tertiary care hospital, and to evaluate the impact of delay on the fetomaternal outcomes. The Study design isProspective Observational study.The Settings inDepartment of Obstetrics and Gynaec, of Smt. NHL municipal medical college, Smt. S.C.L. Municipal Hospital.The Duration isSeptember 2012 to September 2014. The Methodology is100 patients referred to our unit in emergency were included in our study. A detailed proforma, including history and examination, Investigations, source and reasons for referral, mode of delivery, maternal outcome, perinatal out-come, maternal complications and their management.The results areA Total number of 100 obstetric patients was referred during ourstudy period. 06% of cases were referred from Dai's, 61% from Primary health care units and 33% from private hospitals The main cause of referral was anaemia (15%) followed by previous caesarean section (12%),Pregnancy Induced Hypertension(11%),Me conium Stained Liquor (10%),Premature Rupture Of Membrane (9%),Oligohydroamnios(6%). Maternal mortality was 2%. Other maternal complications were PPH (6%), post-partum fever (18%), uterine rupture (2%), and pulmonary oedema (1%).Total live birth were 95% and 5% were still birth. In conclusion the Referral rates to tertiary care center are rising continuously. Repeat Caesarean Section and meconium stained liquour, are the top most reasons. Delay in referral is a big contributory factor for adverse maternal and perinatal outcomes. There is an urgent need of provision of 24 hrs emergency Obstetric care system with alert transportation readily available to women in need.
Keywords: Maternal mortality ratio (MMR), perinatal mortality rates, Caesarean Section. Ante partum haemorrhage (APH), Post partumHaemorrhage (PPH), Non progress of labour(NPOL)

INTRODUCTION

Pregnancy and child birth are physiological processes. However these are not free of risks. Critical care in obstetrics has received much attention in recent times. Despite progress in medical field and improvement in available health care facilities, maternal mortality is still high in most of the developing countries. Efforts are underway to reduce the incidence of maternal mortality in the world and concern is increasingly being expressed about the incidence of maternal morbidity. Severe maternal morbidity, also known as "near miss" may be a good indicator of the quality and effectiveness of obstetric care, as it may identify priorities in maternal care more rapidly than mortality alone. Lack of trained birth attendants, lack of education, low status of women in society, poor families, financial dependency of women and delayin seeking medical treatment in cases of obstetricemergencies are the Key factors contributing towards the adverse maternal and perinatal outcomes. Worldwide every year approximately 8 million women suffer from pregnancy related complication. Over a half million of them, die as a result. Every day, 1,000 girls and women die in pregnancy or childbirth [1]. In 2008, an estimated 358,000 women died due to complications developed during pregnancy and childbirth [2].For every woman who die; at least 20 more suffer injury, infection or disability from maternal causes – approximately seven million women every year. Seventy-five per cent of maternal deaths occur during childbirth and the postpartum period, and the vast majority of maternal deaths and injuries are avoidable when women have access to health care before, during and after childbirth.

METHODOLOGY

The study was conducted at Obstetrics and Gynaecology department of Smt. NHL municipal medical college, Smt. S.C.L. Municipal Hospital, during the time period, from September 2012 to September 2014.

Study population

Randomly selected 100 patients referred to the hospital in third trimester of pregnancy during study period.

Study design

Prospective observational study

Exclusion criteria

- Post-partum patients
- Early pregnancy complications (<28wks)

A proforma was designed especially to cover all the aspects of referral including cause, place, and maternal outcome including salient features of history, examination, baseline and specific laboratory investigations, ultrasound were carried out in relation to clinical condition of patient. Management of the patient was documented in detail. Mode of delivery was noted i.e., whether vaginal or operative (C-Section). It also included neonatal outcome. Factors contributing to decision-making on mode of delivery were noted. Any maternal morbidity or catastrophe was noted. Foetal outcome was noted regarding gestational age, live or still birth, Birth weight ,NICU admissions and reasons for NICU admission, clinical course of the baby before discharge of mother and if any complications occurred.

RESULTS

This study consists of 100 patients referred in 3rd trimester of pregnancy at tertiary care hospital during September 2012 to September 2014.Majority of patients were referred from PHC/CHC (61%).The main cause of referral was anaemia (15%) followed by previous caesarean section (12%),Pregnancy Induced Hypertension(11%),Me conium Stained Liquor (10%),Premature Rupture Of Membrane (9%),Oligohydroamnios(6%).Distance between place of reference and tertiary care centre was <5 km in majority of patients (56%).In this study majority of patients (76%) arrived at the tertiary care hospital within 12 hours which may be due to either timely diagnosis and/or good transportation facility. Mode of delivery in 64% of patients was caesarean section and 15% of patients delivered vaginal. Maternal mortality was 2%. Other maternal complications were PPH (6%), post-partum fever (18%), uterine rupture (2%), and pulmonary oedema (1%).Total live birth were 95% and 5% were still birth. NICU admissions were 28% and 6% were died in NICU.

Table-1: Source of referral

Source of referral		
Source	No of patients	
	Present study	Ayesha *et al.*[3]
PHC/CHC	61 (61%)	25%
Private	33 (33%)	40%
Dai/others	06 (6%)	35%
	100	100%

Table 2: Distance between Place of Reference andhospital

Distance in kilometres(Km)	No. of patients in present study
<5	56
5-10	32
10-20	10
>20	02
	100

Table 3: Mode of delivery

Mode of delivery		
	Present study	Ayesha *et al.*[3]
Caesarean section	64	53.3%
Emergency	56	
Elective	08	
Normal vaginal		
Spontaneous	15	16%
Induced	20	
Instrumental vaginal	01	14%

Table 4:Perinatal outcome

Perinatal outcome		
	No of patients	Charu R*et al.*[4]
Total births	100	80
Total live births	95	-
Still births	05	08%
Preterm	19	44%
NICU admission	28	62.37%
Neonatal death	06	28.23%
GCA	02	-

Table 5:Reasons of referral

Reasons of referral			
Reasons	No of patients		
	Present study	Ayesha *et al.*[3]	Patel HC*et al.*[5]
Anaemia	15	-	12%
Pre caesarean	12	15%	06%
PIH	11	27%	16%
MSL	10	78%	05%
PROM	09	-	-
Oligohydroamnios	06	-	-
Postdate	05	-	07%

Breech	04	-	-
Eclampsia	04	-	-
NPOL	04	-	23%
Obstruction	04	-	-
Placenta previa	03	-	01%
Abruption	03	-	02%
BOH	02	-	-
HbsAg reactive	02	-	-
HIV reactive	02	-	-
Others	04	-	-

DISCUSSION

In present study highest references are from the PHC/CHC (61%) followed by from private sector(33%) which reflects the fact that our institute is situated in urban slum area which constitute low and middle socio economic status population, which prefer treatment from government facility rather than private sector as it is substantially costlier and with the introduction of almost free maternal services under the JananiShishuSurakshaKaryakram (JSSK) the number of patients seeking care from government facility has increased drastically in low to medium income households.

Implementation of various government schemes has changed scenario of statistics in referral patients.In the study done by Ayesha *et al.* [11], highest numbers 40% of referral from private sector followed by dai (35%) while referral from PHC/CHC were 25% of cases. In present study majority of patients (76%) arrived to the hospital within 12 hours of reference while it was 49% in the study done by Rathi*et al.* [9]; The patients who reported to hospital >24 hours of referral were 5% in present study while in the study done by Rathi*et al*.[9]; were 25%.

Time interval of reference and reporting depends not only on availability of transport system and distance between the referral and tertiary health care centre but also on patients and her relatives' attitude, awareness and socio-economic status and that reflects directly feto maternal outcome. In present study the highest no of cause of referral is due to anaemia (15%). This may be not only due to unavailability of blood transfusion facilities in case of severe anaemia at PHC/CHC but also cost factor in case of referral from private sectors.

Maternal anaemia is not only affecting the maternal health in antenatal period but also reflected on intrapartum and postpartum period. So, referral in antenatal period improves maternal outcome. Poor nutritional status and inadequate spacing of pregnancy compounded by inability of poor patients to have adequate diet due to economic reasons leads to high rate of anaemia in pregnancy leading to many maternal morbidities.

It can be prevented if early and adequate antenatal visits are taken by the patients. For this improvement of awareness of early antenatal visit is required. Not only self-awareness but health education and awareness by mass media and non-government organizations can improve the health and social status of women in rural areas.

Followed by anaemia previous caesarean section (12%) is major cause of reference. This is comparable to study done by Ayesha *et al*.[11]; 15% while in the study done by Hite shree*et al.* [12]cause of reference for previous caesarean section is only 6% about 50% lesser than above both studies. The patients with previous caesarean section are referred to higher centres from PHC/CHC due to unavailability of operation theatre, gynaecologist, anaesthetics, trained staff or basic infrastructure deficit.

Labour was responsible in 4% of patient for referral at tertiary care hospital. This is also a preventable morbidity by early diagnosis through proper monitoring of labour at CHC/PHC level. Partogram is very useful tool for monitoring. Partogram can be maintained by little training only. So paramedical staff at PHC/CHC can also monitor progress of labour and before mother goes in obstruction it can be prevented by timely referral. Referral to tertiary centre due to placenta previa and abruption is 4 %, bad obstetric history is 2%, due to HIV infection is 2 % and due to hepatitis B infection is 2 %.Other causes of referral are for cord prolapse (1%), for maternal diabetes 1%, polio 1% and for cardiac disease it is 1%.Cost factor may be responsible for more percentage of patients with previous caesareans being referred to tertiary care hospital especially for those who are referred from private sector because under JSSK programme all obstetric facilities and interventions are provided free of cost.

Referral for preeclampsia(11%),me conium stained liquor(10%),preterm rupture of membranes(9%), oligohydramnios (6%), postdate(5%) and malpresentation (6%) in present study, while in the study done by hiteshree*et al*[12].; causes of referral for preeclampsia(16%), MSL(5%), postdate(7%), malpresentation (15%).

In present study mode of delivery in majority of the patients is caesarean section (64%) which is comparable to the study conducted by Ayesha *et al.*[11];(53.3%).

Patients are referred to higher centres when either it is high risk pregnancy or when conduction of normal vaginal delivery is difficult in primary set up. This may be the cause of higher caesarean section rate among referral patients. Neonatal mortality was also significantly less 6 % in this study as compared to 28.23 % in study done by Rathi*et al*.[9]; this difference is due to less preterm deliveries and less NICU admissions. In this study 2 % babies had gross congenital anomalies, which was undiagnosed during antenatal period at primary care centre.

Maternal death occurred in 2% of cases. The cause of death in one was severe PPH in case of primipara patient referred for PROM and in other was pulmonary oedema secondary to PIH. As per above data, in the study done by Ayesha *et al.*[11]; maternal morbidity is higher as compared to present study. This difference may be attributed to the fact that Ayesha *et al.* [11] study included patients referred after trial of labor.

CONCLUSION

Maternal and foetal morbidity and mortality are indicators of available health services in any country. Most of the maternal deaths can be prevented by timely diagnosis and interventions, either during pregnancy, labour or post-partum period. Access to high-quality health care that people need without suffering financial hardship is a human right and this can be made possible by strengthening the referral system and increasing the number of tertiary care centres which provide good maternal and neonatal care. Analysing total 100 referred cases, it is found that poor socio economic status, lack of human resources and facilities at many sub centres are the pitfalls in implementation and utilisation of our community obstetric care services. Less priority to preventive obstetrics, lack of proper follow up and accountability of such cases reflect our attitude in this matter. Now it is high time to update our practice of MCH care services, because there is a call, challenge and goal of Millennium development by 2015.

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