Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: www.saspublishers.com

OPEN ACCESS

Obstetrics & Gynaecology

Pregnancy Outcome in Referred Antenatal Cases Beyond 28 Weeks Gestation in a Tertiary Care Hospital

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DOI: 10.36347/sjams.2019.v07i11.040 | **Received:** 12.11.2019 | **Accepted:** 19.11.2019 | **Published:** 24.11.2019

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Abstract | **Original Research Article**

Background: An efficient referral system is essential during Obstetrical Emergencies and Childbirth for providing access to higher levels of care, referral system is an essential component of State Health systems. ***Aims and Objective:*** 1). to study the maternal and perinatal outcome in referred antenatal cases. 2) To identify the primary reasons & pattern of Obstetric case referral to our hospital. ***Material and Methods:*** It was a Cross sectional observational study of pregnancy outcome of 380 number referred antenatal cases > 28 weeks of gestation in a tertiary care centre referred from various peripheral health care centre, carried out from 1st july 2018 to 30th june 2019. ***Results:*** The proportion of referral cases to our tertiary care institute is 26.88%,, 88% of referred cases were from rural areas, 57% of patients referred from distance >50km. 40% patients went to other hospital before attending GMCH, this intermediary referral causes delay in arrival to GMCH, Only 76% of the patient had avail government vehicle for transportation from peripheral centre, 42.26% patients were referred from district level hospital which shows lacunae in providing emergency obstetrics care in secondary level health centre in the state. Major indication of referral to our hospital was hypertensive disorders 21.56% (PIH=18.42+Eclampsia=3.14), followed by previous LSCS 14.47% cases (6.84 %) patient were referred for anemia, (3.95 %) of patients for non-availability of blood. In present study, 35.06% of referred patients delivered vaginally, 55.35% of referred patients delivered by LSCS. In present study, maternal morbidity was 29.58% & mortality 3.88% respectively, 32.79% of neonates needed NICU admission, neonatal death in our study was 6.23%. ***Conclusion:*** In the rural areas, inaccessibility of health care facility, lack of knowledge, education interference by untrained dais and quacks increases the maternal and perinatal morbidity by performing unsafe deliveries & giving detrimental advice to the patients.Timely referrals with detailed referral slips imparting information regarding treatment received at the referring hospital might help in early and optimal intervention so as to reduce maternal and neonatal morbidity & mortality.

Keywords: Tertiary Care centre, Referred, Maternal Morbidity &Mortality, Neonatal Morbidity and Mortality.

INTRODUCTION

Every year some eight million women suffer preventable or remediable pregnancy-related complications and over half a million will die unnecessarily, Every day, approximately 830 women die from preventable causes related to pregnancy and childbirth. 99% of all maternal deaths occur in developing countries, maternal mortality is higher in women living in rural areas and among poorer communities [1]. An efficient referral system may provide access to treatment & skills by linking different levels of care viz. primary, secondary, tertiary through appropriate referrals [2-5]. To refer a patient is a medical decision and depends on many things including the skills of the referring staff, the tools for diagnosis, the availability of a health institute with special facilities, the quality of care at referral institution, the cost of care, distance, transportation, communication, someone to travel with the patient & feasibility of travel by the patient[6-11].

The primary health care facilities are not able to deal with high risk cases due to lack of skilled staff and equipment's ,though secondary health care facilities are supposed to deals with complicated cases but due to lack of equipment's and blood storage facilities they are also not able to deal with high risk cases. A tertiary care hospital has all the facilities including specialists and equipment's where all the referred cases can be reviewed with proper diagnosis and treatment, outcome and actual scenario of referral cases can study in a

tertiary care hospital, compliance of referral may depend on the counseling skill of the referrers, the socio-cultural belief of the patient and her family. Timely referral with detailed referral hospital might help in early and optimal intervention so as to reduce maternal and perinatal mortality [12-14].

The long-term objective should be to establish an operational referral system for emergencies and elective referrals as part of the district health system [15].

MATERIALS AND METHODS

The present was conducted in the department of obstetrics and gynaecology, Gauhati Medical College over a period of 1 year from 1st july 2018 to 30th june 2019.

Study Design: Cross sectional observational study

Study population: Pregnant woman >28wks of gestation who are referred to GMCH

Study duration: From 1st july 2018 to 30th june 2019

Inclusion criteria: 1) All referred antenatal cases 2) Viable pregnancy > 28weeks of gestation.

Exclusion criteria: 1) self-referred cases 2) IUFD 3) cases who did not give consent

Sampling: 10% of all the referred cases will be taken; every 10th cases who gave consent will be included in the study.

Tools used: Data was collected by interview method using a structured Performa; secondary data were collected from the referral slip.

DATA ANALYSIS

Data is compelled in Microsoft excel & data will be depicted using tables and diagrams.

RESULTS

In present study, majority 63.5% of the patient were in the age group 20-30 years& 60% of patients were in primigravida, 88% of referred cases were from rural areas, 57% of patients referred from a distance >50km. Only 30% of patient arrived to GMCH within 4 hours of referral, 30% took > 8 hours, Only 76% of the patient had avail government vehicle for transportation from peripheral centre, rest 24% had to travel by arranging private or public transport, 40% patients went to other hospital before attending GMCH, 42.26% patients were referred from district level hospital It has observed that major indication of referral to our hospital was hypertensive disorders 21.56% (PIH=18.42+Eclampsia=3.14), followed by previous LSCS 14.47% cases, 6.84% patient were referred for anemia ,3.95 % of patients for non-availability of blood, 5.26% for fetal distress, 0.8 % for non-availability of staff, 2.63%for CPD& Obstructed labour, In present study, 35.06% of referred patients delivered vaginally, 55.35% of referred patients delivered by LSCS, over all LSCS rate in GMCH was 49.06%., In our study, common indications of LSCS were found to be previous LSCS(31.18%) followed by PIH (22.27%), fetal distress (14.85%) and CPD with Prolonged labour (11.38%).

In present study, maternal morbidity was 29.58%, 0ut of these 19.45% patients needed blood transfusion and injectable iron, 2.46% had wound discharge and gaping, 6.02% patients were near miss and required ICU admission & 1.6% had postpartum eclampsia & maternal morbidity is 3.88% times higher in unbooked cases. In present study 11 patients were died, maternal mortality 2.63%, Majority of maternal mortality 54.54% was due to hypertensive disorder and its complications. In our study 32% neonates has birth weight less than 2.5 kg, LBW. 65.6% neonates were APGARScore >8 at 5 minute. 31.68%& 46.8% of neonates delivered by LSCS & SVD admitted in NICU respectively and in our study overall 39% of neonates needed NICU admission.

In our study, 28.76% of neonates of booked category and 77.9% of unbooked category cases needed NICU admission, Prematurity & LBW (33.3%) were the commonest cause for NICU admission 41.37% of neonatal mortality was seen in case of prematurity & LBW, 20.68% still born was due to Resuscitation failure. 20.68% neonatal death was due to HIE & Perinatal Asphyxia

DISCUSSION

Proportion of referral cases to our study was 26.84%, Puri Alka, Jadav Indra, Jain Nisha in their study in North India also observed proportion of referred cases was 24.16% [2]. In our study, 63.5% of patients were in age group 20-30 years, studied done by Morsheda Banu *et al*. [3] also observed that 74% patient were in the age groups 20 to 35 years. Abhijit Ambike *et al*. [21] in their study found 69% of cases in the age group between 19 to 28 years. Gupta PR *et al*. [2, 5] also observed maximum no of cases (86.98%) in the age group 20-30years. Umesh Sabale *et al*. found in their study majority (58.16%) of patients were in 20-30 years. Jyotsana *et al*. [8, 2] observed 71% were in the age group 20-30 years. In our study, out of 380 cases referred 88% patients referred from rural areas, this shows the lack of availability of skilled birth attendant in the rural areas, Charu Rathi *et al*.[8,3] shas highlighted the negligible availability of high quality of health services at rural areas, Umesh Saable *et al*. [21] in their study observed 63.42% of patients were from rural areas, Dr Sapna Chourasia *et al*. [8, 4] also found

72% of cases were from rural areas, in contrast study done by Rathi Charu *et al*. [8, 3] found 67% patients were from urban areas.

In our Majority of patient (60%) belong to primigravida followed by multigravida (30%). Study done by Gupta PR. *et al*. [8] also found 52.17 patients were primigravida, Umesh Sabale *et al*. [24] in their study found 53.95%, Morsheda Banu *et al*. [7, 8] in their study also found 50% patients were primigravida. in contrast to above all studies Jyotsana *et al*. [8, 2] found 46% were primi gravida. In our study, 32% patients were referred from distance within 50 km, 57% patients were referred from distance 50 to 100 km and 11% cases were referred from distance >100 km. Study conducted by Gupta *et al*. also observed. 35.2% patients were referred from within 50 km. study conducted by Jyotsana *et al*. [8, 2] observed 67 % cases were referred from within 50km and 59.6% patients were referred from 50-100 km. in contrast Umesh Sabale *et al.* [20] in their study found ,majority(35.79%) of the patient were referred from within 20km, study conducted by [7, 9] Sakhare AP Thakare [8,5] also observed that 65% of cases referred from >50km distance before reaching to tertiary center and had increases the incidence of intra-operative complication and hemorrhage.

In our study, 76% referred patients were avail government vehicle (108/102) and 24% patients had to travel by private and public transport. Study done by Jyotsana *et al*. observed that the majority of patients 75% utilize 108 vehicles from referral facility and 25% used private vehicles. Umesh Sabale *et al*. in their study found only 34.74% of cases were referred in Govt. ambulance, study conducted by Gupta *et al*. found 30.65% of patients transported with Govt. vehicle & unavailability of ambulance was noted in 69.35% of cases. Arranging a private vehicle or travelling by public vehicle when faced with obstetric emergency necessitating delay in referral system.

In our study, it is found that referral slip contents are not filled properly, in maximum number of cases even not a single referral slip contained patient examination finding at the time of referral. Only 31.6% referral slip shown treatment received at referral center. Out of these only 15.8% shown timing of referral, only 50% referral slip contains signature of the referral person. Study conducted by Gupta P R *et al*. also observed the quality of information provided on referral leaves a lot to be desired, even those arriving with referral slip has incomplete information regarding duration of admission, treatment given, reason for referral.

Study conducted by Maskey S 2014 [8, 6] in Nepal also observed 87.5% patients arrived directly whereas 12.5% patients went to other hospital and were then referred to Tribhuvan University Teaching Hospital (Nepal). In our study, 40% patients went to other hospital before attending GMCH, this intermediary referral causes delay in arrival to GMCH which leads to increase in maternal and perinatal morbidity and mortality.

Study done by Umesh Sabale *et al*. found majority (42.37%) of referred cases were from district level hospital, we found 42.26% patients were referred from district level hospital which shows lacunae in providing emergency obstetrics care in secondary level health centre in the state. In contrast to our study Jyotsana *et al*. [20] found majority 43% of patients were from government medical college, 27% from PHC&CHCs.

In present study, majority of patients (40+30=70%) arrived hospital within 8 hours of referrals while it was 49% in the study done by Rathi *et al*. [21]. and it was 59.74% in the study done by Gupta P.R. *et al*. study conducted by Jyotsana *et al*. in their study observed 65% of patients took upto 4 hours to reach medical college, In our study, out of 380 cases, 304 (80%) woman had four antenatal checkup (booked cases) and 20% patients were unbooked. Study done by Abhijit Ambike *et al.* in their study found that 87% of cases were registered and 13% unregistered. Study conducted by M. Shahanaz, Rajshekar Sravya *et al*. in Andhra Pradesh found booked cases 84.3% and unbooked cases 15.66%.

In present study, maternal morbidity was 29.58% & it is 3.88% times higher in unbooked cases, maternal mortality was 2.63%. Gupta *et al*. in their study found 2.68 % maternal mortality, the leading cause of maternal mortality was due to hypertensive disorder (54.54%) and obstetrical hemorrhage (18.18%), study done by Gupta *et al*. found 35% and 20% respectively.

In our study, 39% of neonates needed NICU admission. NICU admission rate is 2.7 times higher in unbooked cases, prematurity (33.3%) was the commonest cause for NICU admission, study done by Gupta *et al*. also observed 30.96% in their study and neonatal mortality is 7.86% and it is 11 times higher in unbooked cases.

CONCLUSION

The present study, conducted in a tertiary care hospital has shown improper antenatal and intranatal care at the periphery level is responsible for poor maternal and perintal outcome. Health education to the community, better antenatal care at grassroots level, well organized first referral centre with, availability of blood round the clock, anesthetic facilities and availability of specialist in the field of obstetrics at the referral unit will definitely reduce maternal morbidity and mortality, moreover, a structured referral system would help both patient and doctor in providing essential lifesaving care.

REFERENCES

1. The World Health Organisation Annual Report for 2005. Make Every Mother and Child Count. Geneva: WHO, 2005. See: www.who.int
2. Puri Alka, Yadav Indra, Jain Nisha: The Journal of Obstetrics and Gynecology of India May / June 2011 pg 280-285 Maternal Mortality in an Urban Tertiary Care Hospital of North India.
3. Morsheda Banu, Shamsun Nahar, Hashima-E-Nasreen: January 2010 MANOSHI Working Paper Series No. 10 Assessing the MANOSHI Referral System Addressing Delays in Seeking Emergency Obstetric Care in Dhaka's Slums.
4. Owolabi AT, Fatusi AO, Kuti O, Adeyemi A, Faturoti SO, Obiajuwa PO Singapore Med Original Article J. 2008; 49(7): 526-31.
5. Ayesha Khatoon, Syeda Fariha Hasny, Saima Irshad, Junaid Ansari: An audit of obstetrics referrals to Abbasi Shaheed Hospital, Pak J Surg. 2011; 27(4): 304-308.
6. WHO, UNFPA, UNICEF, World Bank. Trends in Maternal Mortality: 1990–2010. Geneva; 2012.
7. Khan KS, Wojdyla D, Say L, Gu lmezoglu AM, Van Look PF. WHO analysis of causes of maternal death: A systematic review. Lancet. 2006; 367:1066–1074.
8. Abou Zahr C. Antepartum and postpartum hemorrhage. Chapter 4 In: Murray C, Lopez A, editors. Health dimensions of sex and reproduction. Boston: Harvard School of Public Health; 1998.
9. Campbell OM, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. Lancet. 2006;368(9543):1284–1299.
10. Gabrysch S, Civitelli G, Edmond KM, Mathai M, Ali M, Bhutta ZA, Campbell OM. New signal functions to measure the ability of health facilities to provide routine and emergency newborn care. PLoS medicine. 2012 Nov 13;9(11):e1001340.
11. UNICEF, WHO, UNFPA. Guidelines for monitoring the availability and use of obstetric services. New York; 1997
12. WHO, UNFPA, UNICEF, World Bank. Trends in Maternal Mortality: 1990–2010. Geneva; 2012
13. Campbell OM, Graham WJ. Strategies for reducing maternal mortality: getting on with what works. Lancet. 2006;368(9543):1284–1299.
14. Higgins and de Sweit, 2001; Medina Lomeli and Median Castro, 2005.
15. Granger. Furuya. 2008; foetal growth restriction, 2001a.
16. Chen. 1993, 1994, Immunological Dysfunciton in pregnancy induced hypertension.
17. Abhijit Ambike, maternal fetal outcome of obstetric emergencies in tertiary care rural teaching hospital-A pilot project. 2019, 2(1): 49-56.
18. Shrivastava N, Shrivastava V. Study of maternal and perinatal outcome of referred patients in tertiary health centre. Journal of Evolution of Medical and Dental Sciences. 2014 Aug 14;35(3):9250-6.
19. Charu R, Kamal G, Neelu S. Review of referred obstetric cases–Maternal and Perinatal Outcome. Bombay hospital journal. 2010;52(1):53.
20. Sabale U, Patankar AM. Study of maternal and perinatal outcome in referred obstetrics cases. J of Evolution of Med and Dent Sci. 2015 Mar 30;4(26):4448-55.
21. Gupta PR. Sch. J. app. medical Sciences, (SJAMS) May, 2016, 4(5c):1624-1631.