ORIGINAL ARTICLE

An audit of obstetrics referrals to Abbasi Shaheed Hospital

Ayesha Khatoon, Syeda Fariha Hasny, Saima Irshad, Junaid Ansari

Abstract

Objective: 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.

Study design: Prospective Observational study.

Settings: Obstetrics and Gynae unit III, Abbasi Shaheed Hospital, Karachi.

Duration: 1st July 2010 to 31st Dec 2010.

Methodology: 234 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.

Results: A Total number of 234 obstetric patients were referred to Gynae Unit III during our study period. 35% of cases were referred from Dai's, 27% from Primary health care units and 41% from Secondary care hospitals. Patients were referred in Antenatal period were 21%, 69% in intrapartum period while only 10% in post partum period. Most common reasons for referral prolonged labour, fetal distress, repeat Cesaerean section and meconium stained liquor, respectively. Maternal outcome was 97% and fetal outcome was 87% in total.

Conclusion: 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 partum Haemorrhage (PPH), Non progress of labour (NPOL).

Department of Gynaecology and Obstetrics, Abbasi Shaheed Hospital, Karachi
A Khatoon

Department of Gynaecology and Obstetrics, Dow University of Health Sciences, Karachi
SF Hasnny

Abbasi Shaheed Hospital, Karachi
S Irshad
J Ansari

Correspondence:
Dr Aisha Khatoon
Assistant Professor
Department of Gynaecology and Obstetrics
Abbasi Shaheed Hospital, Karachi

Introduction:

Pregnancy and child birth are physiological processes. However these are not free of risks. A woman can come across a number of health related problems during pregnancy as well as she can also become a victim of death during this process. According to WHO reports in 2005[1] 5,29,000 women die per year due to pregnancy and childbirth. Maternal mortality ratio (MMR) reflects the overall health care system of the society and their attitudes towards the women.

Nearly all of these deaths occur in the developing countries, where integrated health care system is not well defined. MMR is almost negligible in developed countries i.e., ranges between 6-30/100,000[2] live births. Developing countries of Asia and Africa still have the highest mortality rate i.e., almost 99% of total maternal mortality. In Pakistan current MMR is 280/100,000.[3] live births while Nigeria has one of the highest maternal mortality rates i.e., 800/100,000 live births among the developing countries. (WHO) 2004)[4] MMR for India was 407/100,000 in the year 2000.[5]

Lack of trained birth attendants, lack of education, low status of women in society, poor families, financial dependency of women and delay in seeking medical treatment in cases of obstetric emergencies are the Key factors contributing towards the adverse maternal and perinatal outcomes.

An Indonesian[6] study shows that 92% of maternal deaths result from delay in referral and case management, While first delay in making decision to seek care. Secondly while identifying and reaching a medical facility. Distance from tertiary heath care facility and Transport arrangements are of importance. Thirdly, the delay in receiving adequate and prompt treatment even after reaching a tertiary care institution.

Methodology:
Prospective observational study carried out at Gynae unit III ASH during 1st July till 31st December 2010 including all referred patients admitted through emergency.

A proforma was designed especially to cover all the aspects of referral including cause, source, timing (early vs. late), maternal outcome including salient features of history, examination, baseline and specific investigations especially, ultrasound, specific laboratory investigations were carried out in relation to clinical condition of patient. Management of the patient was documented whether conservative or interventional. Mode of delivery was noted i.e, whether vaginal or operative (C-Section) etc. It also included neonatal outcome.

Factors contributing to decision-making on mode of delivery were noted.

Any maternal morbidity or catastrophe was noted. Factors contributing to delay in coming to Abbasi Shaheed Hospital were also noted.

Fetal outcome was noted regarding gestational age, live or still birth, Birth weight, Apgar score at 5 and 10 min, Nursery admissions and reasons for nursery admission, duration of stay in nursery, clinical course of the baby before discharge of mother and if any complications occurred. Condition of mother and neonate both were noted before discharge.

Results:
Total number of patients were 234 who were referred to Gynae Emergency of Abbasi Shaheed Hospital Karachi.

These referrals were from different sources i.e., 81 (35%) from Dai's, 62 (25%) from the primary health care units and 91 (41%) from the secondary health care hospitals which are private or government sector hospitals.

Most of these referrals were made intrapartum 161 (69%) while ante-partum referrals were in 25 (10%) of cases respectively.

Reasons for referral in anti-partum period was hypertensive disorders of pregnancy in 63(27%), preterm labour 69 (29.3%), medical disorders complicating pregnancy 25(10%)and severe anemia requiring blood transfusion. Regarding reasons for referral 117(78%) due to meconium stained liquor, while in multi gravida patients reason of previous tender scars in 12(15%) of referrals.

Post partum referrals were mainly due to primary PPH in 24(10%) cases, Eclampsia in 2(1%) primary PPH is mainly due to retained placenta in 14(6%) perineal and cervical tears in 6(3%)of cases and serve anemia in 2(1%) patients.

Most of the patients referred from different sources reached hospital within 6 hrs of referral while 122 (52%) of the patients reached hospital within 12-24 hrs of referred still 18(8%) of patients had delayed arrival i.e., after 24hrs of referral from the primary source. These cases were mainly from the remote areas of Karachi.

Reasons for delay in referral were un-trained birth attendants or Dai, who failed to identify the warning signs of seriousness of patient's condition. Second is the non availability of male family member at home because of Job, especially in day time, while non-avail ability of transport in the middle of night. Financial constraints are another issue for delay.

Table 1: *Time of Referral*

Duration	No. Of Patients	Percentage
Ante partum	49	21%
Intra Partum	161	69%
Post Partum	25	10%

Table 2: *Source of Referral*

Source	No. of Patients	Percentage
Dai	81	35%
Primary health care units	62	25%
Secondary care hospital	91	40%

Table 3: *Reasons of Referral*

Reasons	No. of Patients	Percentage
Primi Gravida:		
Meconium Stained liquor	117	78%
Non Progress of labour	30	20%
Post Partum Hemorrhage	03	02%
Multi Gravida:		
Meconium Stained Liquor	42	50%
Scar Tenderness	12	15%
Non Progress of Labour	30	35%

Table 4: *Mode of delivery*

Delivery Modes	Percentage
C-Section	53.5%
Instrumental Vaginal delivery (Forceps + Vaccum)	16%
Normal Vaginal delivery	14%

Table 5: *Perinatal outcome*

	No. of Patients	Percentage
Total Births	204	87%
Abortion	30	13%
Total live births	177	87%
Still births	27	13%

Poor nutritional status, antepartum haemorrhage and postpartum haemorrhages lead to anemia quite commonly in these patients. Blood transfusion was required in 82(35%) patients mostly for correction of anemia and also for volume replacement due to haemorrhage.

6(2.5%) maternal deaths were reported during our study period in which 3(50%) were due to APH secondary to placenta previa. In one case primary PPH was due to Uterine atony and in another case it was due to cervical tear. One patiente died due to Amniotic fluid emblism while one patient died due to anaemia leading to heart failure. One delivered patient was brought dead in gynae emergency. She was died on the way to hospital and was referred due to post partum eclampsia.

The total time interval between referral and arrival was more than 12hrs in 3 patients. Remaining 2 had delay of more than 24 hrs. One patient was referred due to post partum eclampsia brought dead. Her time interval was less than 6 hrs. Overall maternal out come is 97%.

Perinatal outcome was 87% of all referrals. 27(13%) of fetuses were intrauterine death/ stillbirths at delivery.

Most of the neonates required nursery care. 54(26.5%) of neonates were preterm births and others being victims of fetal distress / during intra partum periods. Perinatal mortality is 41% in our study.

Discussion:

Maternal mortality among the developing countries is still very high. Additonally, around 20 million women develop life long disabilities such as incontinence of urine, obstetric fistulas, anaemia and infertility. The main direct causes are haemorrhage, eclampsia, and sepsis and obstructed labour etc.

High maternal mortality rates in many countries results from poor reproductive health care, including non access to vigilant antenatal care and supervised childbirth especially for poor women. Dilpreet kaur et al, show in their study, that good antenatal care, proper treatment of unwanted pregnancies and improving social behaviours towards women are the most important ways to improve pregnancy outcomes.

Risks of poor outcomes during pregnancy and childbirth are exacerbated by poverty, low social status of women, lack of education, poor nutrition, lack of transport facility etc.

In our study, patients from different areas of Karachi were referred to Abbasi Shaheed Hospital, Ka-

rachi. Most of the patients i.e., 69% were referred in intrapatum period as shown in Table 1.

Source of referral were secondary care hospitals with 40% referral rate followed by Dai's which had 35% referral rate as shown in Table 2.

Primigravida had higher referral rates n=151 i.e., 65% while multi gravidas had 35% is, n = 83 referral rate.

Most common reason for referral were meconium stained liquor (78%,) Non progress of labour (20%) and PPH in (2%) case for primi Gravidas.

Most of the multigravidas had meconium stained liquour (30%), scar tenderness (15%) followed by Non progress of labour (25%) case respectively. Table 3.

In this study most of referrals i.e., 52% had interval of 12-24hrs and 13% of the patients arrived in emergency department after 24hrs of referral. 26% of maternal mortality rate in our study were due to delay in transportation to hospital. This is consistent with one study in Egypt, Hamza et al, shows lack of transport facilities to MMR was 4/100,000 live births.

Reason for delay were negligence of understanding seriousness of patients condition, financial constraints etc. Another big issue was the non availability of transport to shift the patients towards tertiary care center.

The delay of referral due to transport problem is also highlighted by Rathi et al, in their study. Medical "Model of Delay" shows transports role in maternal Mortality. These three delays play role in Maternal Mortality. These three delays are:

(1) Delay in decision making to seek help
(2) Delay in transportation to health institution
(3) Delay of care within health institution.

In this study n=152 i.e. 65% of the patients were stable at the time of admission while n =58. 25% of patient came in unsatisfactory conditions and only n = 24 10% patient came with haemodynamic instability.

Maternal mortality was noted in 6 cases. Reasons being primary PPH, eclampsia, APH and anaemic failure and amniotic fluid embolisim .

In this study total number of births were 204(87%) while 30(13%) were abortions. Of these total number of live births were 177(87%). 27(13%) were still births. Most of these still births were either preterm or had intrapartum birth asphyxia of these live births 60.25% required necessary care, while 39.75% were shifted with the mothers after initial care of neonates.

Neonatal mortality was observed in 84(41%) neonates, 50(60%)of them were having preterm gestation, 21(25%) had septicemia and Cyanosis was present in 8(6.64%) cases. 15% of live births had ARDS, 18% had hyperbilirubinemia and 12% had septicemia. 45(92%) of all neonates had low birth weights.

Gadhi ali at el,[10] reported a perinatal mortality of 28.20% in their study.

These high rates of perinatal mortality reflect the inadequate and insufficient obstetric services in the peripheral areas.

Mode of delivery was mostly c-section in 53.5% of cases followed by instrumental vaginal deliveries (Forceps and Vaccum extraction) in 16% of cases and vaginal delivery in 14% cases.

Conclusion:

There is a continuous rise in referral rates in tertiary care centers. Failure to progress in labour, previous caesarean section and presence of meconium stained liquor were the main contributiors. Lack of education, Lack of awareness of hazards of delay in seeking help, poor health care system, lack of health care facilities at basic health units and lack of transport facility are the different factors responsible for delay in referral. There is a need to mobilize and motivate government as well as private sector to play active role in saving the lives of mothers and their babies. This is how we can reach the Mellinium 6 goal of reducing maternal mortality by three quarters till 2015.

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