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ORIGINAL RESEARCH

Fetal outcome of all reffered obstetrics cases admitted in obstetrics and gynaecolgy department of a tertiary care centre in south Gujarat: Prospective observational study

[1]Dr. Vrunda Gandhi, [2]Dr. Dwitiya Modi

[1]Assistant Professor, Department of Obstetrics and Gynaecolgy, Government Medical College, Surat, Gujarat, India
[2]Consultant Gynecologist in Sanjivani Trust Hospital, Surat, Gujarat, India

Corresponding author: Dr. Vrunda Gandhi

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ABSTRACT

Background: Women die every year in India (1, 2) which contribute 20-25% of all maternal deaths in the world. One estimate show that with one maternal death, 15% pregnancies develop complication which necessitates tertiary obstetric care (3). Referral is especially important within obstetrics due to the high numbers of professionals who support a woman through pregnancy and birth, the speed with which action often needs to be taken and the global burden of maternal mortality. The term referral is used to indicate the recommendation of a health care 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 (4). The government has introduced the referral system to improve the service delivery at tertiary level, reduce workload at tertiary health care facilities, allow maximal utilization of health care facilities, strengthen peripheral infrastructure, improve teaching standard and to promote research activities.so we want to study fetal outcome of all reffered obstetric cases. **Methods:** This prospective observational study is done at Obstetrics and Gynaecology department of New Civil Hospital Surat for 1-year period after official approval from Ethical Committee. Number of Patients All consecutive consenting referred women in Obstetrics department of New Civil Hospital Surat over a period of 8 months (250 cases) are enrolled in this study after permission from ethical committee. All obstetrics women referred to obstetrics and gynaecology department of new civil hospital, Surat were included. All booked cases who are directly come to labour room were excluded. **Results:** In our study, 8.72% babies were stillborn. 19.27% babies were stillborn. 44.95% babies were female. 17.43% babies required NICU admission. **Conclusion:** Earlier and timely referral is necessary in management of obstetrics emergency. Timely referral with proper filled referral slip and telephonic information about the critical referral cases can reduced maternal and fetal mortality and morbidity. Strengthening the peripheral health centre and availability of skilled staff is necessary to identify the high risk pregnancy, so that the initial preliminary essential treatment can be given, and maternal complication due to delayed treatment can be reduced. Health education in rural area, proper antenatal care from 1st trimester from primary health centre, availability of services of skilled birth attendants at the time of child birth, preparedness of emergency LSCS, well organized first referral centre with better transportation facility, availability of blood round the clock, anaesthetic facilities and availability of specialist in the field of obstetrics at the referral unit, availability if NICU and paediatrician will definitely reduce maternal morbidity and mortality.

Key words: Referred obstetric cases, neonatal outcome, birth weight, NICU admission

INTRODUCTION

World Health Organization (WHO) states that, "Referral is a process in which a health worker at one level of the health system, having insufficient resources (drugs, equipment, skills) to manage a clinical condition, seeks the help of a better or differently resourced facility at the same or higher level to assist in" (5). In obstetrics apparently normal is potentially abnormal and complications can occur with frightening rapidity and requires expert hands

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and facility to detect the patients at risk before emergency arises. This demands eyes trained to see, hands skilled to feel and brain disciplined to coordinate and act 6. Referral is a process by which a health worker transfers the responsibility of care temporarily or permanently to another health professional or social worker or to the community" (7). Referral systems have been considered to be an important component of health systems in developing countries since the emergence of primary healthcare (8)Most of the maternal and fetal deaths are linked with three types of delays which can result in an increase in maternal morbidity and mortality.

DELAY 1: Delay in recognising the problem (lack of awareness of danger signs) and deciding to seek care (due to inaccessible health facility, lack of resources to pay for services/supplies and medicines).

DELAY 2: Delay in reaching the health facility (due to unavailability of transport, lack of awareness of appropriate referral facility).

DELAY 3: Delay in receiving treatment once a woman has arrived at the health facility (due to inadequately equipped health facility, lack of trained personnel, emergency medicines, blood, etc.

The government has introduced the referral system to improve the service delivery at tertiary level, reduce workload at tertiary health care facilities, allow maximal utilization of health care facilities, strengthen peripheral infrastructure, improve teaching standard and to promote research activities. So here we want to study fetal outcome of referred cases so that NICU facility and perinatal mortality and their causes may studied. If referred emergency obstetric cases were well managed so fetal outcome also improvised.

AIMS AND OBJECTIVES: To study the fetal outcome of all referred cases.

MATIREAL AND METHODOLOGY

METHODOLOGY: This prospective observational study is done at Obstetrics and Gynaecology department of New Civil Hospital Surat for 1-year period after official approval from Ethical Committee. Number of Patients All consecutive consenting referred women in Obstetrics department of New Civil Hospital Surat over a period of 8 months (250 cases) are enrolled in this study after permission from ethical committee.

INCLUSION CRITERIA: All obstetrics women referred to obstetrics and gynaecology department of new civil hospital, Surat.

EXCLUSION CRITERIA: All booked cases who are directly come to LR of new civil hospital.

DATA ANALYSIS: The collected data was entered in MS Excel followed by its analysis. The baseline variables were represented using percentages. Bar diagram as well as pie charts were used to represent data graphically.

BRIEF METHODOLOGY: All obstetrics referred cases to tertiary health care centre of South Gujarat were enrolled in this study. All Mothers and babies were followed till discharge from hospital. All data related fetal outcome were collected from case records of mother in a structured proforma. This data was analysed by appropriate statistical test.

ETHICAL APPROVAL: Ethical approval was granted by Human Resource Research Committee, confidential was maintained.

RESULTS AND OBSERVATIONS

Table 1:Distribution According to Outcome of Baby (n=218)

	No. of Patient	Percentage
Stillborn	19	8.72%
Liveborn	199	91.28%

In, present study out of 218 babies, 19 were stillborn while 199(91.28%) were live birth.

Table 2: Distribution According to Perinatal Morbidity

A. DISTRIBUTION ACCORDING TO LIVE BORN MATURITY (n=218)

1. Fullterm	125	57.34%
2. Near Term	21	9.63%
3. Preterm	42	19.27%

B. DISTRIBUTION ACCORDING TO APGAR AT 5 MINS (n=218)

1. 10/10	171	78.44%
2. 7/10-9/10	26	11.93%
3. 4/10-6/10	8	3.67%
4. <3/10	13	5.96%

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C. DISTRIBUTION ACCORDING TO SEX OF BABY (n=218)

Male	120	55.05%
Female	98	44.95%

D. DISTRIBUTION ACCORDING TO BIRTH WEIGHT (n=218)

1. < 1.5 KG	25	11.47%
2. 1.5-2.5KG	111	50.92%
3. 2.5-3.5KG	77	35.32%
4. >3.5 KG	5	2.29%

Present study, 125 babies were full term, 21 were near term and 42 babies were preterm. 78.44% babies had full APGAR score at time of delivery. Only 8 babies had APGAR score less than 4.

In 218 babies, 120 were MCH and 98 were FCH. 5 babies were weighing more than 3.5 kg. 25 babies had birth weight less than 1.5 kg. Only 2 babies were with congenital anomaly.

Table 3: Distribution According to NICU Admission

A. DISTRIBUTION ACCORDING TO NICU ADMISSION (n=218)

1. Yes	38	17.43%
2. No	180	82.57%

B. DISTRIBUTION ACCORDING TO INDICATION OF NICU ADMISSION (n=38)

1. Jaundice	5	13.16%
2. Prematurity	17	44.74%
3. RDS	6	15.79%
4. Congenital anomalies	2	5.26%
5. IUGR	5	13.16%
6. Septicemia	0	0%
7. MAS	2	5.26%
8. Perinatal asphyxia	1	2.63%
9. Others	0	0%

C. DISTRIBUTION ACCORDING TO NO OF DAY OF NICU ADMISSION

1. <5 days	19	50%
2. > 5 days	19	50%

D. DISTRIBUTION ACCORDING TO OUTCOME OF BABY (n=38)

1. Discharge	35	92.11%
2. DAMA	2	5.26%
3. Death	1	2.63%

In present study, out of 218 babies, 38 babies required NICU admission. Major cause of NICU admission is prematurity (17 cases-44.7%), followed by respiratory distress syndrome (15.7%), jaundice (13.1%), IUGR (13.1%), meconium aspiration syndrome (5.26%). 1 baby was admitted in NICU for perinatal asphyxia. Out of 38 babies, 1 early neonatal death occurred. 2 babies were taken DAMA.

Table 4: Distribution According to Stillbirth Outcome

A. DISTRIBUTION ACCORDING TO CAUSE OF STILL BIRTH (n=22)

Abruptio placenta	5	22.73%
MSL	2	9.09%
Extreme prematurity	5	22.73%
Others	10	45.45%

B. DISTRIBUTION ACCORDING TO TIME OF STILLBIRTH (n=22)

Fresh SB	14	63.68%
Macerated SB	8	36.36%

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C. DISTRIBUTION ACCORDING TO WEIGHT OF STILLBORN (n=22)

1. <1.5kg	8	36.36%
2. 1.5-2.5kg	11	50%
3. 2.5-3.5kg	2	9.09%
4. >3.5kg	1	4.55%

D. DISTRIBUTION ACCORDING TO SEX OF STILLBORN (n=22)

1. Male	13	59.09%
2. Female	9	40.91%

In present study, 22 babies were stillbirth out of which, 14 were fresh SB delivery and 8 were macerated SB delivery (female 2, male 20).

DISCUSSION

This prospective observational study was carried out in obstetrics gynaecology department of our new civil hospital, Surat, enrolling 250 referred obstetrics cases admitting in labour room and intensive care unit of our institute 8 months from October 2021 to May 2022.

REFERRAL SYSTEM IN INDIA

Referral services for identification and referral of high-risk pregnancies are an integral part of maternal and child health services. A good referral system should has following characteristics (9).

- **A.** Patients should be given optimal care at the right level, right time and right cost.
- **B.** Optimal and cost-efficient utilization of health care systems.
- **C.** Optimal and appropriate utilization of specialist services for needy persons.
- **D.** Optimal utilization of primary health care services.

Global scenario Worldwide, there are two major types of health facilities ex. primary care facilities and hospitals in most of the countries. Health care systems of every country are designed in such a way to encourage patients to first attempt to get care at the primary level, and then to approach a higher level of care according to the need. This protocol minimizes the costs for the caretaker/patients (9). However, in most of the countries, patients often bypass primary care facilities and directly go to the higher centre thereby, increasing the burden on higher level facilities (10). Indian scenario Likewise, in India, based on the need and availability of resources the patients are referred from lower to higher level and vice-versa, but at ground level, different scenarios are observed.

The main objective of our study is to measure the fetal outcome of all referred obstetric cases. In, present study out of 218 babies, 19 were stillborn while 199(91.28%) were live birth. Present study, 125 babies were full term, 21 were near term and 42 babies were preterm. 78.44% babies had full APGAR score at time of delivery. Only 8 babies had APGAR score less than 4. In 218 babies, 120 were MCH and 98 were FCH. 5 babies were weighing more than 3.5 kg. 25 babies had birth weight less than 1.5 kg. Only 2 babies were with congenital anomaly.

In present study, out of 218 babies, 38 babies required NICU admission. Major cause of NICU admission is prematurity (17 cases-44.7%), followed by respiratory distress syndrome (15.7%), jaundice (13.1%), IUGR (13.1%), meconium aspiration syndrome (5.26%). 1 baby was admitted in NICU for perinatal asphyxia. Out of 38 babies, 1 early neonatal death occurred. 2 babies were taken DAMA.

In comparison with Dr. Poornima M *et al*.(11) study, NICU admission is 27% while in our study it is 17.43%. From total NICU admission, 38% neonatal death occurred in Dr. Poornima M (12)study, while in our study it is only 2.63%. In total still birth, 36.36% is macerated SB while in in Dr. Poornima M is 59%.

CONCLUSION

Proper and timely referral is necessary in management of obstetrics emergency. Timely referral with proper filled referral slip and telephonic information about the critical referral cases can reduced maternal and fetal mortality and morbidity. Strengthening the peripheral health centre and availability of skilled staff is necessary to identify the high risk pregnancy, so that the initial preliminary essential treatment can be given, and maternal complication due to delayed treatment can be reduced.

Healthcare workers should be trained well in essential antenatal and emergency obstetric and neonatal care.

Health education in rural area, proper antenatal care from 1st trimester from primary health centre, availability of services of skilled birth attendants at the time of child birth, preparedness of emergency LSCS, well organized first referral centre with better transportation facility, availability of blood round the clock, anaesthetic facilities and availability of specialist in the field of obstetrics at the referral unit and NICU facility will definitely reduce maternal and fetal morbidity and mortality.

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