

COMPLICATIONS OF HOME DELIVERY : A RETROSPECTIVE ANALYSIS

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ABSTRACT

This study was conducted to analyze the cases who had attended Nepal Medical College Teaching Hospital (NMCTH) after home delivery in order to broadly review the complications. This is a retrospective descriptive study.

The number of total deliveries during the study period of two years (April, 2002- April, 2004) was 1619, among which 88 (5.4%) were cases who attended after home delivery. Majority of women (35.2%) were primi, 57.9% belonged to 20-25 year age group, 17% were young primi, and 85.2% were full term deliveries whereas 9.1% were preterm. More than half of them (57.9%) had regular antenatal check up. Most of them came from within 1-2 km distance of NMCTH. 51.1% were brought only after 2 hrs of delivery. The most common reason for attending hospital was retained placenta (84.1%-74 cases) among whom 51 (68.9%) needed controlled cord traction, 8 cases (10.8%) needed manual removal, rest of the cases had placenta lying in the vagina. Fifteen (17%) cases had post partum hemorrhage, 9 cases (10.2%) were brought in a state of shock. 71.6% were anemic, 11 (12.5%) had Hb <7 gm%. Other complications included cervical, third degree perineal tear. Blood transfusion was needed in 19 (21.6%) cases. All cases improved with proper resuscitation, use of antibiotics and definitive management of complications. Most of them were discharged within 4 days of admission. Perinatal mortality rate was 65.9/1000 births.

This study showed that home deliveries were associated with increased maternal morbidity especially the third stage complications. Studies done in developed countries have shown that home birth is safe for normal, low risk women, with adequate infrastructure and support i.e. given a well trained midwife and facilities to transfer to hospital if necessary. In our context, a community based obstetric service must be developed with emphasis on regular and quality antenatal care, health education to women and proper training of birth attendants.

Key Words: Home deliveries, complications, education.

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INTRODUCTION

Childbirth is generally regarded as a “normal” event, requiring no special preparations or treatment for the pregnant woman, who is expected to bear her condition without complaint. This type of attitude about reproductive health matter prevents women from talking about pregnancy and related problems. This is a major contributor to the frequent failure of women and their families to recognize the significance of signs indicating possible complications during pregnancy and childbirth. Most families do not make preparations for the birth, or plan to use formal healthcare services, either at community level in the form of antenatal checkups and the services of a skilled health worker at birth, or by arranging for a hospital birth. In Nepal, around 90% of births take place at home under unhygienic conditions, most without any skilled healthcare providers, contributing to complications in deliveries.¹ Even when women attend antenatal care in health centers, most of these women especially in the rural areas, prefer to give birth at home, which is considered the safest place to deliver.

When complications occur during home deliveries, families often delay the decision to attend hospital emergency obstetric care, thus arriving / too late for treatment to be successful. Ignorance of antenatal care, coupled with poor health services, exacerbates maternal deaths in developing countries, leading to high maternal mortality ratio (MMR). The MMR in Nepal is high as compared to other Asian countries ranging from 539 maternal deaths per 100,000 live births to 1500/100,000.² The high maternal mortality will be significantly reduced once trained health personnel attend childbirth. Majority of the complications will occur at home as women prefer to deliver at home. Maternal deaths commonly from hemorrhage, sepsis and eclampsia continue to remain very high. Home deliveries by unskilled attendants, poor transport system and lack of appropriate care at health facilities all contribute to this burden.^{3,4} Women cite economic circum-

stances and spousal or familial opposition to deliver in hospital as most common reason for delivery at home. Decisions about seeking care in such emergencies are made largely by the husband or the elder members of the family.^{3,5,6}

This is a hospital based retrospective descriptive study done at Nepal Medical College Teaching Hospital (NMCTH) to broadly view the complications of cases brought after home delivery.

This study was done with the following objectives:

1. The number of cases admitted after home delivery
2. Distance of their residence from the hospital.
3. Time interval between delivery and arrival at hospital.
4. Main reasons for attending hospital.
5. Complications, management and outcome in these cases.

Besides these main objectives, we also looked into the ethnic group, age group and parity of these women; antenatal care (ANC) attendance, type of delivery, fetal outcome and duration of hospital stay.

MATERIALS AND METHODS

All cases admitted after delivery at home were included in this study. The study period was for two years from April 2002 - March 2004. Hospital records of all these cases were reviewed to find out the age, parity, ethnic group, type of delivery, fetal outcome, distance from hospital, time between delivery to arrival at hospital, reason for attending hospital, complications and management done in the hospital.

RESULTS

The total number of cases admitted after home delivery was 88. The main demographic characteristics of these women are as given in Table I:

Table I : Demographic characteristics of the women

Characteristics		
Age group (years)	Number	Percentage
14-19	15	17.0
20-25	51	57.9
26-31	13	14.8
32-37	9	10.2
Parity		
1	31	35.2
2-4	53	60.2
5+	4	4.6
Ethnic group		
Lasheta	38	43.2
Brahmin/Chhetri	21	23.9
Magurali	16	18.2
Newar	6	6.8
Others	7	7.9
Total	88	100.0

Majority of women belonged to 20-25 years age group while fifteen (17%) were teenagers with two unmarried women. Regarding antenatal care (ANC) attendance, 27(30.7%) had no ANC, whereas majority (57.9%) had more than three visits. Most of the women 73 (83%) had spontaneous full term vaginal delivery, eight (9.1%) had preterm delivery, four (4.5%) had breech delivery and three (3.4%) had twin delivery.

The fetal outcome is shown in Table II:

Among the five stillbirths, three were fresh and two were due to breech deliveries with entrapment of cord after head delivery. Perinatal mortality rate was 65.9 per 1000 births.

Most of the women were brought from neighboring areas i.e.

within 2 kilometers (45 cases, 51.1%). Sixteen (18.2%) cases came from more than 4 km. distance.

Table III shows that more than half (51.1%) of the cases were brought to the hospital only after two hours of delivery.

The most common reason for attending hospital was retained placenta and excessive bleeding per vagina followed by loss of consciousness. Other reasons were weakness, mass coming out through vagina (Figure 2).

Although 74 cases were brought with complaints of retained placenta, 15 cases had placenta already separated and lying in the vagina, so only 59 cases were diagnosed as real retained placenta among whom 8 cases (13.5%) needed manual removal of

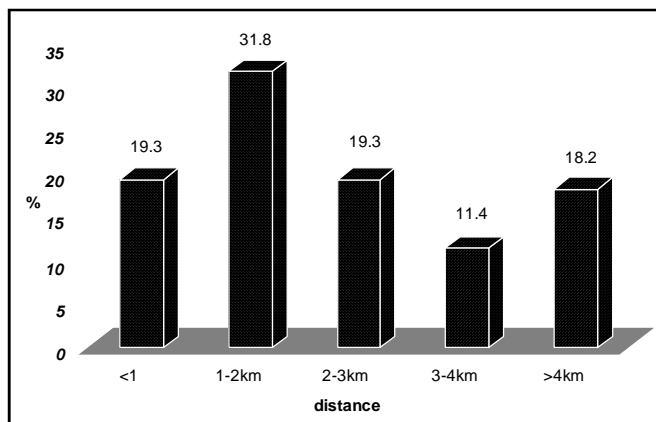


Fig.1 : Distance from hospital to residence of the women

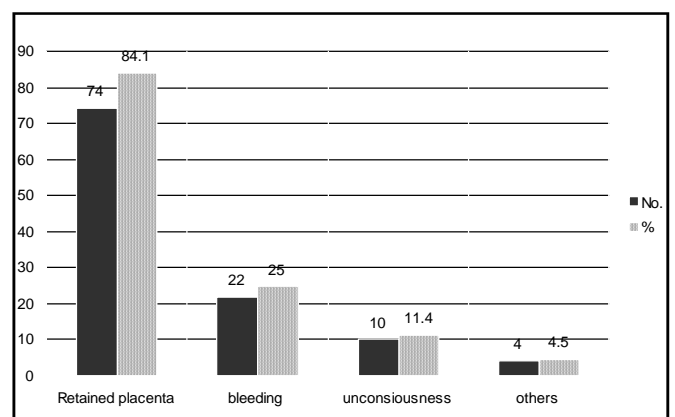


Fig.2 : Reason for attending hospital

Table II : Fetal outcome

Outcome	Number	Percentage
Live birth	85	93.4
Still birth	5	5.5
Neonatal death	1	1.1
Total number of birth (including 3 sets of twins)	91	100.0

Table III : Time interval between delivery and arrival at hospital

Time (hrs.)	Number	Percentage
<1/2	5	5.7
1/2 - 1	7	8.0
1-2	31	35.2
2-3	18	20.4
3-4	6	6.8
>4-72	21	23.9
Total	88	100.0

Table IV : Type of complications diagnosed in the hospital

Complication	Number	Percentage
Retained placenta	59	67
Post-partum hemorrhage	15	17
Cervical tear	4	4.5
Shock	9	10.2
Others *	3	3.4

* Third degree perineal tear, cervical prolapse

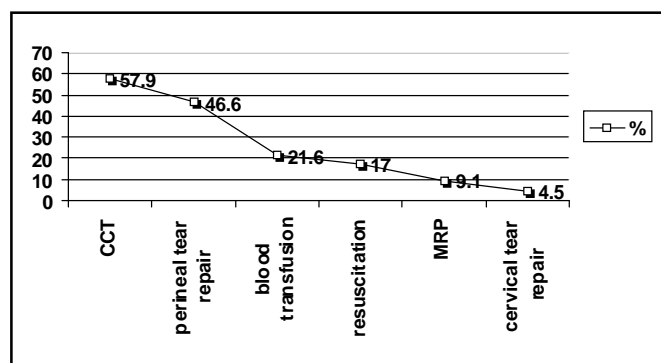


Fig.3 : Management in the hospital

placenta, rest were delivered by controlled cord traction (CCT). Most of the cases had more than one complication (Table IV).

As most of the cases presented with retained placenta, controlled cord traction was the most common management needed. Nine cases were brought in a state of shock, who needed active resuscitation. Blood transfusion was given to nineteen cases. Twenty-four cases (27.3%) had a hemoglobin level below 9 gm%.

As most of the cases needed simple management like CCT and perineal tear repair, they were discharged within two days of admission. Most of the complicated cases also recovered well while nine cases were discharged on request and three cases left against medical advice.

DISCUSSION

Many studies done in Nepal have shown that about 90% of women give birth at home. Attendance at delivery by skilled health workers was low (6%), as was attendance by traditional birth attendants (5%) in a study done by David *et al* in Makwanpur district.⁷ Our study showed that home deliveries were commonly associated with third stage complications like post partum hemorrhage and retained placenta. A matched cohort study of planned home and hospital births in Western Australia has also shown similar result of more third stage complications in home birth group.⁸

Another significant complication seen in this study was very high perinatal mortality of 65.9/1000 births, whereas in hospital delivered cases it is only 29.4/1000 births.⁹ However this figure of perinatal mortality does not represent the real perinatal mortality of all home deliveries, because most of the cases do not attend hospital even when they have complications and in the absence of complications they will never attend. In one study⁸ perinatal mortality rate was slightly higher overall in the home birth group. Another study revealed that infants of planned home deliveries were at increased risk of neonatal death and

Apgar score no higher than 3 at 5 mins. Same study has also shown that among nulliparous women, home deliveries were associated with an increased risk of prolonged labor and post partum bleeding.¹⁰

In another study the perinatal mortality rate was 5.7/1000 as compared to a national average of 3.6/1000, intrapartum deaths were 2.7/1000 compared to a national average of 0.9/1000.¹¹ The main causes of this excess mortality were high risk deliveries involving twins, breech and post term births and a lack of response to fetal distress. The authors stated that while home birth for low risk women can compare favorably with hospital birth, high-risk home birth is inadvisable.

On the other hand studies done in developed countries have shown that home birth is safe for normal, low risk women, with adequate infrastructure and support i.e. given a well trained midwife and facilities to transfer to hospital if necessary. The unplanned out of hospital births are very high risk, including teenagers who deliver their babies in secret and unexpected rapid premature births at 28 weeks.¹² Another study done in the Netherlands has also reported that the outcome of planned home births is at least as good as that of planned hospital births in women at low risk receiving midwifery care.¹³ Similar study done by Liebrich *et al.* found no difference in durations of labor, occurrence of severe perineal lesions and maternal blood loss, babies' birth weight, between home and hospital deliveries.¹⁴

CONCLUSION

Since this is a hospital based, retrospective study, it was difficult to find out the reasons and circumstances responsible for home delivery. Further prospective and community based study is needed to analyze the main factors leading to delivery at home and delay in attending hospital, as our study has shown that even the women who had attended regular ANC preferred to deliver at home. Even women who resided very near to the hospital delivered at home and mostly attended hospital only after two hours of delivery.

So in our context, it can be stated that community based obstetric service must be developed with emphasis on regular and quality antenatal care, health education to women and proper training of birth attendants.

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