Original Article

OBSTETRIC REFERRALS: SCENARIO AT A PRIMARY HEALTH CENTRE IN GUJARAT

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ABSTRACT

Background: Pregnancy and childbirth is associated with health risks for both the mother and child. Timely and prompt referral service has been identified as one of the effective strategies to combat related risks and adverse outcomes. In rural areas, this problem is compounded by multiple factors and referral often plays a key role to ensure favorable outcome.

Objectives: Documentation of common indications & identification of constraints related to referrals in pregnancy related cases in a PHC of Gujarat.

Methodology: Secondary data analysis of referral slips of referred cases from one PHC, Gujarat was done. Referral slips between 2004 and 2009 were analyzed. A total 155 pregnancy related referrals were made during this period.

Results: Referral rate was 15.2%. The average age of women was 23.46±4.1 years, 12.2% women belonged to the high risk age group and 5.8% women were grand multipara. Referrals were nearly equally distributed between OPD and emergency hours highlighting the need for 24X7 services at the PHCs. Majority of referrals were during the intranatal period (64.5%), followed by antenatal cases (23.9%) and postnatal cases(11.6%). The common reasons for referral were non progressive labour (14.8%), severe anemia (10.3%), pre-eclampsia (10.3%), malpresentation (9.7%) and postpartum hemorrhage (9.7%). Out of 62.6% who required pre-referral treatment, 43.3% didn't get pre-referral treatment. Majority of pre-referral treatment were not given in intranatal period (58.9%).

Conclusion: This study recommends the development of a standard referral protocol, proper training in this regard and universal adherence to this in practice.

Keywords: Obstetric referrals, Primary health center

INTRODUCTION

Pregnancy and child birth is universally celebrated event**.** Timely and prompt referral service has been identified as one of the effective strategies to combat related risks and adverse outcomes of it[1].

The current Maternal Mortality Rate (MMR) of India is 212 per one lakh live births, whereas the Millennium Development Goal (MDG) for India in this respect is to reduce maternal deaths to 200 per lakh of live births by 2007 and 109 per lakh of live births by 2015[2]. The Reproductive and Child Health Program Phase-II- "A flagship programme" within the National Rural Health Mission, aimed to reduce maternal mortality ratio to less than 100 by 2010[3]. India is definitely lagging behind in this aspect.

The Medical Officers, who are in-charge of the PHC's, should handle as per their job protocol, the routine obstetric care and delivery, identify obstetric emergencies and complications, refer

these cases after initial management and stabilization, identify dangerous signs in the postpartum period and in the newborn, provide supportive care prior to referral[3].

According to Sample registration System (SRS) 2007-2009, current MMR in Gujarat is 148 per one lakh live births. There is a need for identifying the lacunae in services which may be a hurdle in providing these services at PHC. The processes of converting the identified PHC's to 24 X 7 facilities as per NRHM guidelines are ongoing. However, data related to the referral system is scarce. Thus this study was undertaken for documentation of common indications of referral in pregnancy related cases in a selected PHC in Gujarat and for identification of the constraints related to referral services.

METHODOLOGY

Secondary data analyses of the referral slips of Kayavarohan PHC, Taluka-Dabhoi, District - Vadodara, Gujarat was done. The PHC was selected purposively as duplicate copies of all the referral slips were preserved and available.

In this study, data was gathered from the referral slips of all pregnancy related cases that were referred from the PHC to higher centers during the study period between 2004 and 2009. A total of 600 cases were referred to the higher centers due to various reasons. Copy of all the referral slips had been preserved. These referral slips have been studied retrospectively. Following data were available in the referral note: Name of the referring PHC, place of referral, date & time of referral, name & address of the patient, chief complaints, vitals, indication of referral, pre-referral treatment.

Referrals other than pregnancy related causes were excluded.

All the 155 referrals in pregnancy related cases during the study period were included in this study.

Women in which age less than 19 year and more than 30 years were considered as "High risk age group"[4]. Data entry and analysis were done in MS-excel.

RESULTS

In this PHC, which catered to 29842 populations, a total of 1014 obstetric cases had reported during the period between 2004 and 2009. Out of which 859 (84.8 %) were managed at the PHC and 155 (15.2%) were referred due to various complications. So, the referral rate was 15.2 %.

An average of 144 cases was delivered and 26 cases were referred per year. Average age of the pregnant women was 23.46 ± 4.1 years. In this group, 19 (12.2%) were in the high risk age group. Women aged more than 30 years were 15 (9.68%) and less than 19 years were 4 (2.5%).

Parity of women is also considered a risk factor for developing complications in antenatal, intranatal and postnatal period[4]. In the present study, there were 9 (5.8%) grand multipara (4 or more children) women.

Out of the 155 referrals, there were 37 (23.9%) antenatal, 100 (64.5%) intranatal and 18 (11.6%) postnatal referrals.

Table 1: Distribution of pregnant women according to indication of referral in the antenatal period

Antenatal indication	Women (%)
Severe anemia	12 (32.4%)
MTP with laparoscopic tubal ligation	8 (21.6%)
USG	6 (16.2%)
Missed abortion	6 (16.2%)
Threatened abortion	2 (5.4%)
Severe vomiting	2 (5.4%)
Gestational diabetes	1 (2.7%)
Total	37 (100%)

Out of the 155 cases, in 25 (16.1%) cases, time of referral was not mentioned in the referral slip. In the remaining 130 cases, 70 (53.8 %) were referred in the routine hours of OPD (8 a.m. to 6 p.m.) where as in 60 (46.2%) cases they were referred during the emergency hours. Thus emergency referrals were nearly equal to the routine hour referrals. This reiterates the need for 24X7 PHC's for managing obstetric cases.

Out of the total 155 referrals, 37 (23.9%) referrals were due to antenatal indications. Amongst antenatal indications, highest referrals were due severe anemia (32.4%) followed by those for MTP with laparoscopic tubal ligation (21.6%). The cause of MTP with laparoscopic tubal ligation was contraceptive failure in 6(75%) cases. USG, when indicated (to determine correct gestational age, IUGR etc) and missed, abortions were the other common indication (16.2% each) for referral.

Table 2: Distribution of pregnant women according to indication of referral in intranatal period:

Intranatal indication	Frequency
Non progressive labour	**23 (23.0%)**
High risk pregnancy	**72 (72%)**
Pre-eclampsia	16 (16.0%)
Malpresentation	15 (15.0%)
Post term	7 (7.0%)
Short stature	7 (7.0%)
Previous LSCS	6 (6.0%)
Premature labour	6 (6.0%)
Fetal distress	5 (5.0%)
Severe anemia	4 (4.0%)
Intrapartum hemorrhage	2 (2.0%)
Twins	2 (2.0%)
Placenta praevia	1 (1.0%)
Previous still birth	1 (1.0%)
Non cooperative mother	**4 (4.0%)**
Trauma	**1 (1.0%)**

Out of the 155 referrals, most common referral was during the intra-partum period. Intra natal referral was done in 100 (64.5%) cases. Most common intra-partum indication for referral was non-progressive labour (23%) followed by pre-eclampsia (16%) and malpresentation (15%). When these reasons were grouped according to high risk category, 72% were in this group. The saddest part is that most of these can be diagnosed early. Probably the lack of proper ante natal services and lack of coordination and communication between the health worker and the medical officer leads to this last minute reporting leading to the emergency referrals.

Table 3: Distribution of pregnant women according to indication of referral in postnatal period:

Postnatal indication	Frequency (n=18) (%)
Postpartum hemorrhage	15 (83.3)
Pain in abdomen	02 (11.1)
Postpartum psychosis	01 (05.5)

It was observed that the most frequent reason for postnatal referral was postpartum hemorrhage (83.3%). However, the overall post partum hemorrhage rate among all the deliveries in the PHC was 1.48 %.

Table 4: Distribution of pregnant women according to pre-referral treatment

Indication	Women who need treatment as per guideline[5]	Treatment mentioned in referral slips		
		Complete	Partial	No treatment
Antenatal (n = 37)	23 (62.2%)	15 (65.2%)	3 (13.0%)	5 (21.7%)
Intranatal (n = 100)	56 (56.0%)	16 (28.6%)	7 (12.5%)	33 (58.9%)
Postnatal (n = 18)	18 (100.0 %)	11 (61.1%)	3 (16.7%)	4 (22.2%)
Total (155)	97 (62.6%)	42 (43.3%)	13 (13.4%)	(43.3%)

Out of the 155 mothers referred, treatment was required in 97 (62.6%) mothers. It is seen from table 4 that 62.2%, 56.0% and 100.0% of antenatal, intranatal and post-natal cases respectively were in need of pre-referral treatment.

Among the 23 antenatal cases who required pre-referral treatment, complete treatment was given in 15(65.2%) cases; partial treatment in 3 (13.0%) cases and no treatment in 5(21.7%) cases as documented in the referral slips.

Out of the 56 (56%) intranatal cases that required pre-referral treatment, 58.9% were not given pre-referral treatment, partial treatment was given to 12.5 % cases and only 28.6% received complete treatment.

In contrast, majority (61.1%) of the postnatal cases were given complete pre-referral treatment. However, 22.2% post natal cases not getting any treatment as per the referral slip is not plausible because 83% were referred due to post partum hemorrhage and the reason most likely is the failure to document it in the referral slip.

In the present study, 7(4.6%) were unregistered and unimmunized with Injection Tetanus Toxoid and most of them 6(85.7%) were immunized before referral.

From the 155 referral slips studied, vital data like blood pressure (39.4%), hemoglobin (87.7%), presence of albumin and sugar in urine (89.0%) were missing. Out of the 113 (72.9%) cases that required mention of fetal heart sounds, only 87(77.0%) had mentioned it meaning a lapse in 26(23.0%) cases. None of the referral slips mentioned temperature and pulse rate.

DISCUSSION

In this PHC, a total of 1014 obstetric cases had reported during the period between 2004 and 2009. Out of which 859 (84.8 %) were managed at the PHC and 155 (15.2%) cases were referred due to various complications. So, the referral rate was 15.2 %. Similar findings were reported by Swain et al where referral rate of obstetrics cases was 15.9% [6].

Out of the total referred cases, it was found that 12.2% women were in the high risk age group and 5.8% were grand multipara (4 or more children). A much higher rate (34.13%) was reported by Swain et al which may be due to lack of proper definition of grand multipara[6].

In present study, majority of referrals were during intranatal period (64.5%), followed by antenatal (23.9%) and postnatal referral (11.6%). Ohn et al study found that majority of referrals were during antenatal period (65.2%) followed by intranatal (32.6%) and postnatal period (2.2%) [7]. Difference of this finding may due to the fact that Ohn et al study was done in an urban private hospital and present study is done in rural area. In rural areas, lack of knowledge regarding the importance of regular antenatal check-up may be the reason for the number of cases presenting directly at the time of labour pain. The salient points which need attention in the referral scenario are, promoting early antenatal registration, regular checkups, strengthening the existing obstetrics health facilities and services and an effective communication between the health care worker and the medical officer in identified high risk cases. This in turn would probably reduce the last moment high risk referrals.

In this study, cutting across the different stages of labour, the commonest reason for referral was non progressive labour (14.8%), followed by pre-eclampsia (10.3%), malpresentation (9.7%), postpartum hemorrhage (9.7%) and severe anemia (7.7%). Ohn et al reported pre-eclampsia (18.5%) to be the commonest cause followed by premature labour (14.1%), fetal distress (8.7%) and non progressive labour (6.5%) were common indications of referrals[7]. In the present study, 62.6% who required pre-referral treatment, 43.3% were not given any pre-referral treatment where as in the Ohn et al study, 22.8% were not given any medication nor was any investigation carried out before transfer[6]. These differences again could be due to the difference in the set up. A definite protocol needs to be developed and adhered.

Last but not the least, transportation for referral was available in 100% cases. This is an achievement as in many places transportation is the bottleneck for maternal referrals. Thus this is a positive aspect of the referral services in this set up.

CONCLUSION

In this study, we have developed an insight about the referral system prevalent in a rural set up in Gujarat. More stringent documentation in the referral slips and more co-ordination between the referral unit and the higher centers are required. To conclude, this study recommends the development of a standard referral protocol, proper training in this regard and universal adherence to this in practice. The paucity of such studies in obstetric referral related issues was a limitation in this study and more such studies are needed to get the complete picture.

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