



## Study of Obstetric Referrals to Teaching Institute: Original Article

### KEYWORDS

obstetric referral, First referral unit, Teaching Institute

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**ABSTRACT** *In our country, obstetric care is mainly provided by peripheral health units. At the realization of any complication, most of the peripheral health centers and private practitioners refer obstetric cases to higher health units. This is a prospective study carried out at Padmbhushan Vasantadada Patil, Govt. Hospital Sangli, during Jan. 2005 to June 2006. Total 250 obstetric cases with a referring letter, referred from peripheral health sectors, Govt. as well as Private were studied as - Reason for referral, treatment received at referring health unit, mode of transport, Justification for referral. Summary - (1) Almost 70% of rural and 50% of urban patients had not received any form of treatment at referring center. (2) Most of the rural referrals required some sort of interventions like emergency LSCS, blood transfusion etc. These referrals were manageable at FRU with facility of O.T. and trained staff. (3) Total 27.55% of urban and 37.39% of rural referrals were delayed (4) Unjustified referrals- 02% of Urban & 9.57% of rural referrals increased inconvenience to pregnant women and their relatives and also raised the work load on apex hospital to some extent.*

### Introduction

Maternal and perinatal mortality rates are the yardsticks and an index of efficiency of not only antenatal and intranatal care but also of the socio-economic conditions of the country.

In majority of rural home confinement, delivery is attended by untrained birth attendant. After realizing difficulty in labor, midwife or doctor is called at home, rather than immediately shifting woman to hospital. After shifting woman to a local hospital, she is further observed with the hope of vaginal delivery, which results in further unpardonable delay. When all attempts of delivery at local hospital fails, decision of referring to higher health unit is made.

Inadequate transport facilities in rural area result in additional delay to reach the institute. Late decision of referral and inadequate transport facilities contribute for high maternal and perinatal morbidity and mortality. On the other end, few health centers work as referring centers only. Unnecessary referrals increase workload on tertiary hospitals and also cause discomfort to pregnant women and relatives.

So we decided to conduct study of obstetric referrals to our teaching institute with urban and rural referral comparison with following aims-

- To study underlying Circumstances leading to referral
- Maternal and fetal condition on arrival to institute
- Maternal and fetal outcome in referred cases
- Justification for referral

### MATERIALS AND METHODS

This is a prospective study carried out at Padmbhushan Vasantadada Patil, Govt. Hospital Sangli during the period from Jan. 2005 to June 2006.

Total 250 obstetric cases with a referring letter, referred from peripheral health sectors, Govt. as well as Private were studied.

#### Urban sectors -

- Sangli-Miraj-Kupwad Corporation Hospital
- GMC Miraj
- Pvt. Practitioners in Sangli, Miraj & Kupwad territory.

#### Rural sectors -

- Primary health centers.
- Dist. and Sub-Dist. Hospitals.
- Pvt. Practitioners in rural area

#### All cases studied as

- Referred from
- Reason for Referral
- High Risk Factors
- Treatment received at referring health unit
- Mode of transport
- Time required to reach the institute
- Treatment given at institute
- Maternal and Fetal outcome
- Justification for referral

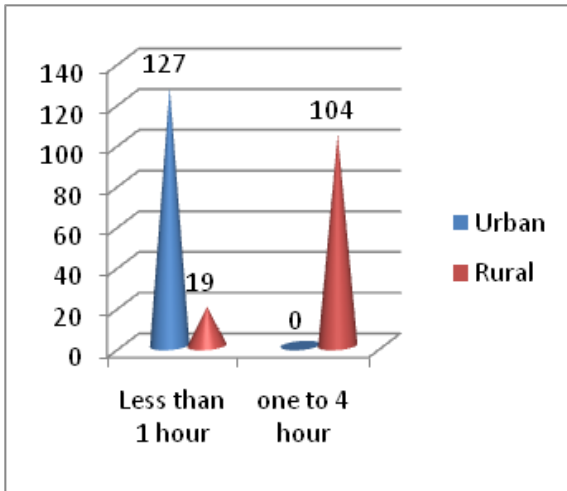
### DISCUSSION

Sound referral system plays fundamental role in health system. For a large majority of developing countries this aspect of health system remains very weak.

In India, around 25% of total deliveries take place at institute. Peripheral health units from urban and rural, Govt. as well as private sectors do refer obstetric cases to teaching institute. Apart from intrapartum unpredictable problems, certain proportion of cases identified as high risk pregnancies during antenatal visits need institutional delivery e.g. bad obstetric history, pregnancy with heart disease, pregnancy with Diabetes Mellitus etc. These contribute significantly in obstetric referrals to teaching institute from periphery.

Maternal & perinatal outcome in referred cases depends on in time and proper referral of such cases with provision of emergency obstetric care during transport. Thus timely referral & not mere referral plays significant role.

Above observations has been analyzed with comparison between rural and urban referrals. (chi square test). Observations made in 250 obstetric referrals to our institute, P.V.P. G.H. Sangli during the period Jan 2005 to June 2006 is being discussed here. We got almost equal number of referrals from urban (50.8%) and rural (49.2%) peripheral health units during the specified period; thus enabling us to compare the data from the two.



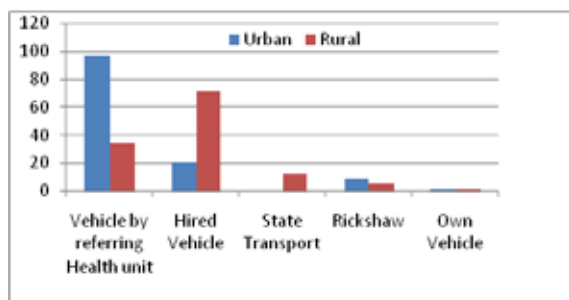
We found that 78.74% of urban and 74.79% of rural referrals were referred immediately in less than 30 min time interval (Table1). Increased incidence of litigations against health care system has resulted in increasing trend amongst peripheral practitioners to refer the high risk patients as early as possible without doing much intervention.

In present study 69.10% of rural referrals did not receive any kind of treatment at referring centre where as amongst urban referrals 50.39% received some sort of management either in the form of medicines like antihypertensive or I.V. fluids or vaginal delivery .(Table2)

In both urban and rural referrals main indication of referral was pregnancy induced hypertension followed by anemia, previous LSCS, CPD etc. (Table3)

Need for institutional management was the underlying cause in 30.7% of urban and 34.95% of rural referrals. (Table4). Reason itself speaks the genuineness of referral.

Strengthening the first referral unit (FRU) with operation theatres, blood bank, and trained personnel can reduce the significant amount of rural referrals reducing inconvenience for the patient. This will also decrease work load at teaching institute, so that the experts will be able to concentrate more on those critical patients who are in need of special care.



Twelve patients out of 123 rural referrals (3.75%) reached the hospital by state transport, not very comfortable for a pregnant woman to travel by.

Round the clock transport system should be available at referring center, so that majority of obstetric emergencies will reach the institute within time and in manageable condition. The organization of flying squad services manned by district hospital obstetric staff is an alternative method to bring sophisticated skills to mother's bedside. 73.98% of rural referrals had to travel distance up to 50 km and required time up to 4 hrs to reach [5]. Most of the rural referrals had to arrange

vehicle for transport further adding to the delay. [6] We had 2 patients, one from urban and one from rural, in state of shock; unfortunately we could not salvage both the patients.

Total 84.25% of urban and 73.17% of rural referrals were with stable vitals on admission. [4]

In 11.81% of urban and 10.56% of rural referrals, fetus was no more alive on admission.

Fetal distress was found in 15.74% of urban & 14.63% of rural referrals on admission.

LSCS was performed in 27 (21.25%) of urban and 26 (21.13%) of rural referrals. Only 6 patients from urban & 2 patients from rural referrals, delivered spontaneously without need of any sort of intervention. [Table5].We had one patient referred from rural area, case of Ante -partum eclampsia who developed acute renal failure after delivery but with appropriate & timely management she recovered. One HIV positive patient from rural sector, referred for hand prolapse i.e. neglected shoulder had LSCS wound gape, required resuturing. PNMR is a problem of serious dimensions in all countries. We had PNMR of 221.15/1000 live births for urban and 194.17/1000 live births for rural referrals. About 2/3rd of all perinatal deaths had occurred amongst fetuses with less than 1500gm birth weight. We had maternal mortality rate of 19.23 per1000 live births for urban and 19.41 per1000 live births for rural referrals [4].Study group in present study is mostly having high risk factors and our institutes being tertiary level care center, most complicated obstetric cases are referred.

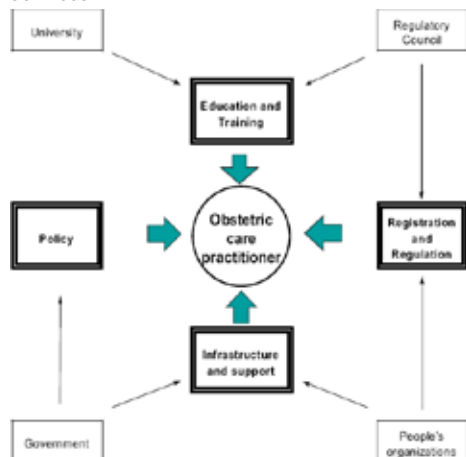
**We found following direct cause leading to maternal deaths –**

- 1) Atonic PPH following obstructed labor.
- 2) Congestive cardiac failure due to PPH in case with severe anemia.
- 3) DIC due dead fetus syndrome.
- 4) Amniotic Fluid embolism.

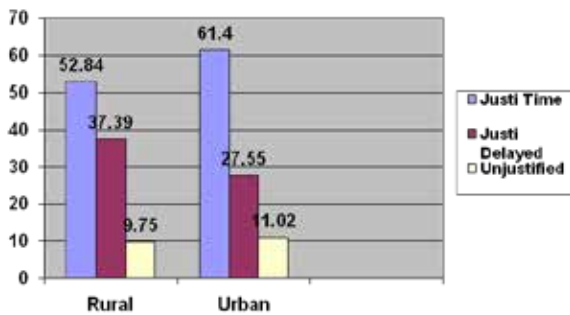
**Analysis of these maternal deaths enlightens followings factors –**

- 1) Ignorance on the part of patients towards available RCH services with delay in seeking health care.
- 2) Improper referral to the institute by not providing an preliminary care like IV fluids etc. during transport.
- 3) Inadequate transport facilities for transferring patients to the institute.
- 4) Non availability of trained persons at peripheral health sectors.

**Institutional frame work for strengthening obstetric care services-**



RCH has given standards for basic and comprehensive emergency obstetric care (EMOC) [5]



**Justified** – Those cases in which institutional management was mandatory.

**Unjustified** – Those cases which could have been treated at peripheral health unit without special treatment.

**Timely** – Those cases who have reached the institute at a time when safe delivery of mother and baby was possible.

**Delayed** – Those cases who have reached the institute at a time when mother and/or baby had already developed significant morbidity.

There could be following factors leading to these delayed referrals-

1. Delay in deciding to seek health care-
2. Delay in identifying high risk factors –
3. Delay in Transport –

To overcome these delays following measures will be helpful-

- Improving female education.
- Implementation of schemes like 'Janani Suraksha Yojana'.
- Improvement in basic infrastructure at rural area in view of quality of life, so that more and more trained persons will show interest in working over there.[6]
- All peripheral health sectors should be well equipped with vehicle on road transport facility.
- Training of ANM and medical officers in basic obstetric care.

In present study, we had almost equal no. of unjustified referrals (11.02%) from urban and (9.75%) from rural health sector. Such type of referrals definitely increase work burden at tertiary health institute and also cause inconvenience to patients and their relatives.

#### SUMMARY AND CONCLUSION

1. Almost 70% of rural and 50% of urban patients had not received any form of treatment at referring center, indicating that there is still room for improvement in pre referral management.
2. Two patients from urban and one from rural reached the institute in state of shock. Simple measures like I.V. fluids during transport could have significantly improved outcome in such patients.
3. Most of the rural referrals were manageable at First referral unit (FRU) with facility of O.T. and trained staff.
4. In around 30% of referrals from urban and rural area, fetus was either already dead or in distress on arrival, contributing to high PNMR in the study.
5. MMR in present study is 19.23 per 1000 live births for urban and 19.41 per 1000 live births for rural referrals. Out of 4 maternal deaths reported in this study, 3 were due to delayed referrals which could have been prevented.

#### REFERENCE

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