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ORIGINAL ARTICLE

A COMPARATIVE ANALYSIS OF OBSTETRIC REFERRALS THAT ARE REFERRED TO THE TERITIARY CARE CENTER

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ABSTRACT: AIM: To evaluate the obstetric referrals to the tertiary center in the current year and to compare the data to the referrals 20 years ago. **MATERIALS AND METHODS:** This is a retrospective analysis under taken in the Department of OBG, for a period of six months in 2012-13 at King George Hospital Visakhapatnam. Data from Medical records during the same months in 1992-1993 were obtained. Data of 2012-2013 is considered as group-B and data of 1992-1993 as group-A. Both are analyzed and compared. **RESULTS:** Referrals of group- B constituted 51.76% of all the emergency admissions, of which 69.30% were antenatal women. 51.68% were referred in the night between 8pm-8am. 90.84% were referred from government institutions. Maternal deaths were three and perinatal mortality 35.2%. **DISCUSSION:** Referrals in the last 20 years increased from 31.64% to 51.76%. In group-B 69.30% were antenatal where as in group A, 81.31% of referrals were in labour. Almost all women were referred in the night in group A. Perinatal mortality in group-A was higher (42.54%). **CONCLUSION:** Under NRHM, and through EmOC program the medical officers of PHCs are trained and infra-structure is being up graded. Hence high risk obstetric women are being identified and are referred earlier. 38.49% of the women are referred only for conduct of c-section from CHCs and area hospitals in the recent times, where facilities for c-section are supposed to be available. Problems in performing C sections in these centers have to be addressed.

KEYWORDS: AntenataL, Intranatal, Maternal mortality, Perinatal mortality, EmOC.

INTRODUCTION: The Universal Declaration of Human Rights under article 25 states that everyone has the right to a standard of living adequate for the health and the wellbeing of oneself and one's family. Taking this into account, the year 1978 marked the assertion of the Alma Ata Declaration at the Geneva International Conference on the Primary Health Care. The aim at that time was to address the need for imperative action by all the Governments 'To protect and promote the Health of all the people of the world by 2000'. Conversely, challenges in not achieving the Alma Ata Declaration within the envisioned time frame of the year 2000 led to the launching of Millennium developing Goals to improve the well-being of the society, adopted by 189 United Nations member states at the 2000 millennium summit.[1]

The Millennium Declaration listed eight development Goals (MDG) and time controlled targets by which progress could be measured by2015. MDG 5 identified two targets for assessing the progress in improving the maternal health: reducing MMR by three quarters between 1990-2015 and achieving universal access to reproductive health by 2015 indicated by decrease in MMR and increase in the proportion of births attended by skilled birth attendants. The Reproductive and Child Health Programme (RCH), under the umbrella of National Rural Health Mission (NRHM), implemented by Ministry of Health and Family Welfare addresses the issue of reduction of Infant Mortality Rate, Maternal Mortality Ratio and Total Fertility Rate through a range of initiatives. The

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most important of these is the Janani Suraksha Yojana (JSY), which has led to a huge increase in institutional deliveries within just four years. Under JSY, launched in 2005 the government provides a cash incentive for pregnant mothers to have institutional births as well as pre- and ante-natal care. It also provides cash incentives to female community health workers for promoting safe care in pregnancy and facilitating access to institutional care. In the five years since the launch of the NRHM in 2005, institutional deliveries have increased rapidly.[2]

MATERIALS & METHODS: This is a retrospective analysis under taken in the department of OBG at KING GEORGE HOSPITAL VSP, over a period of six months in 2012-2013. All the obstetric referrals from various government and private institutions that are admitted in the emergency ward are included in the study. Along with the clinical details, information regarding the cause of referral, time of referral, mode of transport, and place from where she is referred is obtained. Data thus obtained is considered as group B. Similar information during the same months of 1992-93 (20 years ago) is obtained from the medical record which is considered as group A. Both the groups are analyzed and compared.

OBSERVATIONS:

- GROUP B (12-13): Total number of obstetric women admitted in the emergency ward is 3380. 1267 (37.49%) are booked and 2113 (62.51%) are un booked.
- Number of referrals- 1749 (82.78% of the un booked).
- Antenatal women – 1212(69.30% of the referrals).
- Intra natal women – 377(21.56% of the referrals).
- Post natal women – 160 (9.14% of the referrals).
- 1 trimester – 57(4.70% of antenatal).
- 2 & 3 trimester – 1155(95.30% of antenatal).
- From government institutions -1588(90.84%).
- From private hospitals – 161(9.16%).
- Tribal – 568(32.48%).
- Rural – 947(54.15%).
- Urban – 234(13.37%).

Time of Referral:

- ~8AM- 2PM - 320(18.33%).
- ~2 PM & 8PM – 525(30%).
- ~8 PM & 8AM – 904(51.67%).
- 673(38.49%) – referred only for the conduct of c-section.
- 139(7.95%) - referred for blood transfusion.

DISCUSSION: 62.51% of the total emergency admissions are un booked which is almost 3.65 times more than those of 20years ago.

Referrals have increased from 31.64% to 51.76% in the last 20years.

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Table 2: Comparison of number of unbooked cases.

Table 2

Total un-booked	92-93 (group A)	12-13 (group B)	Difference ratio
	n=579	n=2113	3.65
Referrals	444 (76.68%)	1749 (82.77%)	3.93
Other un-booked	135 (23.32%)	364 (17.23%)	2.7

Table 3: Comparison of number of referrals.

Table 3

Total admissions	92-93	12-13	Difference ratio
	n=1403	n=3380	2.5
referrals	444 (31.64%)	1749 (51.76%)	3.93

Table 4: Comparison of place of referral.

Table 4

Place	92-93 (group A)	12-13 (group B)	Difference ratio
	n=444	n=1749	3.93
Tribal	49 (10.96%)	568 (32.48%)	11.59
Rural	371 (83.54%)	947 (54.15%)	2.55
Urban	24 (5.5%)	234 (13.37%)	9.75

Most of referrals are from rural areas in both the groups, though the referrals from tribal places have increased in recent years from 10.96% to 32.48% (2.9 times).

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Table 5: Comparison of period of referral

Table 5

	92-93	12-13	diff
	n=444	n=1749	3.93
antenatal	57 (12.84%)	1212 (69.30%)	21.26
Intra natal	361 (81.31%)	377 (21.56%)	1.04
Post natal	26 (5.85%)	160 (9.14%)	6.15

During 92 -93 year, 81.31% of women were referred in labour (intranatal) while in the recent year 69.30% are referred antenatally though the number of intra natal referrals is the same in both groups.

Table 6: Comparison of time when referred

Table 6

TIME	92-93 (group A)	12-13 (group B)	Difference ratio
	n=444	n=1749	
8 AM -2 PM	19 (4.27%)	320(18.30%)	16.84
2 PM -8 PM	52 (11.71%)	525 (30.02%)	18.09
8 PM-8 AM	373 (84.02%)	904 (51.68%)	2.4

84.02% of women reported to the tertiary center only after 10 PM ie, late in the night or early morning in 92-93 (groupA) whereas, in recent times women are able come to the tertiary center as and when the doctors referred.

Table 7: Causes of antenatal referrals.

	92-93	12-13
	n=57	n=1212
post c section	-	104
oligoamnios	-	124
Past dates	-	50
IUGR	-	38
RH -ve	-	128
HBSAG/HIV	-	98
preterm	-	32
P PROM	-	75
ABNORMAL PRESNTATION	-	61
CPD/BIG BABY/CONTRACTED	-	128
MULTIPLE GESTATION	-	28

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	92-93	12-13
anaemia	5	101
PE/IE	12	86
eclampsia	4	33
Placenta previa	3	18
abruptio		9
Heart disease	-	13
abortions	12	30
GDM	-	7
IUD	2	12
Ruptured ectopic	11	18
Unruptured ectopic	-	9
Molar pregnancy	8	10

Out of 1212 women 673 were referred only for the conduct of c -section in group B. These women are identified as high risk and they are managed until term and referred at or near term for the delivery. women with eclampsia, imminent eclampsia are given magnesium sulphate before they are referred. Incidence of medical disorders complicating pregnancy has increased in the recent times. Ectopic pregnancies are being identified even before they present with symptoms.

Table 8: Causes of intranatal referrals.

	92-93	12-13
intranatal	n=361	n=377
Ruptured uterus	12	6
Obstructed labour	32	30
Post c section	113	98
Abnormal presentation	59	52
Multiple gestation	6	21
anaemia	25	22
PE/IE/E	23	79
APH	7	
Meconium/post dates/IUGR	62	-
HEART DISEASE	1	
Pretermin advance labour	10	-
PL PROM	-	25
HBSAG/HIV	-	33
RH -ve	-	11
CPD	11	-

Even though the number of intranatal referrals has not changed in last 20 years, cause and time of referral has changed. Number of women with ruptured uterus has decreased by 50% and they are referred much earlier before sepsis set in. post c section pregnancies and pregnant women with

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abnormal presentation are referred either antenatal or in early labor. We have not seen women with beech presentation with full dilatation which was very common 20 years ago.

Table 9: Causes of post natal referrals.

	92-93	12-13
POSTNATAL	n=26	n=160
PPH	12	43
Inversion of uterus	-	1
Retained placenta	9	21
anaemia	3	71
Post operative complication	2	24

Post natal referrals have increased by 6.15 times in 2012 -13 (group B). 71 women are referred only for blood transfusion after delivery. Incidence of post-operative complications like intra peritoneal bleeding, peritonitis has increased. Over all perinatal mortality has decreased from 42.54% to 20.14%.

Table 10: Comparison of perinatal and maternal morbidity

Table 10

	92-93 (group A)	12-13 (group B)
	n=444	n=1749
Perinatal mortality/morbidity	189 (42.54%)	352 (20.14%)
Maternal mortality	5	3

CONCLUSION: women in the reproductive age are young and healthy. Obstetric emergencies can occur suddenly and unexpectedly deteriorating their health(3). High risk pregnancy identification and its timely referral to tertiary care is the key to success in reducing the incidence of obstetric emergencies.[3] Quality of antenatal care has a direct relation to pregnancy out come. Under the

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NRHM -EmOC, medical officers are being trained and the infra-structure of PHC s is being up graded.[3] Now doctors in the peripheries are able to identify pregnancies at risk and are referring them well in advance to higher centers. JSY programme has helped to increase institutional deliveries. Pregnant women are able to reach the tertiary centers in time with the help of the 108 services. But are the tertiary centers being up graded to meet the increased load of referrals? Doctors in Area hospitals and CHCs are not able to conduct c-sections during late hours due to the lack of blood bank facilities, unavailability of Anesthetists (Cause of referral written in the referral slips) which has to be looked into.

The National Rural Health Mission, launched in 2005 provides accessible, affordable, accountable, effective and reliable health care, especially to the poor and the vulnerable sections of the population in rural areas. Under this overarching health programme, the "Janani Suraksha Yojana" (Conditional cash transfer scheme for institutional deliveries) has increased institutional deliveries.[4] However, it is necessary to speed up the pace of development further in order to accomplish the Millennium Development Goal.[5]

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