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Socio-demographic Correlates of Place of Delivery and Person Conducting the Delivery in a Rural Community of Andhra Pradesh

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INTRODUCTION

Studies of maternal mortality and morbidity in the Third World frequently identify lack of access to life saving treatment in emergencies as single most critical failing in maternal health system. Though the complication immediately preceding a maternal death is by no means the whole cause, there is no doubt that this last line of defence is present and functioning in countries where maternal mortality is low and is absent, inaccessible or malfunctioning in countries where maternal mortality is high. In this context, WHO suggested that major part of the solution lay in extending to the periphery the network of places where the essential life-saving obstetric functions could be undertaken. It adopted the axioms that health services should be made available as close to people's homes as possible and that any health care procedure should be carried out by the least trained person who is competent to perform it safely and well.

The existence of facilities for maternal health care does not necessarily mean that they will be used even by women who have been expressly advised to use them. In some cases the explanation is that the facility is too far from a woman's home and she lacks the time, transport or possibly the money to reach it. Alternatively she may not appreciate the service it offers. According tc studies in Zimbabwe and Bangladesh, reviewed by Erica Royston et al women in rural areas prefer to deliver their child at home. National Family Health Survey (1992) in Andhra Pradesh of India has revealed that about 65% of deliveries were conducted at home.

Evaluation and problem solving of Maternal Health System should be a "bottom up" process, starting with the consumers and providers at the periphery and not a "top down" one that starts with a high-level work shop. A study was therefore conducted to examine socio-demographic correlates of place of delivery and person conducting the delivery and look at possible interventions.

MATERIAL AND METHODS

The study was conducted as part of Integrated Child Development Services survey during the month of July 1998.

The Study Area: Chittoor district has population of 34,83,733. Sex ratio of 966 females per 1000 males and a literacy rate of 49.8%. Scheduled castes and tribes form 18.4% and 3.2% of population respectively. The district has 79 PHC's, 548 subcentres, 11 government hospitals, one teaching hospital and one super speciality hospital. The Birth rate and Death rate are 23.4 and 9.4 respectively. Besides the government facilities, private clinics and hospitals and also health centres run by voluntary organisations provide MCH care.

Sample Size and Study Population: The study was conducted in Srikalahasthi ICDS project which has five mandal(new) primary health centres. From each primary health centre two villages were selected randomly, one village from sub-centre headquarter villages and the other from non-subcentres headquarter villages. In the ten villages thus selected all the lactating women formed our study sample ie., 140 lactating women.

Data Collection: The lactating women were interviewed using structured pre-tested interview schedules. Information pertaining to maternity assistance in terms of place of delivery, person conducting the delivery and related socio-demographic factors was collected by trained field investigators.

Study Variables: This report deals with influence of socio-demographic and maternal charecterstics like maternal age, maternal education, caste of the family, number of living

children and others on place of delivery and person conducting the delivery.

Data Analysis: Data was analysed using EP Info version 5 (Center for Disease Control, Atlanta, USA). Percentages in different categories, chi-square for association,, odds ratios and 95% CI were calculated.

RESULTS AND DISCUSSION

Table 1 presents socio-demographic factors influencing place of delivery. Home deliveries constituted 44.3% of all the deliveres and others were institutional deliveries. Among Home deliveries highest percentage (57.1%) occurred in maternal age group > 30 years followed by age groups 20-29 years and < 19 years among whom the percentages were 46.2% and 25% respectively. The difference between the groups was found to be statistically significant. Maternal age groups of 20-29 years and > 30 years were found to have strong association with home deliveries.

Most of the illiterate mothers (56.0%) had home deliveries as compared to literate mothers who had home deliveries in 30.8% of cases. The difference between the groups was found to be statistically significant. Illiterate mothers with OR and 95% CI of 2.86 (1.35-6.12) had strong and significant association with home deliveries. Home deliveries were high (62.5%) in skilled/unskilled worker occupation group as compared to House wife/Farming group who had home deliveries in 41.9% of cases. The difference between the groups was not found to be

Table 1: Socio-demographic and maternal factors influencing place of delivery

Factors	*Home Deliveries*	*Institutional Deliveries*	*Total*	*Chi.sq. value, df, P value*	*Odds ratios*	*(95% CI)*
1. Maternal Age (years)						
> 19	5 (25.0)	15 (75.0)	20 (100.0)	5.879	1.00	
20-29	49 (46.2)	57 (53.8)	106 (100.0)	df=2	2.58	(0.81-9.67)
> 30	8 (57.1)	6 (42.9)	14 (100.0)	P<0.05	4.00	(0.75-23.03)
Total	62 (44.3)	78 (55.7)	140 (100.0)			
2. Maternal Education						
Literate	20 (30.8)	45 (69.2)	65 (100.0)	8.98	1.00	
Illiterate	42 (56.0)	33 (44.0)	75 (100.0)	df=2 P<0.01	2.86	(1.35-6.12)
Total	62 (44.3)	78 (55.7)	140 (100.0)			
3. Maternal Occupation						
House wife/ farming	52 (41.9)	72 (58.1)	124 (100.0)	2.43 df=1	1.00	
Skilled/ unskilled	10 (62.5)	6 (37.5)	16 (100.0)	P>0.05	2.31	(0.70-8.19)
Total	62 (44.3)	78 (55.7)	140 (100.0)			
4. Caste						
OC	5 (15.60)	27 (84.4)	32 (100.0)	17.70	1.00	
BC	25 (43.90)	32 (56.10)	57 (100.0)	df=2	4.22	(1.32-15.82)
SC/ST	32 (62.80)	19 (37.2)	51 (100.0)	P<0.01	9.09	(2.74-34.47)
Total	62 (44.3)	78 (55.7)	140 (100.0)			
5. Number of Living Children						
1	16 (27.1)	43 (72.9)	59 (100.0)	17.59	1.00	
2	27 (48.2)	29 (51.8)	56 (100.0)	df=2	2.50	(1.07-5.88)
>3	19 (76.0)	6 (24.0)	25 (100.0)	P<0.01	8.51	(2.59-29.32)
Total	62 (44.3)	78 (55.7)	140 (100.0)			
6. Distance of Medical Facility						
< 5 km	22 (44.9)	27 (55.1)	49 (100.0)	0.01	1.00	
> 5 km	40 (44.0)	51 (56.0)	91 (100.0)	P>0.05	0.96	(0.45-2.05)
Total	62 (44.3)	78 (55.7)	140 (100.0)			

OC=Other Caste, BC=Backward Caste, SC/ST=Scheduled Caste/Scheduled Tribe Percentages are given in parenthesis

statistically significant. Skilled/ unskilled occupation group was observed to have strong but not significant assoociation with home deliveries.

Among scheduled caste/scheduled tribe group 62.80% of mothers had home deliveries followed by Backward caste and Other caste groups who had home deliveries in 43.90% and 15.60% of cases respectively. The difference between the groups was found to be statistically significant. Scheduled Caste/Scheduled tribe group and Backward Caste group with the OR and 95% CI of 4.22 (1.32-15.82) and 9.09 (2.74-34.47) were found to have strong and significant association with home deliveries.

Among mothers with > 3 children, 76.0% had home deliveries followed by mothers with 2 children and 1 child who had home deliveries in 48.2% and 27.1% of cases respectively. The difference between the groups was found to be statistically significant. Mothers having > 3 and 2 children with OR and 95% CI of 8.51 (2.59-29.32) and 2.50 (1.07-5.88) were found to have strong and significant association with home deliveries. Mothers whose distance from medical facility is > 5Km had home deliveries in 44.0% of cases as compared to other group who had home deliveries in 44.9% of cases and the difference between the groups was not found to be statistically significant.

National Family Health Survey (1992) in Andhra Pradesh has revealed that mothers in Scheduled caste group had home deliveries in 72.7% of cases which is higher than our study finding which was 62.8%. 79.4% of illiterate mothers had home deliveries according to National Family Health Survey (1992) in Andhra Pradesh as compared to our study in which 56.0% of illiterate mothers had home deliveries.

Table 2 present Socio-demographic correlates of person conducting the delivery. Of the total 140 deliveries studied, 28.6% of deliveries were conducted by untrained personnel and 71.4% of deliveries were conducted by trained personnel. Untrained personnel include untrained dais and other women in village. Of the 40 deliveries conducted by untrained personnel, 27 (67.5%) were conducted by untrained dais and 13 (32.5%) were conducted by other women in village. Trained dais, female health workers, government doctors, private doctors conducted 17%, 18%, 34% and 31% respectively of all deliveries conducted by trained personnel.

Table 2: Socio-Demographic and Maternal factors influencing Type of Birth Attendant

Factors	*Deliveries conducted by untrained personnel*	*Deliveries conducted by trained personnel*	*Total*	*Chi.sq. value, df, P value*	*Odds ratios*	*(95% CI)*
1. Maternal Age (years)						
> 19	6 (31.6)	14 (68.4)	20 (100.0)	0.45	1.00	
20-29	29 (27.8)	77 (72.2)	106 (100.0)	df=2	0.88	(0.28-3.07)
> 30	5 (30.8)	9 (69.2)	14 (100.0)	P>0.05	1.29	(0.23-6.93)
Total	40 (28.6)	100 (71.4)	140 (100.0)			
2. Maternal Education						
Literate	15 (23.1)	50 (76.9)	65 (100.0)	1.79	1.00	
Illiterate	25 (32.9)	50 (67.1)	75 (100.0)	df=1 P>0.05	1.67	(0.74-3.78)
Total	40 (28.6)	100 (71.4)	140 (100.0)			
3. Caste						
OC	4 (12.9)	28 (86.1)	32 (100.0)	11.80	1.00	
BC	13 (22.4)	44 (77.6)	57 (100.0)	df=2	2.07	(0.56-9.52)
SC/ST	23 (45.0)	28 (55.0)	51 (100.0)	P<0.01	5.75	(1.63-25.33)
Total	40 (28.6)	100 (71.4)	140 (100.0)			
4. Number of Living Children						
1	9 (18.0)	50 (82.0)	59 (100.0)	8.91	1.00	
2	21 (37.5)	35 (62.5)	56 (100.0)	df=2	3.33	(1.26-8.99)
>3	10 (34.8)	15 (65.2)	25 (100.0)	P<0.05	3.70	(1.13-12.39)
Total	40 (28.6)	100 (71.4)	140 (100.0)			

number of living children had strong and significant association with home deliveries. Of all the deliveries examined 44.3% of deliveries were home deliveries. About 65% of deliveries in Andhra Pradesh were home deliveries according to National Family Health Survey (1992). Among home deliveries 40.3% of deliveries were conducted by trained personnel who include health professionals, trained dais and 59.7% of deliveries were conducted by untrained personnel who include untrained dais and other women.

Table 4 further examines the factors responsible for higher percentage (59.7%) of home deliveries conducted by untrained personnel. Caste (BC and SC/ST) and illiteracy were observed to be related to more home deliveries being conducted by untrained personnel, though the relationship is not found statistically significant.

Table 5 presents the relation between number of antenatal visits and place of delivery. Mothers with <3 antenatal visits had home deliveries in 64.1% of cases as compared to mothers with >3 antenatal visits who had home deliveries in 36.6% of cases. The difference between the groups was found to be statistically significant. Our study has observed that 28.6% of all deliveries were conducted by untrained personnel. Mothers belonging to scheduled caste / scheduled tribe group and mothers having > 2 children were found to have strong and significant association with deliveries conducted by untrained personnel.

Table 5: Relation between number of antenatal visits and place of delivery

Number of	*Place of delivery*		*Total*
antenatal visits	*Home deliveries*	*Institutional deliveries*	
< 3	25 (64.1) (40.3)	14 (35.9) (17.9)	39 (100.0) (27.9)
> 3	37 (36.6) (59.7)	64 (63.4) (82.1)	101 (100.0) (72.1)
Total	62 (44.3) (100.0)	78 (55.7) (100.0)	140 (100.0)

Chi. sq. value = 9.156, df=1, P<0.01

Further 44.3% of all deliveries are home deliveries NFHS survey (1992) showed that in Andhra Pradesh state about 65% of all deliveries were conducted at home. Studies in Zimbabwe and Bangladesh have observed that women in rural areas preferred to deliver their child at home. The people made a clear distinction between physical health and hygiene which they saw as domain of the formal system and spiritual and moral health which is a domain of informal health system. In the case of child birth, the spiritual and moral needs of the newborn were given the highest priority by the villages who were therefore reluctant to deliver in the hospital.

Among the home deliveres constituting 44.3%of all deliveries, trained dais, untrained dais and others conducted deliveries in 40.3%, 43.5% and 16.2% cases respectively. NFHS survey (1992) of Andhra Pradesh has revealed that deliveries conducted by TBA's (training status not known) constituted about 49% of all deliveries. Studies have also observed that only 49% of all deliveries in Asia were conducted by trained personnel. In most societies cultural and spiritual aspects of pregnancy and child birth have a strong influence on behaviour. It is important that health care providers are aware of these aspects so that they can organise services that are appropriate and acceptable to the people.

Many studies in favour of greater collaboration of Traditional birth attendant(TBA) and health services observe that it is a way of bridging the gap between what are often two very different cultures. In this context we strongly recommend strengthening of training programmes for Traditional birth attendants (TBA's) and studies to explore socio-anthropological context of child birth.

In the states of Andhra Pradesh and Tamil Nadu some primary health centres are selected to give round the clock service for conducting deliveries by health professionals. We recommend the extension of this round the clock service facility for conducting deliveries in all primary health centres expeditiously Training programmes for TBA's and upgrading the PHC's with reference to round the clock service would be fully effective only if backed up by referral facilites at community health centres or its equivalent.

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The role of incentives to promote institutional deliveries also needs to be examined in the context of the recent innovative scheme started by the Government of A.P in which women coming for institutional deliveries are to be paid Rs.300/- to cover loss of wages and expenses on food.

KEY WORDS Social Obstetrics. Rural Maternal Care. Birth Attendant. Place of Delivery.

ABSTRACT Maternity assistance for pregnant women in terms of place of delivery and person conducting the delivery in Srikalahasthi Integrated Child Development Services project of Chittoor district in Andhra Pradesh is examined in this study. The socio-demographic correlates of place of delivery and person conducting the delivery which include maternal age, maternal education, caste, number of living children and others were examined in a sample of 140 lactating mothers.

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