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A FOLLOW UP STUDY ON MATERNAL OUTCOME OF ALL REGISTERED PREGNANCIES IN THE FIELD PRACTICE AREA OF A TEACHING HOSPITAL OF JHARKHAND.

Community Medicine

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ABSTRACT

The study attempts to study the different maternal outcome of the all registered pregnancies in the field practice area of a teaching hospital of Jharkhand of a specified duration. This was a community based, longitudinal study and of descriptive type. The study was conducted in the rural field practice area of department of Preventive and Social Medicine, Rajendra Institute Of Medical Sciences, Ranchi ,Jharkhand. The study place included Anandi, Irba and Chakla subcentres and the study time was from May 2015 to August 2016. A total of 97 pregnant women was considered in this study who gave their consent to participate in the study during the specified period, so at the end of the study only 88 mothers could be studied for maternal outcome as some (9) of them left the area for delivery in their parents' or husband's place. The most common maternal outcome included obstructed labour, thrombophlebitis and perineal injury and there were no maternal deaths.

KEYWORDS

Maternal Outcome, Institutional delivery, Jharkhand, Registered Pregnancy

Developed countries have reported a significant decrease in the maternal mortality ratios (MMR) and IMR in the recent years. However, developing countries still suffer from a large number of maternal and foetal deaths, and very often, pregnancy could be a risky event in a woman's life in these countries[1,2] Poor antenatal, intra-natal and postnatal care worsen the outcome of pregnancy and lead to higher maternal and foetal complications. There are many national programs aimed at reducing the maternal and child morbidity and mortality. But despite the existence of these national programs for improving maternal and child health, maternal mortality and morbidity continue to be at higher side, at an unacceptable level. There are multiple reasons for this situation like early marriages, malnutrition, illiteracy, ignorance, lack of health services, and unavailability of transport facilities etc. Anemia in pregnancy accounts for one fifth of maternal deaths [3] and is a major factor responsible for low birth weight. India accounts more than 40% of the global burden of LBW babies with 7.5 million babies (or 30% of the country's total annual live birth) being born with a birth weight less than 2500 grams. [4] Other important reason for the same is non-acceptance or non-utilization/ underutilization of maternal health care services, especially amongst the tribal population.

Fifty per cent of the global maternal deaths occurred in the sub-Saharan Africa region alone, followed by South Asia, which contributed around 35 per cent; further, sub-Saharan Africa and South Asia together account for 86 per cent of global maternal deaths. [5-8]

Globally, approximately 80 per cent of maternal deaths and 98 per cent of stillbirths have been due to direct obstetric complications, primarily haemorrhage, sepsis, complications of abortion, preeclampsia and eclampsia, and prolonged/obstructed labour.[9-12] A substantial proportion of pregnant women in India have been at the risk of serious obstetric complications and most of them had been suffering from multiple complications.[13-16]

Jharkhand is a tribal predominant state. Low literacy, lack of awareness, early marriages, malnutrition, ignorance etc prevalent in this area lead to non-utilization/underutilization of maternal health care services. The antenatal services availed by pregnant women is not promising. According to DLHS-3 only 30.5% of pregnant women have three or more antenatal visits and only 9.1% of pregnant women have full antenatal check-up. Mothers who consumed 100 IFA tablets constituted only 56.3%.[17]These factors culminate into poor pregnancy outcome.

The maternal and foetal outcome of pregnancy presents poor pictures in India and it varies from region to region and may be dependent on different socio-demographic factors. MMR, IMR and LBW are major indicators for community health. [18] By assessing pregnancy outcome and establishing its association with different socio-demographic factors, we can pin point the factors leading to poor outcome of pregnancy. This may be helpful in strengthening different programmes run by the government under National Health Mission(NHM).The study attempts to study the different maternal outcome of the all registered pregnancies in the field practice area of a teaching hospital of Jharkhand of a specified duration.

Material and Methods

1. Design of study : – This was a community based, longitudinal study and of descriptive type.

2. Place of study : – The study was conducted in the rural field practice area of department of preventive and social medicine, Rajendra institute of medical sciences, Ranchi ,Jharkhand. The field practice area is in Ormanjhi, Block, having three sub-centres namely Anandi, Irba and Chakla. The total population of the three sub-centres is as follows according to Census 2011:
(1) Anandi:4091
(2) Irba: 7935
(3) Chakla: 6162.

The total population of the area was 18,881.

3. Duration of study: – The total duration of the study from its inception to completion was 29 months. It started in July 2015 and completed in November 2016. Data collection was started only after the approval of Institutional Ethics Committee (IEC), RIMS, Ranchi.

4. Study population – All registered pregnant women of the study area during the period of May 2015 to July 2016

5. Sample size – All pregnant women in the study area registered in the abovementioned sub-centers during first three months of data collection period was taken in the study. All the care was taken by the frontline workers to register each and every pregnant women.

6. Selection of the study subject ::-
Inclusion criteria-

- All registered pregnant women during first three months(1st May 2015- 31st July 2015) of data collection in the study area was included in the study.

Exclusion criteria-

- Pregnant women not willing to participate in the study were

excluded.

7. Sampling procedure- Consecutive Sampling(Complete enumeration).

8. Methodology:- During the initial phase of the study survey was done of the area to inquire about the the frontline workers and their functioning regarding Anti Natal Care (ANC). Effort were made to develop rapport with the health workers working in the field area. The identified sub-centres in the area were assessed by the investigator to collect baseline information. The frontline workers were explained about the study and were requested to co-operate and provide relevant information regarding this study. Sub-centre visit was done once a week to enquire about the registered pregnant women in the area. Thereafter home visits of the pregnant women were done to collect the baseline information about them. Then during her stay after delivery in the facility or home a visit was made to study the parturition related variables. A final third visit was made to these study subjects in their home to assess the final outcome of the pregnancy and complement the information obtained during first two visits. All the variables related to different visits were studied using the questionnaire.

9. Method of data collection – A pre-tested semi-structured questionnaire was used to collect data from each pregnant woman. Data on socio-demographic profile, nutrition, immunization, IFA Supplementation, health checks-up and general examination was taken prior to delivery. All pregnant women was followed till their delivery. Details about place of delivery and pregnancy outcome were filled in questionnaire after delivery.

10. Data management and analysis

Data was entered in Microsoft excel (Microsoft office 2013) with actual findings and their codes where required. The data was checked by the guide from time to time and more than 10% was verified in the field. Data was analyzed using Statistical Package for Social Sciences(SPSS) version 21 presented in form of tables, figures and narration. Chi – square statistics and odds ratio was used to test hypothesis. Significance level was $p< 0.05$ at 95% CI. Descriptive statistics such as means and frequencies were calculated for respective characteristics whereas statistical significance of association was determined by chi-square statistics.

Results

A total of 97 pregnant women was considered in this study who gave their consent to participate in the study during the specified period. But since it was a follow up study to assess the maternal outcome of these pregnancies, so at the end of the study only 88 mothers could be studied for maternal outcome as some (9) of them left the area for delivery in their parents' or husband's place.

Table 1: Sociodemographic characteristics of the study subjects

Socio- demographic Factors		Frequency (%)	Total (n=97)
Age group	15-25	64(66%)	97(100%)
	26-35	32(33%)	
	36-45	1(1%)	
	46-55	None	
	61-70	101(20.2%)	
Occupation	Daily wages Earner	18(18.6%)	97(100%)
	Housewife	79(81.4%)	
Educational Status	Class X to XII	9(9.3%)	97(100%)
	Class V to IX	57(58.8%)	
	Class upto IV	29(29.9%)	
	Literate but no formal education	2(2.1%)	
Religion	Hindu	56(57.3%)	97(100%)
	Muslim	41(42.3%)	
Marital status	Married	97(100%)	97(100%)
Type of Family	Nuclear	25(25.8%)	97(100%)
	Joint	72(74.2%)	
Socio-economic class	Class III	18(18.6%)	97(100%)
	Class IV	79(81.4%)	

Table 2: Distribution of different maternal outcomes(N=100)

S. no	Maternal outcomes	Present	Absent
1.	Obstructed Labour	51(58.0)	37(42.0)
2.	PPH	3(3.4)	85(96.6)
3.	Septicemia	3(3.4)	85(96.6)
4.	Thrombophlebitis	54(61.4)	34(38.6)`
5.	Perineal injury	45(51.1)	43(48.9)
6.	Maternal Deaths	0(0.0)	88(100)

Table 3 : Association of place of delivery with different maternal outcome (n=88)

		Obstructed labour In Present Pregnancy		P value
		Yes	NO	
Place of Present Delivery	Home	1(14.3)	6(85.7)	0.015
	Institutional	50(61.7)	31(38.3)	
PPH In Present Pregnancy				
Place of Present Delivery	Home	3(42.9)	4(57.1)	0.000
	Institutional	0(0.0)	81(100.0)	
Septicemia In Present Pregnancy				
Place of Present Delivery	Home	3(42.9)	4(57.1)	0.000
	Institutional	0)0.0)	81(100.0)	
Thrombopheblitis In Present Pregnancy				
Place of Present Delivery	Home	6(85.7)	1(14.3)	0.168
	Institutional	48(59.3)	33(40.7)	
Perineal Injury In Present Pregnancy				
Place of Present Delivery	Home	7(100.0)	0(0.0)	0.007
	Institutional	38(46.9)	43(53.1)	
	Institutional	1(1.2)	80(98.8)	

*Percentages are in Parentheses.

DISCUSSION

Antenatal care is more beneficial in preventing adverse pregnancy outcomes when it is sought early in the pregnancy and is continued through delivery. [1,19]

World Health Organization (WHO) recommend a minimum of four antenatal care visits during pregnancy, the minimum needed to provide the most important services, which can include treatment of hypertension to prevent eclampsia, tetanus immunization, intermittent preventive treatment (IPT) for malaria and distribution of insecticide-treated nets (ITN), prevention of mother-to-child transmission (PMTCT) of HIV, micronutrient supplementation, and birth preparedness, including information about danger signs during pregnancy and childbirth. [20]

On ANC attendance, those who did not attend were more likely to develop poor pregnancy outcome. This could be attributed to lack of early detection and diagnosis of complications which could lead to poor pregnancy outcome. Similar findings were obtained by a study on effect of antenatal care on newborn survival which found out that the rate of stillbirths is high among women who do not attend ANC. According to the literature reviewed, use of prenatal/antenatal and delivery care services have been recommended for the management of unfavorable birth outcomes such as perinatal deaths. [21,22]

The first appointment to ANC should be at 9 – 11 weeks gestation. Study findings showed that majority of the women booked for ANC services during the second trimester instead of the WHO recommended first trimester. From the study, those who began attending ANC during the second trimester had significantly poor pregnancy outcome. Late entry to ANC or non-adherence to providers' recommendations regarding the schedules of visits among women, limits provision of disease prevention components such as TT immunization which depends on early entry to ANC. [23-24]

Decision making made by the spouses of the respondents was associated with poor pregnancy outcomes. This could be attributed to delays owing to lack of birth preparedness in terms of decision-making. A birth-preparedness package promotes active preparation and assists in decision-making for healthcare seeking in case of complications. [25].

Men can influence health care utilization during pregnancy and

thereby the outcome of an obstetric emergency by contributing to development of the birth plan.[26]

From the study, it is evident that in situations where women are empowered, poor pregnancy outcomes can be prevented.Those who attended public institutions for ANC care were more at risk of acquiring poor outcomes. This could be attributed to lack of equipment which may be evidenced in public health facilities coupled with poor staffing as evidenced from the health facilities of study. These results are consistent with findings of other developing countries which states that resources for health are scarce.[27]

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