



ASSOCIATION OF YOUNG MATERNAL AGE WITH ADVERSE REPRODUCTIVE OUTCOMES

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Introduction:

Maternal healthcare remains a major challenge to the global public health system, especially in developing countries. In India, considerable attention has been paid to estimates of maternal mortality, but mere has been reserved to the issue of adolescents pregnancies requires paramount attention.

Studies have highlighted the relationships between early childbearing and adverse health outcomes potentially causing death among women in the 15–19 age groups .Acknowledging the importance of the issue, the United Nations focused on improving maternal health in the Millennium Development Goals to reduce Maternal Mortality Ratio (MMR) by 75% percent during 1990–2015 Additionally, adolescent pregnancies have been consistently associated with increased risk of adverse health outcomes, low birth weight, premature deliveries, high neonatal and post neonatal as well as infant morbidity and mortality.

Generally, marriage at a very young age is the major reason for early pregnancy in India. Studies have found that adolescents often lack experience, tend to be psychologically as well as emotionally less mature, all of which lead to poor maternal health outcome. Some other factors such as education, economic status, healthcare programs and high cost of healthcare services have an impact on maternal healthcare utilization. A number of studies have discussed both accessibility and availability as determinants of health service utilization.

The perspective of maternal healthcare for adolescent mothers is crucial because early sexual activity and childbearing accelerates the risk of maternal as well as child morbidity or/and mortality. These phenomena are applicable for both developed countries like the United States and developing countries like India, Malaysia, Vietnam, Egypt, and South Sudan. Recent statistics reveal that about 30%–70% of young women (aged 20–24 years) in India, Bangladesh and Nepal is married before reaching the age of 18 years. A study highlighted the difference between older mothers and adolescent mothers who have high maternal and child mortality because the latter are not exposed to education due to early age at marriage, have lower contraceptive use, and more unplanned and unwanted pregnancies. Adolescent childbearing has an adverse impact on three dimensions of the health of adolescent mothers as well as their infants at the individual, economic and at societal levels.



Adolescent mothers are more likely to have severe delivery complications resulting in high morbidity as well as mortality. There is a serious dearth of empirical research in India on the utilization of maternal healthcare services in rural settings by adolescents in the age group 15–19 years. Some studies have focused on the rural-urban differential in healthcare utilization and found that women in rural areas have lower levels of healthcare utilization than their urban counterparts. In 2005, the Government of India launched the National Rural Health Mission (NRHM) for the improvement of the health system performance and health status of people in rural areas. The NRHM was launched countrywide, with special focus on 18 states - Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Jammu and Kashmir, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Orissa, Rajasthan, Sikkim, Tripura, Uttaranchal and Uttar Pradesh – with either weak public health indicators or poor public health infrastructure. The main objective of NRHM was to reduce child and maternal mortality by providing universal access to equitable, affordable, accountable and effective primary healthcare services to women in rural areas. Additionally, *Janani Suraksha Yojana (JSY)*, a conditional cash transfer scheme was launched under the broad umbrella of the NRHM to promote institutional delivery among women in rural areas. It is expected that the promotion of institutional delivery will reduce maternal and neonatal mortality among pregnant women in rural areas with special attention to women having low socioeconomic status.

This paper attempts to assess the factors associated with selected maternal healthcare indicators with reference to adolescent mothers in the age group 15–19 years living in rural India. Three key indicators in healthcare are measured: adolescent women receiving full antenatal care, those who had safe delivery and adolescent women who received postnatal care within 42 days of delivery. It is hoped that the findings will help ongoing program and policy efforts to identify the key factors in the provision and utilization of maternal healthcare for rural adolescent women.

Overview of Study Area :

Data has been collected from 351 villages of Suri 1, Md Bazar, Sainthia and Rajnagar blocks of Birbhum district of West Bengal. The area comes under a Demographic Surveillance Site named as DSS-Birbhum which is initiated and maintained by the Directorate of Medical Education, Dept. of Health, Govt. of West Bengal. The area is located between latitudes 23° 32' & 24° 35' N & 87° 5' & 88° 1' E longitude. It occupies a total area of 4545 sq km. with an estimated population of 3502387. Geographically this area lies at the north eastern end of Chhotonagpur plateau, as it slopes down and merges with the alluvial plains of the Ganges. The climate of the district is generally dry, mild and healthy. During summer, the temperature rises up to 40-42° c and in the winter, it drops to around 10° c. Rainfall is higher in the western areas (e.g. 1405 mm in Rajnagar) as compared to the eastern region (e.g. 1212 mm average in Sainthia -Nanoor) in the district is well drained a number of rivers and rivulets almost all of which originate higher up the



Chhotonagpur plateau and flow across Birbhum in west east direction. The cyclical rotation of drought and floods of the river destroy lives and property & adds to the difficulties of life in the district. Bengali culture dominates the area.

Reasons Behind the selection of four blocks:

In this research study, 4 blocks have been taken in terms of caste, belief, religion, income and amenities available.

Suri 1: Semi urban area, higher income and educated people dominate.

Rajnagar: Tribal dominated poor education and income facilities.

Md Bazar: Muslim dominated, prone to health hazards predominantly due to stone crusher belt.

Sainthia: Agriculturally developed community.

Survey Method: Respondents were selected based on cross sectional method. We have taken 4 blocks in 351 villages and divided them in 40 clusters.

Objectives:

- To assess the magnitude of the problem of teenage pregnancy and its complications.
- To know about the reproductive health status in the targeted area;
- To know what is the status of age of marriage for girls (ref. not earlier than 18 and preferable after 20 years of age);
- To know what exactly the situation of institutional delivery in the targeted area with special reference related health care and facilities available.

Methodology:

- The antenatal & post natal tracking survey was started on October 2012 and completed on December 2014. In Antenatal Care & Postnatal tracking related questionnaires only currently married women age 15-25 years were interviewed I have taken 4084 rural pregnant mothers and analysis and tried to find out total ANC & PNC status.
- The questionnaire is prepared in local language. The household questionnaire collected information on respondent's knowledge (seen/read/heard) about messages related to various government health programmes being spread through media and other sources.
- Brainstorming session and focus group discussion among technical persons for the preparation and finalization of questionnaire of different phases. Pre-test on questionnaire & guideline preparation before final data collection.
- Access (data entry) & STATA (analysis) software were used for data interpretation.



Results

Table-1: Antenatal and postnatal tracking status of SHDS HHs

ANC Status	SHDS selected Household	
	n	%
<u>Gravida(Order of Pregnancy)</u>		
1	2130	52.15
2	1571	38.47
3	331	8.10
4	52	1.27
Total	4084	100
<u>Investigation/facilities availed</u>		
Blood Group	1880	46.03
Hemoglobin	3805	93.17
Urine Sugar	3154	77.23
Urine protein	3051	74.72
Blood Pressure	4027	98.6
Weight	4035	98.80
<u>Age wise pregnancy distribution</u>		
<19 Years	922	22.58
19 Years to 22 Years	2181	53.40
23 Years Years to 25 Years	981	24.02
Total	4084	100
<u>Number of ANC's done</u>		
One time	3387	82.93
Two time	650	15.92
At least 3 times	46	1.13
Not available	1	0.02
Total	4084	100

Table-2

PNC Status	SHDS selected Household	
	n	%
Outcome of Baby		
Live birth	3135	76.76
LBW	691	16.92
Abortion	176	4.31
Still Birth	72	1.76
Not available	10	0.24
Total	4084	100



PNC Status	SHDS selected Household	
	n	%
Outcome of Mother		
Healthy	3877	94.93
Eclampsia/Pre eclampsia	8	0.20
Complicated	185	4.53
Death	5	0.12
Not available	9	0.22
Total	4084	100
Time of Antenatal registration		
<u>Registration (Week)</u>		
Within 12 weeks	3408	83.45
13 to 24 weeks	658	16.11
After 24 weeks	15	0.37
Not registered	3	0.07
Total	4084	100
Immunization status of pregnant mothers		
Immunization not done	25	0.61
Immunization once	1239	30.34
Immunization twice and above	2808	68.76
Information incomplete	12	0.29
Total	4084	100
IFA Tablets taken or not		
Yes	3466	84.87
No	614	15.03
Information incomplete	4	0.1
Total	4084	100
Sex of Child(live birth)		
Male	1941	50.73
Female	1885	49.27
Total	3826	100
Place of Delivery		
Sub Center	9	0.22
PHC	82	2.01
BPHC	519	12.71
Sub. Div. Hospital	821	20.10
District Hospital	1117	27.35
Nursing Home	296	7.25
Home	852	20.86
On the way	24	0.59
Others	26	0.64



PNC Status	SHDS selected Household	
	n	%
State General Hospital	14	0.34
Rural Hospital	274	6.71
Chamber	12	0.29
Not available	38	0.93
Total	4084	100
Type of Delivery		
Normal	3326	86.93
Caesarean section	465	12.15
Forceps	35	0.91
Total	3826	100

Table-3

PNC Status	SHDS selected Household	
	n	%
Birth wt of babies		
Less than 2.5 kg (LBW)	712	18.61
2.5 kg and above	3114	81.39
Total	3826	100

Findings

- About 98% of the pregnant women had antenatal visits and 1.13% had made three or more ANC visits.
- It indicates that 20.86 per cent are taking place at home and 0.22 per cent are taking at sub center, 2.01 per cent at primary health center, 12.71 per cent at Block Primary Health Centre, 20.10 per cent at Sub divisional hospital, 27.35 per cent at District Hospital 7.25 per cent at Nursing Home, 6.71 per cent at Rural Hospital & 0.34 per cent at State General Hospital
- For most households (78%) of selected villages, the government medical sector is the main source of health care. Among households that do not use government health facilities, the main reasons given for not doing so are the lack of a nearby facility, the poor quality of care, and long waiting times.
- It should be noted that delivery figure at District Hospital is higher due to better referral service from the villages.
- Only 68.76 % pregnant mothers were immunized only twice, but rest of the pregnant mothers was immunized only once.
- IFA tab/syrup taken by pregnant mothers was 84.87 and rest of pregnant mothers was not taken IFA tab/ syrup.
- According to this survey, most of the pregnant mothers have measured weight, hemoglobin, and urine sugar & urine protein during the duration of pregnancy.



- Infants who weigh less than 2.5 kg at birth represent about 18.61 per cent of all live births in the targeted area. At birth weight is conditioned by the health and nutritional status of the mother, the percentage of infants born with a low birth weight closely reflects the health status of the communities in which they are born.
- The analysis indicates that antenatal care has a large effect on type of professional assistance at delivery. The effect on assistance at home is comparatively small, and the effect on institutional delivery is comparatively large, even after controlling for a large number of demographic, geographic, socioeconomic, and health-care-access variables. With other variables controlled, the effects of pregnancy complications and health-care-access variables on assistance at delivery are in the expected direction but small. By contrast, the effects of ANC on assistance at delivery are large. Overall, the analysis indicates that improvements in antenatal care coverage are an effective means for increasing professional assistance at delivery, and especially for increasing institutional delivery. Since 20.86 per cent deliveries in rural India still occur at home, most without any professional assistance, efforts to train birth attendants, increase the availability of trained midwives, and promote home visits by paramedics for antenatal care need further strengthening.
- Teenage pregnancy is around 22.58 % of the total female pregnancy. **Teenage pregnancy** is a pregnancy of a female under the age of 20 when the pregnancy ends. It generally refers to a female who is unmarried and usually refers to an unplanned pregnancy. A pregnancy can take place at any time after puberty, with menarche (first menstrual period) normally taking place around age 12 or 13 years, and being the stage at which a female becomes potentially fertile. Teenage pregnancy depends on a number of societal and personal factors

Negative Impacts:

- ❖ Under age marriage is legally prohibited and a cognizable offence.
- ❖ Early pregnancy is harmful for both the children and mothers.
- ❖ In a rural hospital teenage mothers between 15–19 years old were more likely to have anemia, preterm delivery, and low birth weight than mothers between 20–24 years old.
- ❖ Many of the health-issues associated with teenage mothers, many of whom do not have health insurance, appear to result from lack of access to high-quality medical care.
- ❖ The occurrence of developmental disabilities and behavioral issues is increased in children born to teen mother.



Conclusion:

Most of the mothers in the developing countries do not receive antenatal care. Under-utilization of health services during pregnancy and delivery, in these countries, is a concern among health-care professionals and researchers. Studies from developing countries relate income, freedom of decision-making and perception about the need for antenatal care, as important determinants of utilization of antenatal care. Health care facilities in rural area of Birbhum, West Bengal are not available uniformly and the maternal care is limited. Lack of infrastructure is considered as the most important obstacle to utilization of health services for rural population. Although, the factors deterring the utilization of health services are associated with the characteristics of the services, but often it is also linked to the characteristics of the users and circumstances and these vary from place to place.

These may relate to the socio-demographic, economic and environmental characteristics of the individuals. Despite the fact that SHDS area has a high maternal and perinatal mortality rate, there is a dearth of specific research that is unable to explain the under-utilization of antenatal care by the rural women. The findings of this study could help develop strategies for utilization of antenatal care facilities of the area under study besides assisting managers and policy makers to design appropriate strategies for other similar rural areas.

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