

# Intra-natal Care Practices in Rural Areas of Gaya District, Bihar

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## Abstract

**Context:** Antenatal care (ANC) effectively reduces infant and maternal mortality rates mainly by promoting institutional deliveries. In view of this, the Government of India introduced Janani Suraksha Yojna (JSY) in 2005 and Janani Shishu Suraksha Karyakram (JSSK) in 2011.

**Aims:** To estimate the proportion of home and institutional deliveries in the district, assess the impact of JSK and JSSY on institutional deliveries, and identify the different intranatal care providers.

**Settings and Design:** This cross-sectional study was conducted in the Gaya district, Bihar. A total of 657 females of the reproductive age group (15–49 years) were included in the study.

**Methods and Material:** Predesigned, pre-tested & semi-structured questionnaire was used to collect information on place of delivery, type of delivery, knowledge regarding JSY and JSSK schemes and source of information.

**Statistical analysis used:** Data was entered into excel sheets and analyzed using SPSS version 23 utilizing appropriate statistical methods.

**Results:** Out of 519 deliveries, 63% were institutional and 37% were home deliveries. About 91 and 11.4% of respondents were aware of JSY and JSSK schemes. There was a significant association between those who opted for institutional delivery and awareness regarding JSY and JSSK services.

**Conclusion:** Despite awareness and running of various government programs, the percentage of institutional deliveries is still less. An increase in institutional deliveries at primary care level through JSY and JSSK will not only decrease the out of pocket expenditure of the population but also help build faith in the government health facilities.

**Keywords:** Institutional delivery, Janani suraksha yojna, Janani shishu suraksha karyakram.

## INTRODUCTION

India has evolved progressively in the health sector over the last two decades, which was further accelerated under National Health Mission (NHM). True to its vision, NHM enhanced people's availability of and access to quality health care, especially for those residing in rural areas, the poor, women and children.<sup>[1]</sup> Maternal and child health promotion has been one of the most important components of the family welfare programme of the Government of India.

As maternal and child mortality is very high in India so safe motherhood Initiatives, a worldwide effort was launched by the World Health Organization in 1987 which aimed to reduce the number of deaths associated with pregnancy and childbirth.<sup>[2]</sup> Globally, about 800 women die every day of

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preventable causes related to pregnancy and childbirth, 20% of these women are from India where around 55,000 mothers die annually.<sup>[3]</sup> Every year in India there are about 1.34 million deaths of children aged under five; 1.05 million infant deaths; and 0.748 million newborn deaths.<sup>[4]</sup> As per the annual health survey<sup>[5]</sup> of Bihar 2010-2011, major health indicators, like infant mortality rate (IMR-48), maternal mortality ratio (MMR-274), and total fertility rate (TFR-3.7), are much higher than the all India average, reflecting a poor health status in the state. NFHS-4 data of Bihar showed IMR-48, TFR-3.4<sup>[6]</sup>

Maternal and neonatal morbidity and mortality can be attributed to avoidable causes such as post-partum hemorrhage, eclampsia, infections, prolonged absence of institutional deliveries, and skilled manpower attending to the pregnant women. Apart from deaths, 50 million women suffer from maternal morbidity due to acute complications from pregnancy, which could be reduced by encouraging women to deliver with the assistance of skilled birth attendants or in a healthcare institution,<sup>[7]</sup> providing essential newborn care and appropriate and immediate referral services when required. To improve this situation JSY (Janani Suraksha Yojana, 2005) and JSSK (Janani Shishu Suraksha Karyakram, 2011) schemes were launched by Government of India.

As there are wide regional variations in intranatal care practices, it is highly relevant to study the area-specific data regarding some of the key intranatal care practices at the community and facility level. The present study was conducted in Gaya, District of the state of Bihar, aiming to estimate the proportion of home and institutional deliveries in the district, identify the different intranatal care providers, and assess the implementation status of the JSY and JSSK schemes on institutional deliveries.

## SUBJECT AND METHODS

This cross-sectional study was conducted in Gaya district, Bihar. Study was carried out for a period of 6 months from January to June 2015. Study participants were women in the reproductive (15–49) age group. Sample size was calculated at the sub-center level using the formula-  $4PQ/L^2$ , where (P is the prevalence and Q is (1-P)). A design effect of 1.5 was assumed to adjust for clustering. Taking the prevalence of awareness of JSY as 52%,<sup>[8]</sup> absolute precision of 5%, the sample size came out to be 599 and adding a non-response rate of 10% the final sample size came out to be 659 however, in the present study 657 women of reproductive age group (those who were currently pregnant and delivered the child last year) were covered. Out of which 138 were currently pregnant and 519 were delivered a child last year.

### Inclusion criteria

- All females (pregnant and non-pregnant) belonging to age group 15–49 years.
- All those who gave consent to participate in study.
- All those who were present at the time of study.

### Exclusion criteria

- All those who did not give consent to participate in study or showed hostile behaviour.
- All those who were not present at the time of study.

### Sampling Technique

Gaya district is divided into 24 blocks. The total population of Gaya district is 4,391,418 of which 52% are males and 48% are females (2011 CENSUS).<sup>[9]</sup> The study was conducted in 24 blocks at the community level as well as the facility level. Random sampling method was used to select the subcenters from 24 blocks. The list of subcenters from district administration, Gaya was used for random selection of two subcenters at each block level. At the subcenter level, two villages were selected for the survey based on the distance from the subcenters; one nearest to the subcenter and other farthest from the subcenter. This was done in lieu of the demand to assess the health services distribution and utilization by the beneficiaries at the nearest and farthest villages. The selection of beneficiaries was done on the criteria that first household was selected randomly from the village and consecutive selection done till sample size is achieved in each category.

### Study Method

A pre-designed, pre-tested, semi-structured questionnaire was used to collect data on place of delivery, type of delivery, knowledge regarding JSY and JSSK schemes and source of information. Data was collected in the 24 blocks by five MPH scholars from PGIMER, Chandigarh during their internship period in Gaya. The approximate time covered for data collection in one block was around two to three days.

### Study Tool

The study tools used for data collection comprised of questionnaires which were designed by selecting items from previously conducted surveys namely NFHS-III,<sup>[10]</sup> DLHS-III,<sup>[11]</sup> NSSO<sup>[12]</sup> 60th round, CES<sup>[13]</sup> and AHS.<sup>[5]</sup>

### Data Analysis

Data was entered into excel sheet and analyzed using SPSS version 23. For continuous variable mean and SD was calculated, t-test was applied to compare mean, and chi-square test was applied to test proportions. *p-value* < 0.05 was considered significant.

### Ethical Clearance

The ethical approval for conducting this study was obtained from the institutional (PGIMER Chandigarh) ethical clearance committee.

## RESULTS

A total of 657 women in reproductive age (15–49) years were studied. Out of which 138(21%) were currently pregnant and 519(79%) delivered a child last year. Out of 519 deliveries, 327 (63%) were institutional and 192 (37%) were home deliveries.

Out of total institutional deliveries, 241(73.7%) deliveries took place at government health facilities and 86(26.3%) deliveries in private hospitals as shown in Table 1.

The considerable increase in opting for institutional deliveries is attributed to higher awareness among the beneficiaries and their families about government schemes likes JSY and JSSK. About 91 and 11.4% of respondents were aware of JSY and JSSK scheme, respectively and ASHA played a pivotal role in generating awareness among them. 82.6% of beneficiaries received financial assistance under JSY scheme. Around 93% of beneficiaries stayed in the health facility for less than 48 hours after delivery. Only 37.9% of beneficiaries could avail the free transport service to reach the health facility and about 41.7% of beneficiaries availed free transport back to home from health facility, indicating poor health-seeking behavior of the community and implementation issues from the health facilities. There was a significant association between those who opted for institutional delivery and their awareness regarding JSY ( $P$  value=0.00) and JSSK services ( $p$ -value=0.00).

Out of total 192 home deliveries, only 5(2.6%) were conducted by skilled birth attendants. As shown in Figure 1 cesarean sections were conducted majorly in the private facility 38 (44%) due to lack of comprehensive emergency obstetric services and lack of blood transfusion in the govt. set up.

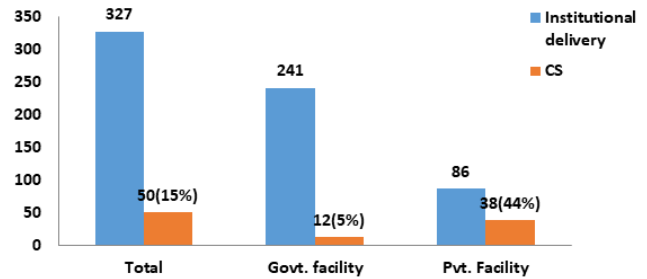
## DISCUSSIONS

Reproductive and child health has been the focus of health system improvements since the launch of the NRHM in 2005. The package of interventions and implementation of cross-cutting services through life cycle approach under RMNCH+A umbrella have cut down the mortality and morbidity among women and child. Still, coverage of priority interventions remains insufficient due to inequities and social exclusion, and the quality of existing programs remains suboptimal. So, focus should be on all stages of life cycle approach but more on intra natal care or care at birth because majority of deaths were occurred during delivery and one hour after delivery.

In the current study, total number of women who delivered in the last one year was 519. In the present study no of institutional deliveries was 63% which is higher than the deliveries conducted in Bihar according to the AHS data (49.9%),<sup>[5]</sup> in Gaya, according to the AHS data (48.5%),<sup>[5]</sup> But lower than the HMIS data of Gaya (66.4%).<sup>[14]</sup> The institutional delivery has increased considerably compared to AHS Gaya and Bihar data. Though HMIS data shows 63.1% deliveries

**Table 1:** Deliveries Conducted in Home, Government and Private Institutions (N=519)

Place of delivery	Number (N)	Percentage (%)
Government institutions	241	46
Private institutions	86	17
Home	192	37



**Figure 1:** Caesarian-sections in institutional deliveries (N=327)

in government institutions, such disparity is reported as only institutional deliveries in government set up are considered among registered women compared to AHS and our study. The latter surveys consider registered non- registered women who delivered a child in the last year. The considerable increase in opting for institutional deliveries is attributed to higher awareness among the beneficiaries and their families about Government schemes likes JSY and JSSK. Further, this was supported by a significant relationship between those who opting for institutional delivery and their awareness regarding JSY ( $p$ -value=0.00) and JSSK services like free ambulance services ( $p$ -value=0.00). Similar relationship shown by study conducted by khyati M Kakkad<sup>[15]</sup> that after JSSK scheme institutional deliveries increased by 20.32% and registered deliveries by 20.77%.

In the present study as shown in Table 2 caesarean sections were conducted majorly in the private facility as seen in Figure 1 due to lack of comprehensive emergency obstetric services and lack of blood transfusion in the govt. set up. The same finding is shown in national family health survey report of West Bengal and Andhra Pradesh that one

**Table 2:** Comparative results of different data sources

Indicators	Bihar AHS (5) (%)	Gaya AHS (5) (%)	HMIS Gaya 2014-15 (8) (%)	Present study (%)
Place of delivery				
Institutional deliveries	49.9	48.5	66.4	63
Deliveries in government hospitals	36.8	28.5	63.1	46.4
Deliveries in private hospitals	12.9	20.0	-	16.8
Home deliveries	49.1	46.5	33.6	37
Home deliveries conducted by SBA	24.2	35.4	11.3	2.6
JSY				
Percentage of women received financial assistance under JSY	89.9	93	96	82.6

in every two mothers experiences CS in a private healthcare institution.<sup>[16]</sup> As cesarean delivery remains profitable for both the doctor and the institution, so may be because of this reason CS is always higher in private medical centers but in our study, there is no information regarding this, so this was the limitation of our study.

As shown in the present study in Table 2, home deliveries are decreasing over time, indicating the preference for institutional deliveries. However, home deliveries conducted by skilled birth attendants are very less. The disparity between the AHS and the current study regarding home deliveries by skilled health personnel is owing to different methodologies.<sup>[5,10]</sup> The current study and HMIS has considered only those who are SBA trained but AHS has considered skilled health personnel like non-SBA trained ANM.

Under the umbrella of NHM, various schemes for reinforcing the option of institutional deliveries like JSY (Janani Suraksha Yojana) and JSSK (Janani Shishu Suraksha Karyakram) were launched. As seen in Table 2, a decline in availing financial assistance under JSY was given to only 82.6% of mothers and 91% were aware about the scheme. Similarly, a study conducted by Begum *et al.*<sup>[17]</sup> in Assam and Reddy *et al.*<sup>[18]</sup> in Karnataka showed that 29.2 and 78.3% of women were aware of JSY scheme. This could be due to impending formalities like account opening; paperwork was under process, especially in cases where the delivery took place a month back. Further, a few blocks, the beneficiaries stated a deficit of funds as one of the reasons.

In the current study about 11.4% of respondents were aware about JSSK scheme and ASHA played a pivotal role in creating awareness among the masses. A study conducted by Suman *et al.* in west Bengal showed that 68.7% of mothers were aware of the JSSK scheme.<sup>[19]</sup> Also, a study conducted by Rupani *et al.* in Gujarat showed that 24% of mothers were aware of JSSK.<sup>[20]</sup> Around 93% of beneficiaries stayed for less than 48 hours, indicating poor health-seeking behavior of the community and implementation issues from the health facilities. Further, discharge within 48 hours could be attributed to demand and supply issues. Demand side issues like low acceptance rate for staying in hospital for more than few hours after birth of the child, social norms and supply side issues like deteriorated quality services, shortage of beds, and infrastructure is responsible for such estimates.

Free ambulance services are one of the interventions under JSSK scheme. However, only 37.9% of beneficiaries could avail this service to reach the facility and 41.7% of beneficiaries back to home using this facility. Study conducted by Chandrakar *et al.*<sup>[21]</sup> showed that maximum awareness (89.20%) regarding entitlements among mothers was seen for free transport services from home to health institutions, followed by the drop back transport facility from hospital to home (85.22%). The increase in use of ambulances while going back could be attributed to first exposure about such services

in few cases from hospital staff. There is a need to strengthen this service as barely 11% were aware of such services, as observed in current study. Creating awareness is essential as it can curb the delay seen in the second step in three delay model and save any complications/delay/mortality. ASHA, the link worker, reiterated the responsibility of creating awareness and was crucial in the same as compared to folks, medical fraternity and electronic media.

However, cross-cutting interventions' utilization remains insufficient due to demand and supply side issues. Various factors like ignorance, inequity, social practices, and socioeconomic determinants fail to bridge the gap between utilization and accessibility of the former side whereas in the latter side, issues like suboptimal quality of existing programs, programmatic errors (e.g. financial delays in JSY), infrastructure shortage (lack of space/beds for JSSK implementation). There is need of upscaling of these services to meet the demand and supply side issues.

## CONCLUSION AND RECOMMENDATIONS

The present study showed that despite generating awareness and running various programs by the government to promote institutional deliveries, the percentage of such deliveries is still less. This lacuna is mainly in JSSK program. An increase in institutional deliveries at the primary care level through JSY and JSSK will not only decrease the Out of Pocket expenditure of the population but also help build faith in the government health facilities. Training and retraining of untrained and trained attendants is urgently needed to do away with the present poor intranatal care practices. IEC for high-quality childbearing practices must be imparted to health providers, mothers and the public.

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## CONFLICTS OF INTEREST

There are no conflicts of interest.

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