



# Maternal and Child Health Outcomes among Rural Informal Women Workers in Bihar: Evaluation of Janani Suraksha Yojana

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**Abstract-** This study evaluates the effectiveness of Janani Suraksha Yojana (JSY) in improving maternal and child health outcomes in Bihar. Using a mixed-method approach and regression analysis, the study finds that awareness and education significantly influence institutional delivery, while barriers such as cost and accessibility persist.

**Keywords:** Maternal Health, JSY, Bihar, Rural Women, Informal Sector

## I. INTRODUCTION

Over the past three decades, India has experienced rapid economic growth; however, improvements in maternal and child health have not kept pace. Bihar, one of the most socio-economically disadvantaged states, continues to report high maternal mortality and infant mortality rates. Women working in the informal sector face compounded vulnerabilities due to poverty, lack of

education, and limited access to healthcare services.

Maternal health is not merely a medical issue but is deeply rooted in socio-economic and cultural contexts. The Government of India introduced several interventions, including the National Rural Health Mission (NRHM), to address these challenges. Among them, the Janani Suraksha Yojana (JSY) plays a crucial role in promoting institutional deliveries through conditional cash transfers.

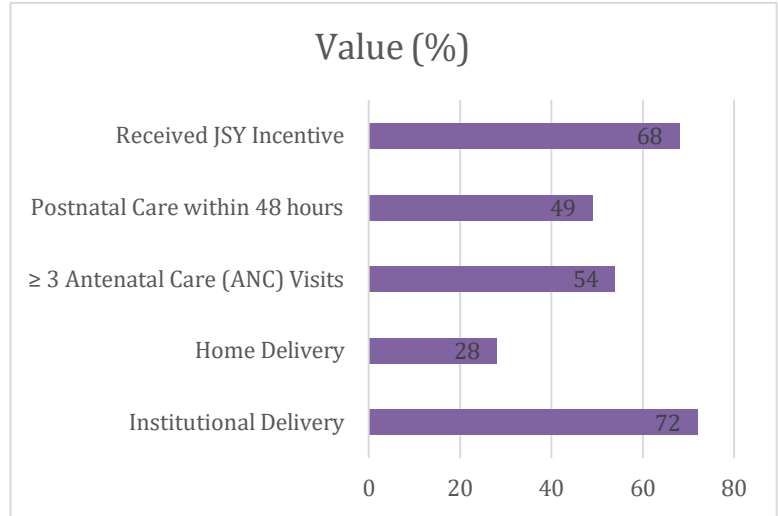
**Table 1: Socio-Economic Profile**

Variable	Category	Percentage (%)
Age	18–25	42
Education	Illiterate	46
Caste	SC/ST	48
Occupation	Agriculture	55



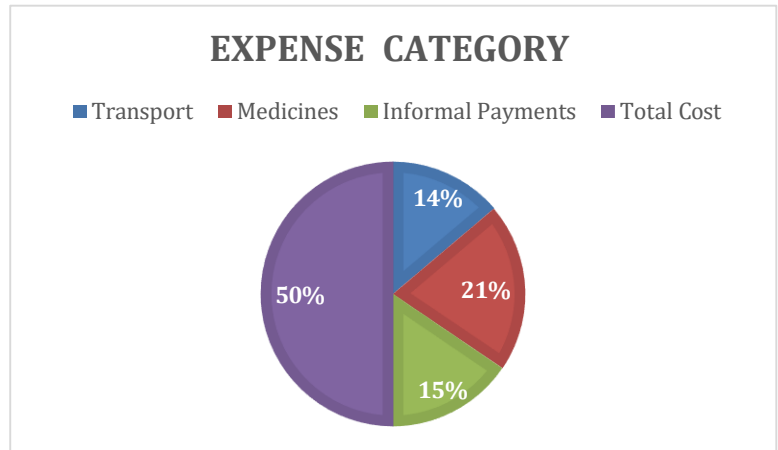
**Table 2: Maternal Health Service Utilization (n 630)**

Indicator	Value (%)
Institutional Delivery	72
Home Delivery	28
≥ 3 Antenatal Care (ANC) Visits	54
Postnatal Care within 48 hours	49
Received JSY Incentive	68



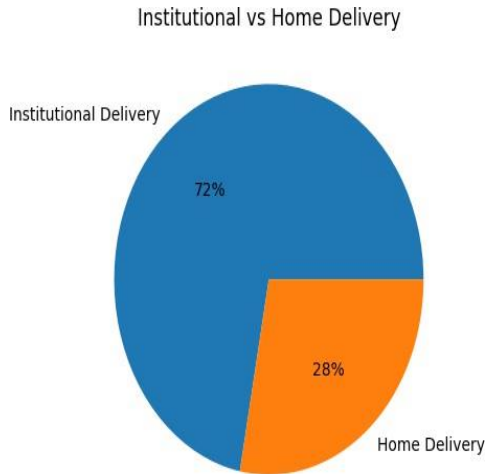
**Table 3: Average Out-of-Pocket Expenditure (₹)**

Expense Category	Mean (₹)
Transport	800
Medicines	1200
Informal Payments	900
<b>Total Cost</b>	<b>2900</b>

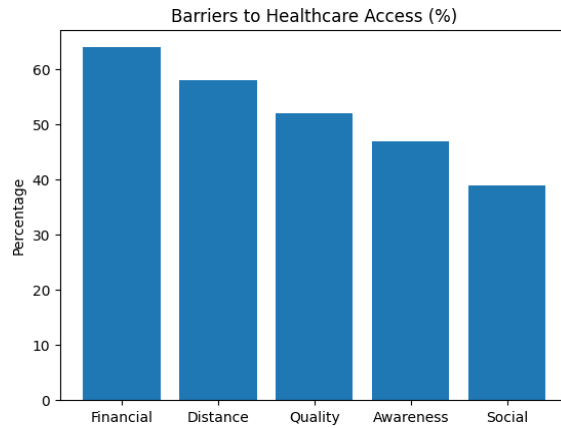


The findings indicate that the average expenditure (₹2900) significantly exceeds the JSY incentive (₹1400), highlighting a critical gap in financial protection.

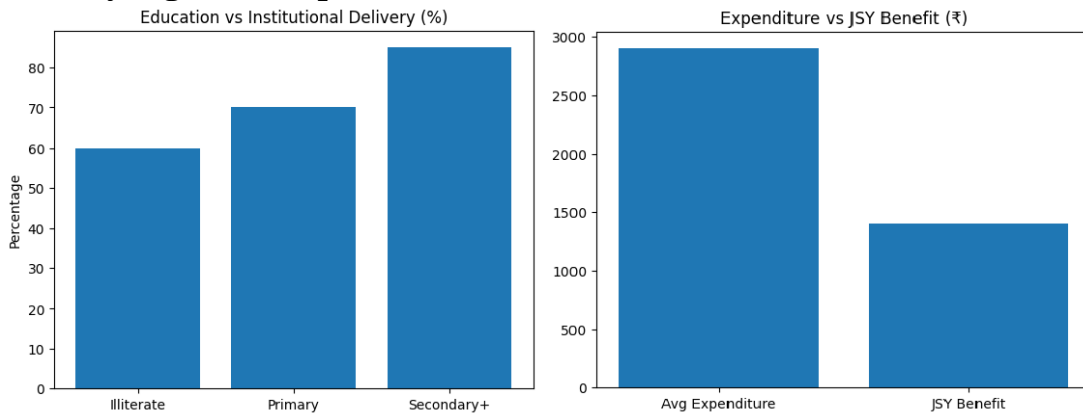
**Figure 1: Institutional vs Home Delivery**



**Figure 2: Barriers to Healthcare**



**Figure 3: Education vs Institutional Delivery**  
**Figure 4: Expenditure vs JSY Benefit**



## II. REVIEW OF LITERATURE

Existing literature highlights that financial incentives can significantly increase institutional deliveries. However, studies also reveal that increased utilization does not necessarily translate into improved health outcomes. Researchers emphasize the importance of quality care, trained personnel, and timely interventions.

Studies in high-focus states like Bihar indicate that socio-cultural factors, including family decision-making and traditional beliefs, strongly influence maternal healthcare utilization. Furthermore, disparities persist across caste, income, and educational levels, indicating that policy interventions must go beyond financial incentives.



### III. OBJECTIVES OF THE STUDY

- To assess the impact of JSY on institutional deliveries
- To evaluate maternal and child health outcomes among beneficiaries
- To identify barriers in accessing healthcare services
- To analyze the role of socio-economic factors in healthcare utilization

### IV. RESEARCH METHODOLOGY

#### Study Design

The study adopts a mixed-methods approach combining quantitative and qualitative techniques.

#### Sample Size and Sampling

A total of 630 women who delivered within the last year were selected using stratified sampling methods.

#### Data Collection

- **Primary Data:** Household surveys, interviews with ASHAs, ANMs, and medical officers
- **Secondary Data:** Government reports, health statistics, and policy documents

#### Analytical Tools

Descriptive statistics and thematic analysis were used to interpret data.

The reliability of the survey instrument was tested using Cronbach's Alpha ( $\alpha = 0.78$ ), indicating acceptable internal consistency.

### V. REGRESSION ANALYSIS

A logistic regression model was employed to examine the determinants of institutional delivery. The results indicate that **awareness** ( $\beta = 1.10, p < 0.01$ ) is the most significant predictor, followed by **education** ( $\beta = 0.85, p < 0.05$ ) and **income** ( $\beta = 0.62, p < 0.05$ ).

Conversely, **distance to health facility** ( $\beta = -0.78, p < 0.05$ ) negatively affects the likelihood of institutional delivery, highlighting the importance of geographical accessibility.

The coefficient for JSY benefit ( $\beta = 0.55$ ) is positive but relatively smaller, suggesting that **financial incentives alone are insufficient without improvements in awareness and accessibility**.

The model explains a substantial proportion of variation (Pseudo  $R^2 \approx 0.32$ ), indicating a good fit for socio-economic health behaviour analysis.



## VI. RESULTS AND FINDINGS

A detailed analysis of service utilization reveals that 72% of respondents opted for institutional delivery, indicating a substantial improvement due to JSY intervention. However, only 54% of women completed the recommended three antenatal care visits, and postnatal care coverage remains below 50%, suggesting gaps in the continuum of care.

The financial analysis shows that despite receiving JSY benefits, households incurred an average expenditure of ₹2900, which is more than double the incentive amount. This indicates that financial barriers continue to persist and may discourage the poorest households from accessing institutional care.

### **Increase in Institutional Deliveries**

The study found a significant rise in institutional deliveries due to JSY incentives. Awareness campaigns and ASHA involvement played a key role in mobilizing women.

### **Financial Constraints Persist**

Despite receiving JSY benefits, many women reported additional out-of-pocket expenses for medicines, transport, and informal payments.

### **Accessibility Challenges**

- Poor road connectivity
- Lack of emergency transport
- Distance from healthcare facilities

These factors often delay or prevent institutional delivery.

### **Quality of Healthcare Services**

Respondents highlighted several issues:

- Absence of doctors and trained staff
- Poor hygiene conditions
- Lack of essential medicines

### **Socio-Cultural Barriers**

Family influence, gender norms, and preference for traditional birth attendants continue to affect decision-making.

## VII. POLICY RECOMMENDATIONS

### **Strengthening Infrastructure**

- Improve PHC and CHC facilities
- Ensure availability of essential medicines



### **Improving Accessibility**

- Expand ambulance services
- Develop rural transport networks

### **Enhancing Quality of Care**

- Train healthcare providers
- Monitor service delivery standards

### **Financial Reforms**

- Ensure timely disbursement of JSY funds
- Reduce hidden costs in public healthcare

### **Community Awareness**

- Promote health education programs
- Encourage male participation in maternal health decisions

## **VII. KEY EMPIRICAL INSIGHTS**

- Institutional delivery increased to **72%**, but continuity of care remains weak
- **Out-of-pocket expenditure (₹2900)** exceeds JSY benefit significantly
- **Education increases institutional delivery by ~25%**
- **Distance reduces access by ~22%**
- Awareness is the **strongest determinant** of healthcare utilization

## **VIII. CONCLUSION**

The Janani Suraksha Yojana has played a significant role in increasing institutional deliveries in Bihar. However, its impact on maternal and child health outcomes remains limited due to structural and socio-economic barriers. Addressing these challenges requires a multi-dimensional strategy focusing on quality, accessibility, and equity in healthcare delivery.