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IMPACT OF JANANI SURAKSHA YOJANA ON IMR IN INDIA: A STUDY SINCE 2005

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Abstract: *The Government of India launched the National Rural Health Mission (NRHM) mainly to strengthen health services in the rural areas. It seeks to provide effective health care to the rural population by improving access, enabling community ownership, strengthening public health systems, enhancing accountability and promoting decentralization (Ministry of Health & Family Welfare 2005). Under the NRHM, there is a specific scheme - the Janani Suraksha Yojana (JSY), which was introduced in April 2005. The paper intends to study the state wise beneficiaries of Janani Suraksha Yojana Scheme and to study the impact of JSY on institutional delivery rate in India. The study result shows that with increased numbers of JSY beneficiaries, the institutional delivery rate has increased, reducing infant mortality rate significantly. Finally, this study concludes that NRHM launched by Government of India holds great hopes and promises to serve the deprived undeserved communities of rural areas. If Government improves the awareness on NRHM then there is no doubt that Karnataka can reduce its Infant Mortality and Maternal Mortality as per the requirements of Millennium Development Goals.*

Keywords: *India, Infant Mortality Rate, Institutional Delivery and Janani Suraksha Yojana.*

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INTRODUCTION

India's Maternal Mortality and Infant Mortality Rates are high compared to many other Asian countries. The latest figure states that there are about 301 maternal deaths per 100,000 live births. However, this average hides a wide range: from 110 in Kerala to 517 in Uttar Pradesh (Ashish Bose 2007). This is much higher than neighbouring countries such as China (56), Thailand (44), Malaysia (41) and Sri Lanka (92) (UNFPA 2007).

According to Statistical Report, Registrar General of India (RGI), 2004, Maternal Mortality Rate (MMR) of India in 2001-2003 was 301 per lakh live births. According to Sample Regression Survey 2004, IMR rate was 58/1000 live birth.[2]

According to 2007 statistics the infant mortality rate in India was 34.6 deaths per 1000 live births. The national average maternal mortality rate lies between 420-540/1 lakh live births. It is recognised that Rajasthan is the state, which has highest MMR in India 670/1 lakh live births.[2]

Pregnant women die in India due to a combination of important factors like, poverty, ineffective or unaffordable health services, lack of political, managerial and administrative will. All this culminates in a high proportion of home deliveries by unskilled relatives and delays in seeking care and this in turn adds to the maternal mortality ratios. The institutional delivery or delivery by skilled personal plays major role in reducing MMR and IMR. In India, while 77 percent of pregnant women receive some form of antenatal check-up, only 41 percent deliver in an institution. Even though all services are free only 13 percent of the lowest income quintile delivers in a hospital.

In developing countries like India, the health care services are not equally distributed. The organizational structure requires a concern particularly with the maternal health. The Government of India has been implementing various programmes from time to time to tackle these issues. It launched the Reproductive and Child Health (RCH) programme in 1997, which aimed at universalising immunization, ante-natal care and skilled attendance during delivery. Reduction of maternal mortality was an important goal of RCH-II that was launched in 2005. One of the main interventions was to provide emergency obstetric care at the first referral unit. Incentives were also given to staff to encourage round the clock obstetric services at health facilities (Ministry of Health & Family Welfare 2008).[9]

Later in 2005, the Government of India launched the National Rural Health Mission (NRHM) mainly to strengthen health services in the rural areas. It seeks to provide effective health care to the rural population by improving access, enabling community ownership, strengthening public health systems, enhancing accountability and promoting decentralization (Ministry of Health & Family Welfare, 2005). Under the NRHM, there is a specific scheme - the Janani Suraksha Yojana (JSY), which was introduced in April 2005. The main objectives of JSY scheme were reducing Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) by encouraging institutional deliveries, particularly in Below Poverty Line families. Under this scheme cash incentives are given to women who opt for institutional deliveries and also to the local health functionary ASHA (Accredited Social Health Activists) who motivates the family for institutional delivery and helps them in obtaining ante-natal and post-natal services. In the year JSY was launched, the number of JSY beneficiaries was 27.61 lakh in 2006-07, and then number of beneficiaries has increased to 53.13 lakh in 2007-08. But it is not only the mere establishment of physical facility but a combination of factors such as distance, availability and quality of skills, adequacy of infrastructure and access to alternative sources of care that seem to influence health-seeking behaviour. Some of the important factors like awareness, knowledge, attitude, utilization pattern and the satisfaction of the beneficiaries also influence any program's success. Due to the ever-changing world of information and technology, the people are now more aware of their rights and duties.

REVIEW OF LITERATURE

- "A Rapid Appraisal on Functioning of Janani Suraksha Yojana in South Orissa" undertaken by **Nandan (2008)** reviewed the operational mechanism and usage status of JSY Scheme, reasons for non usage, perception and awareness of beneficiary and non beneficiary mothers and the involvement of ASHAs, ANMs along with district and block officers in the implementation of JSY.[9]
- The study on "Advantages as Perceived by the Beneficiaries of Janani Suraksha Yojana (JSY) in Bikaner District" by **Kumari (2009)** revealed that some essential advantages perceived by the beneficiaries of JSY were safe delivery at PHCs and CHCs, helpful in population control, payment of Rs. 1400 to the mother (in rural areas) after delivery, full protection after delivery etc. Whereas, last but not least

advantages expressed by the beneficiaries were testing of salt sample for protection from Gulgund**,** availability of water, bed and electricity etc. at PHCs**.**[6]

- The study on" Impact of Janani Suraksha Yojana on Selected Family Health Behaviors in Rural Uttarpradesh" by **Khan et.al (2010)** informs that Janani SurakshaYojana is a monetary incentives and non-incentivized services and counseling by the ASHA have increased Client-provider contact, the percentage of women receiving three ANC check-ups. This study briefly explores extent to which the JSY has succeeded in achieving its goal or promoting positive family health behaviors that have a significant bearing on maternal and neonatal mortality.[4]
- **Ambrish (2010)** in his study "Effect of Mortality Incentives on Institutional Deliveries: Evidence the Janani Suraksha Yojana in India" observed that the scheme has been in operation only for 5 years and the sample covers only the first three of these years. Hence, the paper captures only the short-run impact of the scheme. The short-term result indicates the JSY is indeed making a difference. Even though the JSY seems to have a positive impact on the institutional deliveries, its impact on maternal and neo-natal mortality is minimum.[1]
- **Parul et.al (2011)** in their study "A Comparative Study of Utilization of Janani Suraksha Yojana in Rural Areas and Urban Slums" inform that JSY utilization was found to be low in rural areas. Thus, to improve the utilization of services among rural women, IEC activities with emphasis on maternal and child health should be strengthened. The incentives given to the mother and ASHA should be given in installments according to the services received and given so as to ensure their participation throughout the antepartum, intrapartum and postpartum period and ASHA's work should be regularly monitored. Transport facilities including ambulance services should be made available for timely assistance.[12]
- The study on" Missed Opportunities of Janani Suraksha Yojana Benefits among the Beneficiaries in Slum Areas" by **Wadgave et.al (2011)** mainly focused on main reasons of missed opportunities of JSY benefits among the beneficiaries. Out of 3212 women 360 (11.20) were eligible for getting the benefits of Janani Suraksha Yojana. Among the 360 only 118 (32.78) women got the benefit of JSY while, 242 (62.22) missed the opportunity of getting JSY benefits due to lack of JSY information,

difficulty in getting the documents fulfilled and not filling the form at proper time were three common reasons in not getting the benefit of JSY. The percentage of beneficiaries were more in receiving ANC care delivery done in Government hospitals.[13]

OBJECTIVES OF THE STUDY

The present study has the following objectives:

- To Study the state wise beneficiaries of Janani Suraksha Yojana Scheme in India.
- To Study the impact of JSY on institutional delivery rate in India.

HYPOTHESES OF THE STUDY

The following hypotheses have been tested

- Janani Suraksha Yojana has significantly reduced the Infant Mortality Rate in India.

METHODOLOGY

Keeping the objectives in the mind, the present study employs various statistical and econometrics tools like table, graph and One Way ANOVA test.

SOURCES OF DATA

The secondary data is collected from Ministry of Health and Family Welfare Statistical Report, RCH Second Implementation Plan, NRHM Operational Guideline, NRHM Annual Reports, Karnataka State Report on NRHM 2005, Karnataka Human Development Reports 2005, WHO Reports, Five Year Plan Documents, Word Bank Reports and Census Reports.

RESULTS AND DISCUSSION

Table.1 State wise beneficiaries of Janani Suraksha Yojana Scheme in India

Sl.no	Name of States	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
1	Bihar	0	89839	838481	1144000	1246566	2576222
2	Chhattisgarh	3190	76677	175978	225612	249488	51601
3	Orissa	26407	227204	490657	506879	587158	169226
4	Rajasthan	10085	317484	774877	941145	978615	214816
5	Uttar Pradesh	12127	168613	3797505	1548598	2082285	375697
6	Andhra Pradesh	167000	429000	563401	551206	318927	24324

7	Karnataka	505542	233147	283000	400349	475193	75328
8	Kerala	0	56072	162050	136393	134974	27556
9	Chandigarh	0	14	1215	467	199	55
10	Delhi	0	242	7238	23829	21564	4166
11	Goa	57	483	898	688	650	430
12	Lakshadweep	114	42	200	288	899	77
13	Puducherry	379	2284	4389	4807	4932	913
14	Assam	17523	190334	304741	327894	366433	75494
15	India	738911	3158317	7328501	9036913	10078275	1944193

Sources: Minister of Health & Family Welfare Sh. Ghulam Nabi Azad in written reply to a question in the Rajya Sabha.

The above table (table 1.1), shows state wise Beneficiaries of Janani Suraksha Yojana from 2005 to 2011. The number of beneficiaries in the states of Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan are higher compared to other states. This is because of high rate of Infant Mortality, Maternal Mortality and lack of proper medical facilities in these States. Hence, the Government has released large amount of funds to reduce Infant Mortality Rate (IMR) and improve medical facilities. Chandigarh, Goa, Kerala and Lakshadweep states have less number of Janani Suraksha Yojana beneficiaries, because of improved health and medical facilities when compared to other states and lower Rate of Infant Mortality, and there by lesser funds to these states.

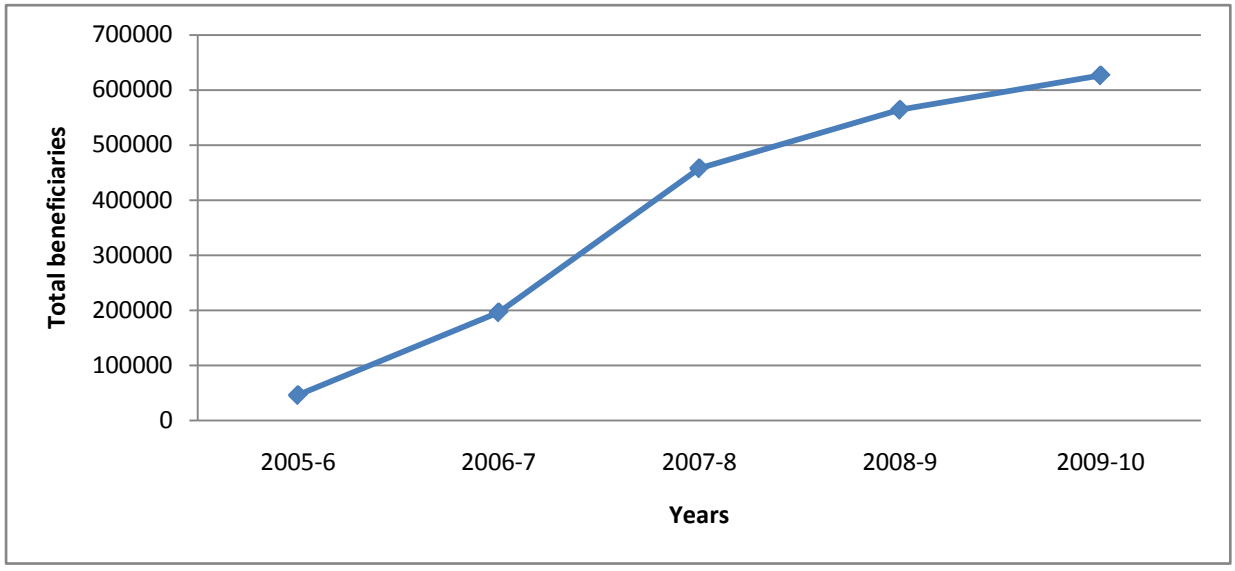
Table 2. Descriptive Statistics of State wise beneficiaries of Janani Suraksha Yojana

YEAR	**Mean**	**Std. Deviation**	**N**
2005-06	23776.97	11519.61	31
2006-07	100848.1	23012.96	31
2007-08	234707.7	55747.63	31
2008-09	290839.6	73941.69	31
2009-10	321769.2	85414.3	31
2010-11	62275.71	16713.88	31

Table 3. ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2143655353857.835	5	428731070771.567	5.181	.000
Within Groups	16383132466354.518	198	82743093264.417		
Total	18526787820212.350	203			

Graph 1. Number of Beneficiaries of Janani Suraksha Yojana from 2005-06 to 2009-10



The above table and graph shows total number of beneficiaries from 2005-06 to 2009-10. We found ANOVA as significant increased from 2005-06. The mean number of beneficiaries all the states was 23776.97 which have been increased to 62275.71 beneficiaries which found to be highly significant and also show in graph. F value of 5.181 was found to be significant at .000 level.

Table 4. State wise Infant Mortality Rate

Sl.no	States	2005	2006	2007	2008	2009	2010
1	Bihar	61	60	58	56	52	48
2	Chhattisgarh	63	61	59	57	54	51
3	Orissa	28	73	71	69	65	61
4	Rajasthan	30	67	65	63	59	55
5	Uttar Pradesh	42	71	69	67	63	61

6	Andhra Pradesh	75	56	54	52	49	46
7	Karnataka	14	48	47	45	41	38
8	Kerala	22	15	13	12	12	13
10	Delhi	35	37	36	35	33	30
11	Goa	54	15	13	10	11	10
12	Lakshadweep	76	25	24	31	25	25
13	Puducherry	44	28	25	25	22	22
14	Assam	68	67	66	64	61	58
15	Tripura	73	36	39	34	31	27
16	India	58	57	55	53	50	47

Sources: SRS Bulletin, Volume 46 No 1 (December 2011) Databook for DCH; 10 April 2012.

The above table (1.2), shows state wise Infant Mortality Rate from 2005 to 2010. Before implementation of Janani Suraksha Yojana programme Andra Pradeh, Assam, Chattisgarh Bihar, Gujarat, Haryana, Himachala Pradesh, Madhya Pradesh Maharashtra, Orissa, Uttar Pradesh have high Rate of Infant Mortality (IMR), as these states are economically poor, have low literacy rate and lack of proper medical facilities.

States like Goa, Kerala, Lakshadweep, Tripura, Delhi, Karnataka, have less rate of Infant Mortality, because of improved literacy rate and medical facilities when compared to other states.

Table 5. Descriptive Statistics of State wise Infant Mortality Rate

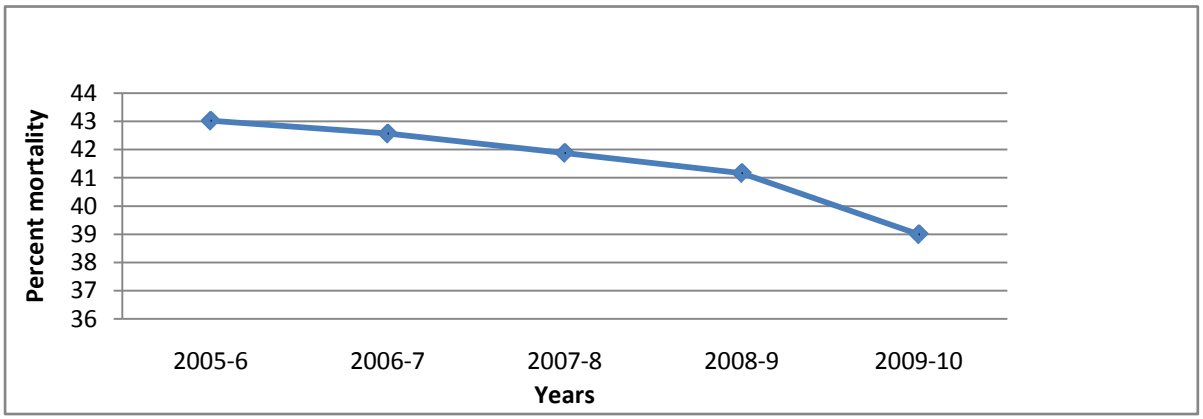
Year	Mean	Std. Deviation	N
2005	43.0286	3.03439269	35
2006	42.5714	2.94295504	35
2007	41.8857	2.86672343	35
2008	41.1714	2.68092726	35
2009	39	2.56249616	35
2010	36.48571	2.423752	35

Table 6. ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	300.788	4	75.197	.270	.897
Within Groups	47077.586	169	278.566		
Total	47378.374	173			

As far as mortality is considered we find insignificant change from year 2005 to year 2010. F value of .270 was found to be insignificant at 0.897 level. In the Year 2005 the mean mortality rate was 43.03, which decreased to 42.57 in 2006 which further to 41.81 percent in the year 2007. In 2009 and 2010 mortality rate was found to be 39.00 percent to 36.48 percent respectively. Though we find decrease in the mortality rate decrease was not found to be statistically significant**.**

Graph 2. State wise Infant mortality Rate from 2005 -10



The above graph (Graph 2), shows when JSY program was implemented the mortality rate was 43.03 in 2005-2006, after the effect of Janani Suraksha Yojana IMR rate significantly reduced from 43.03 percent to 36.4

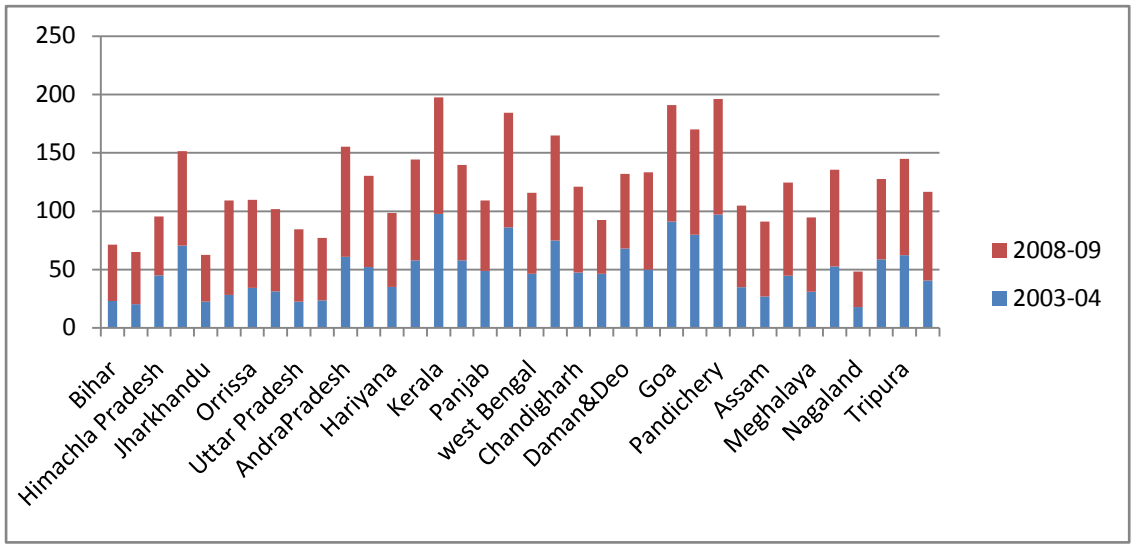
percent in 2009-2010.

Table 7. State wise Institutional Delivery Rate in India

Sl no	States	2003-04	2008-09
1	Bihar	23	48.3
2	Chhattisgarh	20.2	44.9
3	Himachala Pradesh	45.1	50.3
4	Orissa	34.4	75.5
5	Rajasthan	31.4	70.4
6	Uttar Pradesh	22.4	62.1
7	Karnataka	58	86.4
8	Kerala	97.8	99.9
9	Maharashtra	57.9	81.9
10	Punjab	48.9	60.3
11	Tamilunadu	86.1	98.4
12	west Bengal	46.3	69.5
13	A&N Island	74.8	90.2
14	Chandigarh	47.4	73.6
15	D&N Haveli	46.5	46
16	Daman&Deo	68.1	64
17	Delhi	49.9	83.6
18	Goa	91.2	99.8
19	Lakshadweep	79.9	90.3
20	Pondicherry	97.2	99.1
	India	40.5	76.2

Sources: Databook for DCH 3rd May 2013 page 179-180.

Graph 3.State wise Institutional Delivery Rate in India



The above table and chart (3.3), shows before implementation of JSY programme institutional delivery rate was 40.5 percent in 2003-04 but after implementation of JSY programme India's institutional delivery rate increased from 40.5 percent to 70.6 in the period 2008-09.

MAJOR FINDINGS OF THE STUDY

1. In the states of Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh Janani Suraksha Yojana beneficiaries are high because they have high rate of Infant Mortality and lack of medical facilities. So Government released large amount of funds to reduce Infant Mortality Rate (IMR) and improve medical facilities.
2. Kerala, Goa, Chhattisgarh and Lakshadweep states have less number of Janani Suraksha Yojana beneficiaries, because these states have well improved medical facilities compared to other states and less Infant Mortality and Maternal Mortality Rate. Hence they considered low priority states by Government of India while releasing JSY funds.
3. Before implementation of JSY programme higher priority states Uttar Parades, Orissa and Bihar has less institutional delivery rate in 2003-04 but after implementation of JSY programme these states institutional delivery rate has been increased from 34.4 to 75.5 percent in 2008-09.

RECOMMENDATION

- The facility is not reaching all the groups. Government should extend the effectively facility to the hilly region people and tribal people.
- JSY programme has played a major role in improving mother's awareness about reproductive health hazards. Rural Mortality including Infant and Maternal Mortality can be reduced significantly. So Government has to promote this programme extensively.

CONCLUSION

NRHM launched by Government of India holds great hopes and promises to serve the deprived communities of rural areas. The invariable existence of socio cultural difference in the community has always been a major challenge to the health care efforts made by the Government, particularly in the rural areas where illiteracy is more. To tackle this and especially to promote institutional delivery the Government of India has introduced conditional cash assistance program in the form of Janani Suraksha Yojana but even to use this benefit women should be literate and should have the knowledge of such programmes. If Government improves on awareness then there is no doubt that India can reduce its Infant Mortality and Maternal Mortality as per the requirements of Millennium Development Goals.

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