

## Original Article

# EVALUATION OF ANTENATAL CHECKUP PRACTICES OBSERVED AMONG BENEFICIARIES & NON BENEFICIARIES UNDER JANANI SURAKSHA YOJANA SCHEME IN INDORE, INDIA

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## ABSTRACT

**Introduction:** Maternal mortality has been considered as a sign of social injustice to basic human health. GOI initiated some schemes to promote institutional deliveries with the ultimate objective of bringing down IMR and MMR one such scheme is Janani Suraksha Yojana under this scheme cash incentive is given to women opting for institutional delivery.

**Objective:** To find out the utilization and association between services of ANC among Beneficiary and non- Beneficiary.

**Material & Method:** A cross sectional study conducted over a period of one year, by using 30 clusters random sampling technique, with sample size of 450.

**Result:** 69.5% was beneficiaries and 30.4% non-beneficiaries. 82.5% beneficiaries and 81.8% were found to be literate. Registration for ANC services, among beneficiary was found out to be 99.6% as compared to non-beneficiaries which was 97.8%. 74.4% beneficiaries had received 2tetanus and 72.8% had received more than 90 IFA tablets.

**Keywords:** Janani Suraksha Yojana, Beneficiaries, Non-beneficiaries, ANC

## INTRODUCTION

Maternal health indicators are often considered a reflection of the efficiency of a Nation's health system.<sup>[1]</sup> Strengthening maternal health services helps to improve both maternal health and infant health. In 2001 the United Nations developed the Millennium Development Goals to improve health, social and economic conditions in the world's poorest countries by 2015. One of the eight major goals is to improve maternal health with a target of reducing maternal mortality by 75%.<sup>[1]</sup> In the world, every year around six lacks maternal deaths are occurring.

More than 90% of these deaths are in the developing countries including India, meaning there by wide spread disparity of health status between rich and poor. Estimates by international development agencies show significant improvement in India's maternal mortality ratio from 570 per 100,000 live births in 1990 to 230 in 2008, a 59% reduction. Yet, out of an estimated 358,000 maternal deaths worldwide, about 63,000 are Indian women. India has the distinction of

being the highest contributor to maternal deaths in the world.<sup>[2]</sup>

Maternal mortality has been considered as a sign of social injustice to basic human health. One of the important reasons identified for high maternal mortality was a high proportion of home deliveries by relatively less skilled and unskilled birth attendants. Experience in many part of the world has shown that with the increase in institutional deliveries, maternal mortality rates definitely decline e.g. in Sri Lanka 96% of deliveries are conducted as institutional deliveries and its maternal mortality rate is 60 per 100,000 of live birth (Park K., 22th Ed., 2013). In our own country in the state of Kerala 89% of deliveries are institutional deliveries and MMR of Kerala is just 110 per 100,000 live birth.

Beginning in the early 1980s, India introduced large national programs such as Child Survival and Safe Motherhood (CSSM), Reproductive Child Health I (RCH I) and Reproductive Child Health II (RCH II)

under the umbrella of the National Rural Health Mission (NRHM) which was launched in 2005.<sup>[3]</sup>

All efforts under NRHM are directly and indirectly aimed to provide accessible, affordable and effective health care to all citizens and particular to the poor and vulnerable sections of society. Inspired by these, GOI initiated some schemes to promote institutional deliveries with the ultimate objective of bringing down IMR and MMR one such scheme is Janani Suraksha Yojana under this scheme cash incentive is given to women opting for institutional delivery. Janani Suraksha Yojana (JSY) is a safe motherhood intervention under National Rural Health Mission (NRHM). The first Janani Suraksha Day was declared and the National Maternity Benefit Scheme (NMBS) implemented on the 11th April 2003. Based on experiences and feedback of National Maternity Benefit Scheme, it was launched on 12<sup>th</sup> April 2005, by the Hon'ble Prime Minister.

This Yojana has been implemented in all the states, including Madhya Pradesh and union territories with special focus on low performing states. The main objective and vision of JSY is to reduce maternal and neo-natal mortality and promote institutional delivery among the poor pregnant women of rural and urban areas.<sup>[4]</sup> This conditional cash transfer scheme/program provides cash payments to poor families. Who met specific behavioural requirements, such as delivering their baby at a health facility.<sup>[5]</sup> JSY was implemented in 2006 in a majority of Indian states after the national government created implementation guidelines and released funds to support the program.<sup>[5,6]</sup>

Key features of JSY are: early pregnancy registration, adequate antenatal care, a micro-birth plan, institutional delivery, referral and transport if needed and postpartum care for poor mothers and underserved populations, such as schedule caste and tribes.<sup>[6]</sup> There are multiple factors that manipulate women's decision making to avail the antenatal care & institutional deliver, be it access to health services or state government way of distributing of cash incentive. But ultimately loss is on the maternal side.

## OBJECTIVES

The objectives were to find out utilization of ANC services under Janani Suraksha Yojana Scheme and also to find the association between services of ANC among Beneficiary and non- Beneficiary.

## MATERIAL & METHODS

The present study entitled "*Situational analysis of Janani Suraksha Yojana after Implementation in Indore Block*" has been carried out in community development block Indore of district Indore Madhya Pradesh.

This was a descriptive and observational hospital based, cross sectional study. The study subject was those women who have delivered from 1 January 2012 to 31 December 2012 were included in the study at Villages of Indore Block in District Indore (M.P.). The Study period was from September 2012 to August 2013.

The method used for sampling is 30 cluster sampling technique. From a total of 157 villages, 30 villages were selected. In each cluster 15 mothers who have delivered their baby within targeted period were randomly selected and interviewed after taking their informed verbal and written consent. For validation of the data 30 clusters were randomly selected.

The size of sample was drawn with the help of WHO publication 'Sample Size Determination in Health Studies' (1991), Geneva. The size of sample was determined with the help of following formula:

$$n=4 p (1-p) / L^2$$

As the percentage of institutional delivery in India is 47% the value of P comes as 47%. Putting the value of P in the above formula the sample size will be 451 (round figure 450) eligible mothers which have been equally distributed in 30 clusters i.e. 15 per cluster (15x30 =450).

The women who had delivered from 1 January 2012 to 31 December 2012 in the study area were our target population, out of them who had given informed verbal and written consent was our study unit. Women who had delivered before or after above specified duration were not eligible to participate in the present study.

A house to house survey was conducted in the selected clusters to identify 15 eligible mothers in each cluster and their detailed in depth interview was taken in the pre-designed and pretested proforma after obtaining informed verbal and written consent. In case of failure to find 15 eligible mothers in the village then the task was completed by going to the adjoining nearest village sharing the geographical boundaries.

The visit to subsequent households is terminated after achieving the above numbers. If last selected household has more such member than needed to reach the target, the information of all such members was collected before terminating the survey. Data collected as such was compiled into a master chart, using Excel 2010, for easy comparison reference and analysis. At the end, results were drawn using SPSS 20 and recommendations were proposed.

The strength of the study is that it is a community based study hence; the authors were able to analyze large number of pregnant women with regard to knowledge, attitude and utilization pattern and that too from different villages of same district. The weakness/ limitation of the study is that the study may not necessarily represent the country as a whole as there are wide regional variations in the maternal health

services and India being a large country with varied geographical and social variation.

Ethical clearance for conducting the study was taken from the ethical committee of the institution i.e. Index Medical College, Indore, and informed consent was taken from the women participating in prospective study group with the assurance that confidentiality will be maintained and the information obtained for this study will not be used for any other purpose except for academic purpose.

**RESULTS**

Out of total 450 recently delivered mothers (within last one year period) were interviewed. 313 (69.5%) mothers were JSY beneficiaries and 137 (30.4%) mothers were JSY non-beneficiaries.

Majority of the beneficiaries were Hindus (79.55%) and (4.4%) were Muslims. Maximum No. of the beneficiaries belonged to other backward caste (36.1%), followed by other castes (25.8%), SC (19.8%) and ST (18.2%). Among non-beneficiaries Hindus were (82.4%) and Muslims were (13.1%). Maximum no. of non-beneficiaries belonged to other caste (45.9) and minimum (12.4%) belonged to SC. 81.8% Beneficiaries were literate and 18.2% were illiterate while among Non- beneficiaries 82.5% were literate and rest were illiterate. 76% husbands of beneficiary mothers were literate and (24.%) were illiterate. Literacy status of husbands of non-beneficiary mothers was 72%.It has been observed that Hindu community has more opted for this scheme as compared to other communities and the result came out to be statistically significant. For the cast, OBC community has opted for this scheme in more number than any other cast, which is again found out to be significant. 43.7% beneficiaries belonged to below poverty line and 36.4% of non beneficiaries were below poverty line.

**Table 1: Distribution of JSY beneficiaries and non beneficiaries according to Religion**

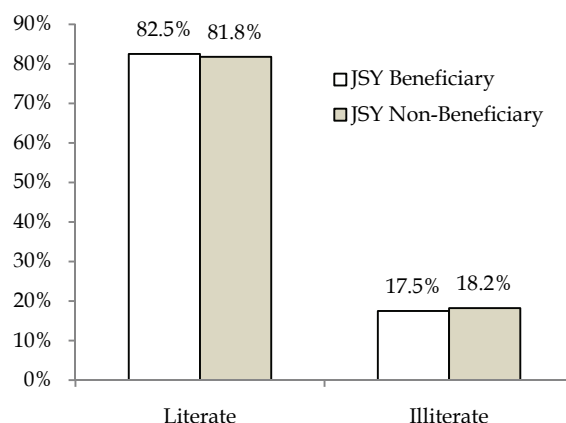
Religion	JSY Beneficiary		Total
	Yes	No	
Hindu	294	113	407
Muslim	14	18	32
Others	5	6	11
Total	313	137	450

Chi-Sq = 14.461, DF = 2, P-Value = 0.001 Significant

**Table 2: Distribution of JSY beneficiaries and non beneficiaries according to Caste**

Caste	JSY Beneficiary		Total
	Yes	No	
Other Backward Cast	113	39	152
Other	81	63	144
SC	62	17	79
ST	57	18	75
Total	313	137	450

Chi-Sq = 18.126, DF = 3, P-Value = 0.000 Significant



**Figure 1: Literacy among beneficiary & non-beneficiary**

Most of the beneficiaries (95.2%) and non-beneficiaries (88.38%) belonged to age group 21-30 years. Only (1.9%) of beneficiaries and (2.9%) non-beneficiaries were from age group <20 years. This was found to be significant.

**Table 3: Distribution of JSY beneficiaries and non beneficiaries according to Age of Mother**

Age	JSY Beneficiary		Total
	Yes	No	
<20 years	6	4	10
21-30 years	298	121	419
31-40 years	9	12	21
Total	313	137	450

Chi-Sq = 7.985, DF = 2, P-Value = 0.018 Significant

Total 84.6% beneficiaries and 93.4% non-beneficiaries were married above 18 years of age. In majority of the beneficiaries (42.4%) and non beneficiaries (54.7%), age at the time of first pregnancy was between 21-25 years, which again came out to be significant.

99.6% of beneficiaries were registered and only 97.8% of non-beneficiaries wereregistered. Coming for the place of registration 31.3% of beneficiary got registered them in district hospital and for non-beneficiary 39.4% registeredthemselves in other places like primary health centre, anganwadi centre etc. leastregistration were seen in sub health centre in both beneficiary and nonbeneficiaryas 7.6% and 6.5% respectively. Registration of beneficiaries was found to be significant as compare to non beneficiaries.

Majority of the JSY beneficiary mothers received more than 3 ante natal visits (35.7%), followed by 3 visits (23.3%), single visit (7.6%). 11.5% beneficiaries had two ante natal visits and 1.9% had no ante natal visit at all. Among non beneficiaries, 40.1% had more than three antenatal visits followed by three-time visit (16.7%), two visits 16.1%, one visit 5.1% and no visit at all 2.9%.

**Table 4: Distribution of JSY beneficiaries and non beneficiaries according to Registration of Pregnancy**

Registered Pregnancy	JSY Beneficiary		Total
	Yes	No	
Yes	312	134	446
No	1	3	4
Total	313	137	450

*Chi-Sq = 3.784, DF = 1, P-Value = 0.052 Significant*

Majority of beneficiaries (80%) received first antenatal care during first trimester followed by 16.1% in second trimester and 3.9% in third trimester. Among non beneficiaries, the time of first antenatal visit was first trimester in 78.9% mothers, second trimester in 16.1% mothers and third trimester in 4.5% mothers.

Among beneficiaries, 74.4% have received 2 Tetanus, 13.7% received booster dose and 9.5% were partially immunized. Among non-beneficiaries 78.8% received two doses 10.9% received booster dose, 8% were partially immunized and 2.2% were not immunized in both the group. 72.8% beneficiaries received more than 90 IFA tablets, 9.2% beneficiaries received 50-70 IFA tablets and 8.3% beneficiaries received 10-30 tablet. Among non-beneficiaries, 67.9% received more than 90 IFA tablets, 10.9% received 50-70 tablets and 7.3% received 10-30 IFA tablets.

For the registration among beneficiaries, mostly place of registration was Government setups and for non-beneficiaries it was private setup, which is because, motivators of beneficiaries, that is mainly ASHA and AWW, also gets the honour amount when they motivate and accompany women to accredited government hospitals, which they, generally, not get in private hospitals even if they are accredited. No significance difference found in case of ANC visit and Number of ANC visit among beneficiaries and non-beneficiaries. In addition, the consumption of IFA tablets and TT injection was seen equal in both groups.

**Table 5: Distribution of JSY beneficiaries and non beneficiaries according to IFA Received**

Iron & Folic acid Received	JSY Beneficiary		Total
	Yes	No	
None	9	7	16
10-30	26	10	36
30-50	5	5	10
50-70	29	15	44
70-90	16	7	23
>90	228	93	321
Total	313	137	450

*Chi-Sq = 3.869, DF = 5, P-Value = 0.568 Not Significant*

**DISCUSSION**

In the present study Majority of the mothers was Hindus (90.4%), (7.1%) were Muslims and Other Communities contribute (2.4%), which includes Buddhist, Jain, and other religion people. Out of them 72.2% of Hindus, 43.7% of Muslims and 45.4% of other community

were beneficiaries. Study done at Banswara and Barmer districts of Rajasthan; observed that, 77% JSY beneficiaries were Hindu, 18% were Jain, 3.5% Muslims and 1.5% Christians.<sup>[7]</sup>

33.7% of the total study population comprise of OBC, 32% of other cast, 17.5% of SC and 16.6% of ST. Out of them, 74.3% of OBC, 56.2% of other cast, 78.4% SC and 76% of ST were the beneficiaries. Among beneficiaries, 36.1% were OBC, 25.8% belonged to other castes, 19.8% were SC and 18.2% were ST. Among non beneficiaries 45.9% belonged to other castes, 28.4% were OBC, 12.4% were SC and 13.1% belonged to ST. According to Census data 2011, in India ST and SC population is 8.6% and 16.6% where as in MP percentage of ST and SC population is 20.27% and 15.18% respectively.<sup>[8]</sup> Another data from NFHS-2 MP (1998-1999), also reveals that in rural areas of MP, 35.8% population belongs to the ST category, 15% of the population belongs to SC category, while 41.2% belongs to "Other backward class".

In the present study, 81.8% Beneficiary mothers were literate and 18.2% were illiterate. While among Non-beneficiaries, 82.5% were literate and 17.5% were illiterate. According to similar type of study done in Madhya Pradesh, 53.8% beneficiary mothers were literate and 46.2% were illiterate while among Non-beneficiaries 50.8% were literate and 49.2% were illiterate, 76% husbands of beneficiary mothers were literate and (24.0%) were illiterate.<sup>[9]</sup> According to Census 2011, over all literacy rate of India is found to be 74.04, where as literacy rate in MP is found to be 70.6%. Where as female literacy rate is 60.0%. In Indore district, the literacy rate is 80.78% and male and female literacy rate are 87.25% and 74.2% respectively.

In the present study Most of the beneficiaries mothers, 71.1%, belongs to age group of 21-30 years and 57.1% non beneficiaries mothers belongs to 31- 40 years. Participants in <20 years was found to be 1.9% among beneficiaries and 2.9% among non-beneficiaries. Among beneficiary and non beneficiary, 2.8% and 8.7% participant respectively, were found to be in age group of >30 years. Another study done in Jabalpur, reveals that maximum no. of JSY beneficiary mothers, 63.0%, belonged to age group 21-25 years and only 3% mothers were > 35 years of age.<sup>[10]</sup> Study done at Banswara and Barmer districts of Rajasthan; observed that 97.5% JSY beneficiaries were above 19 years of age and remaining 2.5% were below 19 years of age.<sup>[7]</sup>

In the present study marriage among girls, more than 18 years, was 84.6% in beneficiary and 93.4% in non beneficiaries. In similar kind of study done at Rewa in 2007, stats that 32.6% of the women were married before 18 years of age.<sup>[11]</sup> Other study done at Banswara and Barmer districts of Rajasthan showed, 38% beneficiaries were married before 18 years of age and 62% were married after 18 years of age.<sup>[7]</sup>

In the present study, among beneficiaries, 99.6% of them were registered and only 97.8% of non-beneficiaries were registered overall registration of

pregnancy in the study population was 99.1%. Study done at Rewa shows 96.7% of beneficiaries were registered and only 85.6% of non-beneficiaries were registered.<sup>[9]</sup> According to NFHS-III (MP) 2005-06, reveals that, percentage of pregnant females receiving antenatal registration is 81% in MP.

For the present study, district hospital had maximum number of registration for Ante Natal cases that is 31.3%, followed by other places (23.6%) like nursing homes, private hospital and clinic among beneficiary. 39.4%, non-beneficiary, had maximum registration at other places only. Which is followed by district hospital & health centres (16%) each. 37.1% mothers (35.7% among beneficiary and 40.1% among non-beneficiary mothers) received multiple antenatal visits during their pregnancy. Nearly 23.3% of beneficiary and 16.7% of non-beneficiary attended at least 3 antenatal visits. Study done in Rewa, 41.2% mothers (47.3% beneficiary mothers and 27.7% non beneficiary mothers) received three or more antenatal visits during their pregnancy. <sup>[9]</sup>Data from NFHS-III (MP) 2005-06, stats that, 40.2% pregnant females have received three or more antenatal visits and the national average being 50.7%.

Though every woman should receive complete tetanus toxoid immunization during their pregnancy, but, in this study, complete coverage for 2 doses (in addition to booster in some case) was done only in 88.6% mothers (88.1% among beneficiaries and 89.8% among non beneficiaries). In both the group nearly 2.2% mother have not received vaccine also. Study done at Rewa shows 96.14 mothers were fully immunized against tetanus.<sup>[10]</sup> Another study done at East Delhi shows, 92% received complete dose of tetanus toxoid.<sup>[12]</sup>

Similarly for the present study in iron prophylaxis, each woman should receive 100 tablets of IFA during their pregnancy but, only 72.8% among beneficiaries and 67.9% among non-beneficiaries had received >90 IFA tablets. Study done at Rewa observed that 48.2% beneficiary mothers received more than 50-100 IFA tablets and 48% received less than 50 IFA tablets. Only 34.7% beneficiary mothers consumed >50 IFA tablets.<sup>[10]</sup> According to NFHS-III (MP) 2005-06 reveals that 11.8% pregnant mothers consumed IFA for 90 days or more during their pregnancy in MP while the figure for India is 22.3%.

## CONCLUSION

Most of the mothers, knew about the scheme regarding monetary benefit for institutional delivery, the name of the scheme is known to a very small proportion. This clearly depicted that, unlike other national programme like Directly observed Treatment under Revised National Tuberculosis Programme for TB, the

Janani Suraksha Yojana till date, has not been able to create a desirable image, which was expected, in the mind of people. This needs to be rectified by social marketing of the JSY. Therefore to increase the acceptance and utilization of services, it should be marketed as a product within the community in an extensive manner so that over a period of time people start recognising and start to accept the programme in smooth manner. Extensive information, Education and Communication (IEC) strategy is needed via various channels including print, electronic, traditional, personal communication etc. The famous persons or local celebrities from the same background or from the same area could be involved to promote the programme.

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