



Assessment of maternal and child health (MCH) practices with a focus on Janani Suraksh Yojana (JSY)

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ABSTRACT

Background Janani Suraksha Yojana (JSY) is a safe motherhood intervention encompassing conditional cash transfer scheme initiated under National Rural Health Mission (NRHM).

Objective A rapid appraisal was conducted to assess selected maternal and child health (MCH) practices among rural mothers in a block of Haryana with a focus on JSY.

Methodology Using stratified random sampling, 6 health subcentre area in a rural block of Haryana were selected and all available JSY (n=72) mothers with their child in age-group of 6-11 months were covered. Similar numbers of non-JSY (n=76) mother were also contacted by the investigators using pre-designed, pre-tested semi-structure interview schedule.

Results Out of 148 mothers, majority (77.02%) were in the age-group of 20-24 years; overall 52.02% [45.83% (JSY) vs. 57.89% (non-JSY)] had completed atleast 9 years of schooling; all (100%) JSY beneficiaries belonged to affirmative group (OBC/SC) but only 38.89% of them possessed BPL-card; a total of 68 (45.94%), 62 (41.89%) and 18 (12.16%) mothers had one, two & three living children respectively and 93% women were home-maker. Higher proportion of non-JSY (72.36%) viz. JSY (54.16%) mothers had institutional delivery (p<0.05). Pre-lacteal feed was administered to 60% of newborn while 95% received colostrum; however only 32.43% were initiated on breast-milk within first hour of birth inspite of all being normal vaginal deliveries. Nearly 91.66% of JSY and 22.36% of non-JSY mothers were aware of the financial scheme (p<0.05); only 20.83% JSY mothers received money within one-month of delivery; 47.22% of mothers spent money either on themselves or child care while amongst rest it got utilized within general family pool.

Keywords: maternal benefit scheme, JSY, antenatal, deliveries, awareness, child health practices, prelacteal feed, colostrum, breastfeeding

INTRODUCTION

Promotion and protection of maternal & child health has been one of the most important developmental goal in many countries across the globe still mothers continue to die. Maternal Mortality Ratio (MMR) was 400 for the globe, developed nations (only 9)¹ while India reported 212/100,000 live births. IMR stood at a high of 47/1000 birth (SRS- 2011) with majority of maternal and child deaths occurring in five northern states of Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. Combined they accounted for about

55% of child mortality and 65% of maternal deaths in the country.

BACKGROUND

Janani Suraksha Yojana (JSY) is a safe motherhood intervention scheme which became fully operational from 2008 under National Rural Health Mission (NRHM) by Government of India. It was a revamped version of the National Maternity Benefit Scheme introduced under the National Social Assistance Programme in 1995. The strategy aims at reducing maternal and neonatal mortality by promoting institutional delivery

among poor pregnant women through Conditional Cash Transfer (CCT).²

The concept of CCT originated in Latin American countries mainly in response to the macroeconomic crisis of 1990s and represented a shift in governmental approach that earlier focused on the supply-side delivery of basic services. Instead they focus on the demand-side, by protecting the consumption of merit goods and also represent a shift from general subsidies to more sharply targeted programmes that aim to improve human capital formation and, thereby, increase efficiency in the long-run.³ Till date, many intervention targeting maternal and child health globally have included CCT for promoting behavioral change though financial incentive for uptake of family planning program has been in vogue since decades in India.

The scheme focuses primarily on states having low institutional delivery rates namely the states of Uttar Pradesh, Uttaranchal, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Orissa and Jammu and Kashmir. While these states have been named as Low Performing States (LPS), the remaining states are termed High performing States (HPS) e.g. Haryana etc. As the cash assistance to the mother is mainly to meet the cost of delivery, according to guidelines it should be disbursed effectively at the institution itself at one-go especially in deliveries occurring at public health facilities. Further, poor (below poverty line) pregnant women, aged 19 years and above, preferring to deliver at home is entitled for cash assistance of INR 500/- per delivery. India being a federal country, funds are provided by GOI as per the norms and executed by respective State government along with any additional assistance from respective state funds. Though there is abundant literature on MCH practices in the country but relatively none in the context of JSY. Therefore a rapid appraisal was conducted to assess selected maternal and child health (MCH) practices among rural mothers with focus on maternity benefit scheme-Jannani Suraksh Yojana (JSY).

METHODOLOGY

A cross-sectional descriptive study was undertaken in a rural block (Lakhanmajra) of district Rohtak (Haryana) situated 35 km from a government medical college. It is inhabited by approximate one-lakh primarily agrarian population residing in 24 villages, catered by 3 primary health center (PHCs) & 21 subcentres under public health system and well connected with all season motorable roads. The respondentant comprised of recently delivered women whose child belonged to age-group of 6-11 months.

Considering study objectives and feasibility, it was envisaged to cover two sub-centres from each primary health centres (PHCs). All subcentres were stratified based on distance from headquarter into far (more than 3 km) & near (upto 3 km) and from each category one was selected randomly using lottery method. Thus a total of 6 subcentres areas were covered in the present study. Further, it was proposed to cover all available JSY beneficiaries and similar number of non-JSY beneficiaries from the universe. As it was not possible for the researchers to identify mothers from the villages, a rapport build up exercise was established between investigators, local health personnel and community link volunteer associated with each area. List of delivered mothers was collated from local health personnel whose child belonged to 6-11 months of age category, stratified according to JSY beneficiary/non-beneficiary and primary data collection carried out during the period 2nd May-15th July 2011 using predesigned, pretested semi-structured interview schedule

The study variables were related to Jannani Suraksh Yojana (JSY) status, socio-demography, below-poverty line (BPL) card, ante-natal, natal, post-natal, pre-lacteal feeds, breastfeeding, immunization, performance rating of accredited social health activist (ASHA), and awareness of scheme thereof. Some specific information was also elicited from JSY mothers regarding amount and delay in receipt of financial assistance and pattern of money utilization. Birth weight and immunization status was determined using available documents with mother and financial assistance received under JSY was traced and cross-checked with records maintained with health system.

Assistance of community link worker (CLW) was solicited in mobilizing mothers at their pre-determined convenient timing and venue in the village. Data was collected after explaining the study objective, seeking informed verbal consent, ensuring confidentiality in a non-judgmental manner and in the absence of any family member, local health personnel or CLW. The mothers who could not be contacted at common venue were visited once by investigators at their respective homes. From the enlisted JSY beneficiaries nearly 80% (72) of mothers could be covered in the present study as rest were either visiting parents place/market, observing some ceremony/festival, busy in household chores, houses were found locked etc. Overall, the excluded mothers did not bear any specific disadvantage demographically, socially or in terms of provision and access to health services.

Further, it was proposed for inclusion of similar number (72) of non-JSY mothers from the universe but ultimately 76 were covered on random basis thus making total sample size of the present study to 148. Opportunity of contact was taken up for health communication, treatment of minor illness, and eventually mothers were thanked for their cooperation. Data entry & management was carried out using MS excel spread sheet and software (SPSS-16ver.). Result were analyzed by calculating descriptive statistics-proportion (%) and association of maternity benefit scheme (JSY) with selected variables using chi-square test and statistical result displayed for significant ($p < 0.05$) items only.

RESULTS

Out of 148 mothers, majority (77.02%) were in the age-group of 20-24 years followed by 18.24% in 25-29 years; overall 52.02% [45.83% (JSY) vs. 57.89% (non-JSY)] had completed at least 9 years of schooling ($p < 0.05$); all (100%) JSY beneficiaries belonged to affirmative group (OBC/SC) but only 38.89% of them possessed BPL-card; a total of 68 (45.94%), 62 (41.89%) and 18 (12.16%) mothers had one, two & three living children respectively and 93% women were home-maker (not shown in table). Regarding ante-natal, all mothers were registered for ANC, 74.32% mothers at health institution (subcentre/above) and rest at anganwadi

(community based centre); 20.27% were registered after first trimester of ante-natal period; and only 43.24% had undertaken currently recommended at least 4 ANC visits; weight and blood pressure was monitored for 34.45% of mothers only; 14.18% had not consumed iron-folic acid tablets at-all while 56.08% consumed majority (>75%) of them. Nearly 96.62% of women were at in-laws residence at the time of delivery; all had normal vaginal delivery. No statistical difference was noted amongst two study groups.

Table-1 depicts natal & post-natal status. Higher proportion of non-JSY (72.36%) viz. JSY (54.16%) mothers had institutional delivery ($p < 0.05$). Majority of non-JSY (47.27%) mothers were self-motivator whereas family member motivated majority (41.02%) of JSY women for the same; 92.59% home deliveries were attended by traditional birth attendants (TBA); only 33.10% received at least-one post natal visit within seven days at their respective homes.

Table-2 depicts child feeding & rearing practice. Pre-lacteal feed was administered to 60% of infants while 95% received colostrum; however only 32.43% were initiated on breast-milk within first hour of birth.

Table-3 depicts JSY scheme related characteristics of mother. Nearly 91.66% of JSY and 22.36% of non-JSY mothers were aware of the scheme ($p < 0.05$). Majority of JSY (62.5%) mothers rated the performance of ASHA as 'fair' in-contrast to non-JSY mothers rating of 'good'. Only 20.83% JSY mothers had received financial assistance within one-month of delivery and 47.22% of mothers spent money either on themselves or child care while for rest it got utilized within general family pool.

Table 1: Delivery and post-natal practices

Item	JSY Beneficiary (%)		Total (N=148)
	Yes (N=72)	No (N=76)	
Place of delivery*			
Institution (Sub-centre/above)	39 (54.16)	55 (72.36)	94 (63.51)
Home	33 (45.83)	21 (27.63)	54 (36.48)
Motivation for institutional delivery* (n=39; 55; 94)			
Self	11 (28.20)	26 (47.27)	37 (39.36)
Family member	16 (41.02)	11 (20.0)	27 (28.72)
Health personnel	10 (25.64)	11 (20.0)	21 (22.34)
Community link worker (CLW)	02 (5.12)	07 (12.72)	09 (9.57)
Distance of institution from residence (km)			
Upto 5	19 (48.17)	23 (41.81)	42 (44.68)
5-15	05 (12.82)	05 (9.0)	10 (10.63)
15-25	10 (25.64)	16 (29.0)	26 (27.65)
>25	05 (12.82)	11 (20.0)	16 (17.02)
Mode of transportation for institutional delivery			
Private taxi	13 (33.33)	13 (23.63)	26 (27.65)
Ambulance	07 (17.94)	10 (18.18)	17 (18.08)
Personal car	03 (7.69)	14 (25.45)	17 (18.08)
Bullock cart	05 (12.82)	08 (14.54)	13 (13.82)
Others (bus, tractor, three-wheeler or walking)	12 (30.76)	09 (16.36)	21 (22.34)
Home delivery attended by... (n=33; 21; 54)			
TBA	32 (96.96)	18 (85.71)	50 (92.59)
ANM	01 (3.03)	03 (14.28)	04 (7.40)
No. of PNC visits at home (upto 7 days)			
None	45 (62.5)	54 (71.05)	98 (66.21)
Atleast one	27 (37.5)	22 (28.94)	49 (33.10)
PNC visits by whom... (n=27; 22; 49)			
ANM	22 (81.48)	09 (40.90)	31 (63.26)
Community link worker	05 (18.51)	13 (59.09)	18 (36.73)
Post-natal advice received regarding (multiple-options)			
Breast-feeding	62 (86.11)	68 (89.47)	130 (87.83)
Immunization	46 (63.88)	59 (77.63)	105 (70.94)
Personal hygiene	31 (43.0)	37 (48.68)	68 (45.94)
Hypothermia prevention for child	09 (12.5)	10 (13.15)	19 (12.83)
Bathing	05 (6.94)	07 (9.21)	12 (8.10)
Child handling	03 (4.16)	07 (9.21)	10 (6.75)
Family planning	0	0	0

*Statistically significant at $p < 0.05$; Figure in bracket indicate percentage

Table 2: Child feeding and rearing practices

Item	JSY Beneficiary (%)		Total (N=148)
	Yes (N=72)	No (N=76)	
Pre-lacteal feeds administered			
No	27 (37.5)	29 (38.15)	56 (37.83)
Yes	45 (62.50)	47 (61.84)	92 (62.16)
Colostrum given*			
Yes	72 (100)	70 (92.10)	142 (95.94)
No	0	06 (7.89)	06 (4.05)
Breast feeding initiated *			
Within 1hr of birth	23 (31.94)	25 (32.89)	48 (32.43)
1-6 hours	43 (59.72)	34 (44.73)	77 (52.02)
After 24 hours	06 (8.33)	17 (22.36)	23 (15.54)
Birth-weight (excluding home birth); (n=39; 55; 94)			
<2.5 kg	06 (15.38)	11 (20.00)	17 (18.08)
≥2.5 kg	33 (84.61)	44 (80.00)	77 (72.34)
Type of breast feeding (0-5 months) excluding pre-lacteal feeds			
Exclusive BF#	29 (40.27)	27 (35.52)	56 (37.83)
Predominant BF##	43 (59.72)	49 (64.47)	92 (62.16)
First bath*			
Within 24 hours	45 (62.50)	24 (31.57)	69 (46.62)
Following day of birth	27 (37.5)	52 (68.42)	79 (53.33)
Type of top-feed initiated (animal milk)*			
Diluted buffalo milk	65 (90.27)	46 (60.52)	111 (75.0)
Diluted cow milk	06 (8.33)	14 (18.42)	20 (13.51)
Un-diluted cow milk	0	09 (11.84)	09 (6.08)
Un-diluted buffalo milk	01 (1.38)	07 (9.21)	08 (5.40)
Packaged milk/bottle feed	0	0	0

#Exclusive breast feeding: giving the baby only breast milk and no other food or drink including water

##Predominant breast feeding: Breastfeeding + small amount of water or water based drink (such as tea)

*Statistically significant at $p < 0.05$

Table 3: Selected JSY scheme related profile of mothers

Item	JSY Beneficiary (%)		Total (n=148)
	Yes (n=72)	No (n=76)	
Awareness of JSY scheme *			
Yes	66 (91.66)	17 (22.36)	83 (56.08)
No	06 (8.33)	59 (77.63)	65 (43.91)
Sources of information (n=66; 17; 83)			
Health personnel	36 (54.54)	06 (35.29)	42 (50.60)
Community link worker	21 (31.81)	05 (29.41)	26 (31.32)
JSY beneficiary	05 (7.57)	01 (5.88)	06 (7.22)
Friends/neighbor/relative	04 (6.06)	02 (11.76)	06 (7.22)
Poster/banner	0	03 (17.64)	03 (3.61)
Performance rating of ASHA*			
Good	27 (37.5)	51 (67.10)	78 (52.70)
Fair	45 (62.5)	25 (32.89)	70 (47.29)
Financial assistance received (INR)			
500/-	32 (44.44)		
700/-	25 (34.72)		
2200/-	15 (20.83)		
Time involved in receipt of financial assistance after delivery			
Within one-month	15 (20.83)		
2 months	38 (52.77)		
3 months or more	19 (26.38)		
Financial assistance utilized in			
maternal & child care	34 (47.22)		
General family pool	38 (52.77)		

*Statistically significant at $p < 0.05$; Figure in bracket indicate percentage

delivery and the fact that over half of institutional deliveries were paying (drug, transportation etc.) more

DISCUSSION

A cross-sectional descriptive study was undertaken to assess maternal and child health practices among rural women of Rohtak district in state of Haryana with a focus on maternity benefit scheme (JSY). Considering present study design we cannot comment on impact of scheme but highlight different characteristics of study participants with a scope for trend observation over time. Delivering a strategy for cash transfer may appease the masses politically but can it make an impact on health indicators? A recent study in eight-high focus of country demonstrated that out-of-pocket expenditure was high for both home and institutional

than the JSY assistance, the rationale and validity of JSY scheme as a behavior change induced by a financial incentive requires re-examination.⁴ While a study on Chiranjeevi scheme of Gujarat was shown to be benefiting the target poor mothers and also demonstrated that average expenditure incurred for both medicine and transportation by non-users (of the scheme) on their most recent delivery at a private facility was Rs. 4000, while the average expenditure incurred by a Chiranjeevi beneficiary on their most recent delivery was Rs. 727.⁵

MCH practices in this study are primarily being discussed with findings from last community based Coverage Evaluation Survey (2009) and supplemented with other literature e.g. DLHS-3 survey (2007-08) of India etc.^{6,7} Antenatal practices of mothers were encouragingly similar with no overt difference between two subset of participant. In this study all (100%) mothers received any ANC which is better than previous report of 90.4% (CES, India) and 87% (DLHS-3, Haryana). Considering post natal care, only 33% received atleast one post-natal-visit at home within first week either by ANM or community link worker; over the period 130 (87.83%), 105 (70.94%) and 68 (45.94%) received advise on breastfeeding, child immunization and personal hygiene. But none received advise on family planning following delivery. Overall, there is still huge scope for strengthening and improving quality of care.

The institutional delivery in the present study was 63.51% better than the previous reported figure of DLHS (2007-08), India (47%), Haryana (47%) and Rohtak (52.8%) but slightly higher than national average of 60.5% (SRS, 2010). A study in rural Salem district of Tamil Nadu reported 87.84% institutional delivery.⁸ While another study carried in rural area Guntur (Andhra Pradesh) reported 38% institutional deliveries and 30% of newborn were bathed within 24 hours of birth.⁹ Although social factors such as rise in literacy and economic status, etc., contribute to improvement in maternal survival, delivery in a medical institution continues to be an important proximate determinant.¹⁰ An Indian study analyzing sample registration system data 2001-2006 also demonstrated relationship between increase in institutional deliveries and decline in MMR.¹¹

Statistically significant proportion of JSY (45.83%) viz. non-JSY (27.63%) mothers had home delivery ($p < 0.05$). On probing further for preference of home-delivery, the reason cited by JSY mothers ($n=33$) was customary/privacy/elder advise (81.81%) and 18.19% concurred to advise of local TBA (dai), while on other hand all of non-JSY mothers ($n=21$) cited customary/privacy/elder advise. This is an evolving phenomenon and a reflection of continuous improvement in trend of institutional delivery over the

years. Majority of non-JSY (34.21%) in-comparison to JSY (15.27%) mothers were self-motivator for institutional delivery. This is suggestive of women empowerment and/or improved socio-economic status of non-JSY mothers. One of the limitation of this study was economic status of the mothers could not be established either due to mothers ignorance and/or non-cooperation on this dimension. Hence contribution of this vital component in decision making cannot be totally alienated.

Overall, health personnel and community link workers are neither counseling nor mobilizing mothers for institutional delivery as this study has clearly brought out (health personnel motivated only 22.38% mothers). This could be either due to negligence of duty, negative attitude and/or poor communication. Since Haryana is economically advance state in the country, the nominal incentive built in the scheme is not acting as big motivator for workers. From the socio-behavioral perspective, health personnel would make a positive impact if she is available round the clock and more so at the time of need. But health workers are neither resident of the villages nor residing at health centres thus resulting in reduced opportunity of contact with expecting mothers. All kinds of modes of travel were utilized for transferring pregnant mothers from home to institution. With government of Haryana introducing free ambulance services under NRHM for pregnant mothers from 14th Nov 2009, its use and impact would be visible and evident in subsequent deliveries. It would be then interesting to observe the pattern of its use in the subset (JSY vs. non-JSY) of population.

In-contrast, health personnel (50.6%) were the main source of information on JSY followed by community link worker (17.56%) while a study from Orissa reported community link worker (ASHA) as main (78.9%) source of information and motivation for institutional delivery.¹² From the perspective of JSY scheme, Orissa is accorded high focus with probably greater role and involvement of ASHA worker in comparison to state of Haryana.

Since all mothers had normal vaginal delivery it was disappointing to note that only 32.43% had initiated breast feeding within one-hour of birth [CES (India):33.5%; DLHS-3(Rohtak): 20.3%) and 62.16%

administered pre-lacteal feed (Haryana, 80.8%). Similar picture emerged between JSY and non-JSY mothers. Nearly 15.54% of mothers initiated breast feeding after 24 hours of birth (Rohtak, DLHS-3: 29.1%) while a study carried out in rural Bangalore also reported 19% for the same.¹³ The study of Andhra Pradesh (Guntur) and West Bengal¹⁴ reported 30% and 17.58% of newborn were bathed within 24 hours of birth while our study recorded 46.62% [JSY (62.50%) vs. non-JSY (31.57%) $p < 0.05$]. On excluding pre-lacteal feeds, nearly 37.83% mothers reported having administered exclusive breast feeding (0-5 months). This figure looks very high on comparison with Haryana (DLHS-3) figure of 9.4% but lower than national 46.8% (CES, India). Possibility of improvement in feeding practices or recall bias could be a factor. But it was encouraging to note that none of the child received bottle feeding and all were immunized-till-date according to national immunization schedule.

Only 56.08% [JSY (91.66%) viz. non-JSY (22.3%)] mothers were aware of the JSY scheme prior to conduct of interview suggestive of high impact of

targeted intervention but overall slightly lower than recent national average of 60%. A study in Uttar Pradesh reported 88% awareness of scheme.¹⁵ There was concordance of reply of mothers and records of financial assistance maintained with the health system, suggesting that there was no gratification given to health workers. However, a study in Madhya Pradesh reported discrepancies between the disbursed amounts of JSY scheme.¹⁶ While feedback received from district administration in terms of delay in release was non-receipt of budget from higher authorities and partly attributed delay on household also in submitting relevant photocopy of documents.

To conclude, maternal and child health practices in this rural setting is gradually improving with difference noted between JSY and non-JSY mothers. Vertical transfer of cash assistance may result in interjection of new messages to targeted population, catalyzing critical mass movement and urging for behaviour change but will only make a difference when all supporting institutions and health determinants are also strengthened in tandem.

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