Original Article

DOI: 10.17354/ijss/2016/196

Determinants of Utilization of Janani Suraksha Yojana among Mothers in Selected Communities of Aligarh: A Population-based Cross-sectional Study

Neha Priya[1], Samreen Khan[1], Zulfia Khan[2]

[1]Assistant Professor, Department of Community Medicine, Teerthanker Mahaveer Medical College, Moradabad, Uttar Pradesh, India, [2]Ex-Professor & Head, Department of Community Medicine, J N Medical College Hospital, Aligarh, Uttar Pradesh, India

Abstract

Background: Janani Suraksha Yojana (JSY), maternity benefits scheme launched by Government of India in April 2005 with the objective of reducing maternal and neonatal mortality by promoting institutional deliveries by providing cash incentive to beneficiaries as well as promoter.

Materials and Methods: A cross-sectional study was conducted under Rural Health Training Centre and Urban Health Training Centre of the field practice area of Department of Community Medicine, J N Medical College Hospital, Aligarh.

Results: A total of 300 RDWs (15-49 years) were interviewed out of which 120 (40%) were from urban slums and 180 (60%) from rural areas. The majority of deliveries were at government institution (51%), followed by home (26.3%) and (22.7%) at private hospitals.

Conclusion: The majority (73%) of females had institutional delivery. It was found that institutional delivery was influenced by women's age, religion, caste, and educational status. The level of education and younger age was found to have a positive effect on utilization of JSY.

Key words: Janani Suraksha Yojana, Recently delivered women, Utilization

INTRODUCTION

Promotion and protection of maternal and child health has been one of the most important developmental goal in many countries across the globe still mothers continue to die. Worldwide, every day in 2010, about 800 women died during pregnancy and childbirth.[1] More than 60% of mothers died during postpartum period. The risk of death was the highest close to birth and decreased in subsequent days and week.[2] Almost all maternal deaths (99%) occurred in developing countries. More than three-fourth of maternal deaths were concentrated in just two regions of the world, i.e., 53% in the African region and 25% in South-East Asia. The maternal mortality ratio in developing countries is 240 per 100000 births while in developed countries it is just 16 per 100000 live births. For an emerging global economic power famous for its medical prowess, India continues to have unacceptably high maternal mortality levels. India reported 212/100,000 live births. IMR stood at a high of 47/1000 birth with the majority of maternal and child deaths occurring in five northern states of Bihar, Madhya Pradesh, Orissa, Rajasthan, and Uttar Pradesh (SRS-2011).[3] Combined they accounted for about 55% of child mortality and 65% of maternal deaths in the country. As the risk of death is highest close to delivery and decreases in subsequent days, maximum benefit can be achieved by focusing on this time. Skilled attendance at all births is considered to be the most critical intervention for ensuring safe motherhood.[4,5] But now moving a step forward from training and equipping traditional birth attendants; to use of skilled birth attendant, we aim at achieving universalization of institutional delivery.

Access this article online

www.ijss-sn.com

Month of Submission : 02-2016
Month of Peer Review : 03-2016
Month of Acceptance : 03-2016
Month of Publishing : 04-2016

Corresponding Author: Dr. Neha Priya, Department of Community Medicine, Teerthankar Mahaveer Medical College & Hospital, Teerthanker Mahaveer University, Moradabad - 244001, Uttar Pradesh, India. Phone: +91-7417142430. E-mail: neha.priya287@gmail.com

The use of maternal health care services remained low throughout the country despite continued efforts to strengthen the infrastructure, drug supply, and human resource.[6] It was so because these efforts still did not address many of the access barriers faced by the poor. Demand-side financing initiatives are specifically intended to reduce cost-related access barriers for vulnerable groups by giving them purchasing power to use a designated service.[7] The concept involves funneling government or donor funds directly to a selected group. There are various approaches, one of them being a conditional cash transfer (CCT). A traditional CCT bestows a financial incentive directly to the beneficiary if the recipient complies with a certain set of prerequisites.[7,8]

Beginning in 2005, India launched a national CCT program to promote institutional delivery, Janani Suraksha Yojana (JSY). The JSY program is fully funded by the Government of India and operates under the National Rural Health Mission.[9]

Functional nationwide, it is the largest cash transfer program in the world.[10] The eligibility criteria for the program differ depending on the province. Women delivering in non-high focus states (with a relatively better in-facility birth proportion) are only eligible for the cash benefit for their first two live births, and if they have a government issued below the poverty line (BPL) card or belong to a scheduled caste or tribe. While in high focus provinces, (those with a low in-facility birth proportion), it does not include a conditionality component. All women who deliver in a public facility receive the cash incentive. In Uttar Pradesh, a high focus state, rural women receive Rs. 1400, whereas urban women receive Rs1000 upon delivery in a public facility. All services provided in the public health sector are free of charge to the end user. The program is supported in the community through the selection of an accredited social health activist (ASHA). The ASHA is a female resident of the village who is incentivized to motivate women to deliver at public facilities under the program.[11]

To date, there have been few research reports on this large-scale demand-side financing program for maternal health. Previous assessments have been descriptive,[12] process oriented,[13] or based on secondary data collection.[10] There has been few documentation on factors that influence how beneficiaries interact with the services provided. This paper studies the extent of institutional deliveries and factors associated with participating in the cash transfer program in one district in India. It also studies the timeliness of receipt of the cash incentive by mothers.

MATERIALS AND METHODS

In the present context, this study was conducted to find out the institutional delivery rate, utilization rate of JSY and to identify the association of the socio-demographic characters with JSY utilization.

A cross-sectional observational study was undertaken in the field practice areas of the Urban and Rural Health Training Centers, Department of Community Medicine, JNMC, AMU, Aligarh, UP. The total population covered under RHTC with 6 villages was 13787 and UHTC with 2 periurban and 2 rural localities was 10932. The study was carried out over a period of 12 months (1 July, 2013, to 30 June, 2014) among recently delivered women. The prevalence of institutional delivery in UP as found in a study by UNFPA 2008 (50.2%) was used for calculation of sample size (95% confidence level, 12% relative precision and 8% non-response). The yielded sample size was 278 which was rounded off to 300 and selected proportionately from the 10 areas. In each area, systematic random sampling was used and all eligible females of the houses were included. For households with no eligible female, next house was taken.

After obtaining informed consent and explaining the study objective, data were collected by interviewing the 300 study subjects, ensuring confidentiality in a non-judgmental manner and in the absence of any family member or local health personnel.

The study variables were related to JSY status, socio-demography, BPL card. Some specific information was also elicited from JSY mothers regarding amount and delay in receipt of financial assistance and pattern of money utilization. The opportunity of contact was taken up for health communication, treatment of minor illness, and eventually, mothers were thanked for their cooperation.

Data entry and management were carried out using MS excel spreadsheet and software. A result was 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.

The study obtained clearance from the Institutional Ethics Committee, J N Medical College, Aligarh Muslim University, Aligarh.

RESULTS

In the current study, majority (45%) of women belonged to the age group 18-24. More than two third (71.3%) of the study population were from rural background, as most of the field practice areas were rural and PPS sampling was done. 67% women were Muslims and 33% were Hindus. Only 2 women belonged to other religion and were Christians.

About 40% of study population belonged to the OBC, 32.8% General and 27.2% to SC/ST category.76.7% of women had joint family and 23.3% women lived in nuclear family. More than 50% of women were illiterates or had no formal education while 22% of women had education up till middle school and 14% females had attended high school. While 11% had received higher education, i.e., attended college or above. The majority of women (97.7%) under study were housewives. Though some of them used to do field work or making parts of locks in the home, they were not earning independently. Those working outside came from two very different categories; on one side they were unskilled workers while the other halves were qualified, professional females (Figure 1).

Utilization of Various Components of JSY by Females Delivering at Government Facility

Most (94.7%) of the females delivering in government institution, i.e., eligible for receiving JSY incentive were getting the intended cash benefit. The 5.3% mothers who did not receive the cash were those not aware of the cash benefit or those told to come after some time but did not turn up again (Table 1).

In our study, 18% females either got cash or cheque at the time of discharge from hospital while almost half (48.27%) females received cash incentive within 2 weeks time. In total, 87% females received their payments by 1 month post-delivery (Table 1).

Age of the mother at the time of delivery has a profound influence in choosing the place of delivery. Younger females especially those <25 years had both higher government (51%) and private (45.6%) hospital delivery while home was the favored place of delivery for more than 30 years females. 55.6% of the study population of rural area delivered in a government institution and 19.6% in private hospital while 24.8% had home delivery. Hindu females had a lower home delivery (19%) compared to Muslim females (81%) indicating Hindus preference for institutional delivery. Lower castes (SC/STs) had a highly significant negative association with delivery at a government institution. Education was observed to have a highly significant relation with the place of delivery, with primary and above education females preferring institutional delivery. Equal number of working mothers (42.9%) delivered in private and government set up while just one female (14.2%) delivered at home (Table 2).

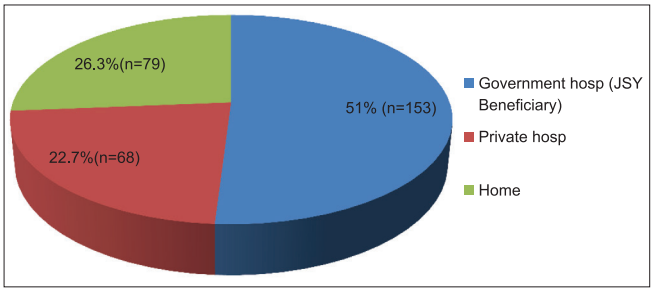

Figure 1: Place of delivery of mothers in our study

DISCUSSION

Healthcare sector has been experiencing a regular shift from non-institutional to institutional deliveries over the years. Institutional delivery refers to the childbirth at technology-equipped medical facility under supervision of skilled medical staff to ascertain that health of neonate or mother is not compromised. These include deliveries in government health facilities as well as private institutions such as nursing homes and hospitals. As can be seen in Figure 1, majority of deliveries were at government institution (51%), followed by home (26.3%) and (22.7%) at private hospitals. Thus, majority 73% females of our study had institutional delivery. Institutional deliveries are on a constant rise,[14,15] but a recent hike is seen after few years of implementation of JSY (2012). Similar findings were reported by other researchers also who studied the low performing states.

In Agra 53.20% deliveries took place in an institution,[16] Ved *et al.* identified that there were about 60% institutional delivery in different districts.[17] Roy *et al.* reported 84.9% institutional deliveries, out of which, 79.3% were at government hospitals in Lucknow.[18] Varma *et al.* said 92% of deliveries were in the government hospitals in rural UP.[19] CORT commissioned by UNICEF observed institutional delivery rate to be 55% in UP.[20] UNFPA, in concurrent assessment of the JSY observed 47.5% institutional deliveries in UP.[13]

Contradictory findings were shown by other researchers. Institutional deliveries were found to be 37.1% by Sahu *et al.* in Raipur,[21] 21% by Khan *et al.*[22] and 18.6% by Ansari and Khan in Aligarh;[23] 44% by Population Council in UP.[24]

Most of families in our study were daily wagers, who hardly kept any savings. In such a situation the cash incentive provided in the JSY scheme comes very handy. 94.7% of those delivering at government hospital received cash benefit. Sidney *et al.* in Ujjain reported 100%receipt of the cash benefit.[25] Santhya *et al.* found 92% receipt of cash entitlement in Rajasthan[26] while it was found to be 89% for rural UP.[19] Lim *et al.* found implementation of JSY in 2007-2008 was highly variable by state-from <5-44% of women giving birth receiving cash payments from JSY.[10] Others studies in high performing states too, have reflected lower rates of cash receipt. It was 68% by Singh *et al.*,[27]

53% by Lanjewar *et al.*,[28] 32.8% by Vishwanath *et al.*,[29] 48% by Malik *et al.* in Haryana[30] and 27.3% by Vikram *et al.* in Delhi.[31]

The most judicious time for receipt of cash is before going for delivery so that payments for transport, medicine, etc. can be given. Nevertheless even after delivery, it should be given as soon as possible. Similar to our study, (66% of beneficiaries got incentive within 2 weeks of delivery), in Ujjain too most beneficiaries reported receiving the cash incentive by 2 weeks of delivery,[25] in Rajasthan 50% by a week and 35% by 1 month,[26] in Maharashtra 53% within 1 week of delivery[28] in UP, only 64% received it within 1 month.[19] In high performing states also, like Maharastra68% received JSY incentive at the time of discharge[27] while 20.83% JSY mothers received money in <1-month of delivery in Haryana.[30] Thus, the cash receipt is highly variable across various states irrespective of them being high or low performing, depicting official hurdles to be the same everywhere.

Age of the mother at the time of delivery has a profound influence in choosing the place of delivery. As shown in Table 2 deliveries at government health facility were found to be greatest in 18-24 year age group (51%), followed by 25-30 year age group (41.2%). The home was the favored place of delivery for more than 30 years females. Lim *et al.* found utilization rates steadily declined with age with the youngest women (aged 15-19 years) showing the highest uptake in different districts of India.[10]

While no significant relation between delivery at government facilities and the age was reported by Roy *et al.* in Lucknow[18] and Santhya *et al.* in Rajasthan.[26]

Rural population lag behind in the utilization of maternal and child services. However, better results were reported in rural areas under our study; this may be because most of the villages had good road connectivity to nearby CHC at Jawan.55.6 % of our study population of rural area delivered in a government institution and 19.6% in private hospital while 24.8% had home delivery. Belonging from a rural area was significantly associated with institutional delivery. Similarly, Lanjewar *et al.* in Maharashtra observed that more women from rural area (85.29%) actually benefitted.[28]

Contrary results were observed by Khan *et al.* in UP and Santhya *et al.* in Rajasthan where residence in remote

Table 1: Components of JSY (cash receipt)

Details of cash benefit receipt	*n* (%)
Receipt of cash benefits by those having government facility delivery (*n*=153)	
Yes	145 (94.7)
No	8 (5.3)
Time of receipt of cash incentive	
Within 24 h	26 (17.9)
24 h - 2 weeks	70 (48.3)
2 weeks - 4 weeks	31 (21.4)
>4 weeks of delivery	18 (12.4)
Cash incentive given by	
ASHA	15 (9.8)
Health institution staff	121 (79.1)
Others	17 (11.1)
Total	153 (100)

ASHA: Accredited social health activist, JSY: Janani Suraksha Yojana

Table 2: Distribution of mothers according to area, religion, caste, age group and utilization of JSY (delivery at government facility)

Socio demographic characteristics	Place of delivery			Total (%) *n*=300	Chi-square	*P* value
	Government (*n*=153)	Private (*n*=68)	Home (*n*=79)			
Age group						
18-24	78 (51)	31 (46)	27 (34)	136 (45)	11.29 (4)	0.023
25-30	63 (41)	29 (42)	35 (44)	127 (42)		
>30	12 (8)	8 (12)	17 (22)	37 (13)		
Area						
Rural	119 (78)	42 (62)	53 (67)	214 (71)	6.85 (2)	0.033
Urban	34 (22)	26 (38)	26 (33)	86 (29)		
Religion						
Hindu	61 (40)	23 (34)	15 (19)	99 (33)	10.30 (2)	0.006
Muslim	92 (60)	45 (66)	64 (81)	201 (67)		
Caste						
General	56 (37)	32 (47)	10 (13)	98 (33)	32.71 (4)	0.000
OBC	63 (41)	26 (28)	31 (39)	120 (40)		
SC/ST	34 (22)	10 (15)	38 (48)	82 (27)		
Mother's education						
Illiterate	80 (52)	35 (51)	62 (79)	177 (59)	23.139 (4)	0.000
1st-10th class	63 (41)	23 (34)	16 (20)	102 (34)		
Above 10th	10 (7)	10 (15)	1 (1)	21 (7)		

Delivery at government institution was considered proxy for JSY utilization, as there were no accredited private institutions and none of the home delivered mothers received any cash benefit, JSY: Janani Suraksha Yojana

villages or hamlets of the large village was negatively associated with institutional delivery.[22,26]

Hindu females had a lower home delivery (19%) compared to Muslim females (81%) indicating Hindus preference for institutional delivery which was found to be statistically significant also. Roy *et al.* from Lucknow, reported Hindus to be more likely to get their deliveries done at the government hospital.[17] Santhya *et al.* found that women from religion other than Hinduism were less likely to get the cash benefit (33-35% versus 49%) in Rajasthan.[26] Lim *et al.* found that Muslims in both high-focus and non-high-focus states had lower odds of receiving JSY payments.[10]

In our study, lower castes (SC/STs) had a highly significant negative association with delivery at a government institution. Scheduled castes/tribes were found to be negatively associated with institutional delivery by Khan *et al.* in Aligarh.[22] On the other hand, Roy *et al.* and Lim *et al.* reported that SC/STs had higher preference to get their deliveries at government hospital.[18,10]

Education was observed to have a highly significant relation with the place of delivery, with primary and above education females preferring institutional delivery. Similar to our findings Roy *et al.* also reported significant relation between delivery at government facilities and education status of the RDWs of Lucknow.[18] In Aligarh being non-literate was found to be negatively associated with institutional delivery.[23]

CONCLUSION

To conclude we can say that acceptance of institutional delivery care has improved a lot as compared to earlier studies in the same area. This is probably in response to JSY. Vertical transfer of cash assistance may result in interjection of new messages to targeted population, catalyzing critical mass movement and urging for behavior change but will only make a difference when health infrastructure is also improved to tackle the problem of overcrowding in hospitals, lack of trained staff at the health facility and uninterrupted supply of delivery kits, IFA tabs and other drugs.

Improvement in overall status of development of women in particular and society in general by ensuring equity in educational and economic opportunities is sure to bring about palpable results in improving service utilization and general health status of the people.

REFERENCES

1. WHO, Global Health Observatory, (GHO). Maternal and Reproductive Health: Maternal Mortality. WHO; 2014. Available from: http://www.who.int/gho/maternal_health/en/. [Last accessed on 2014 Nov 25].
2. WHO. WHO Fact Sheet, Maternal Mortality, 2012. World Health Statistics 2014. Geneva: World Health Organization; 2014.
3. Sample registration system. SRS Statistical Report 2011. New Delhi: Office of the Registrar General and Census Commissioner, Ministry of Home Affairs; 2013. Available from:http://www.censusindia.gov.in/vital_statistics/SRS_Reports_2013.html[Accessed on Nov 25, 2014].
4. WHO. Making Pregnancy Safer: The Critical Role of the Skilled Attendant - A Joint Statement. Geneva: WHO, ICM, FIGO and World Health Organisation; 2014.
5. Graham W, Bell J, Bullough C. Can skilled attendance at delivery reduce maternal mortality in developing countries? Paper Presented at: European Commission Expert Meeting on Safer Motherhood, Brussels, Belgium, 27-28, November 2000.
6. McNamee P, Ternent L, Hussein J. Barriers in accessing maternal healthcare: Evidence from low-and middle-income countries. Expert Rev Pharmacoecon Outcomes Res 2009;9:41-8.
7. Ensor T. Consumer-led demand side financing in health and education and its relevance for low and middle income countries. Int J Health Plann Manage 2004;19:267-85.
8. Borghi J, Ensor T, Somanathan A, Lissner C, Mills A; Lancet Maternal Survival Series Steering Group. Mobilising financial resources for maternal health. Lancet 2006;368:1457-65.
9. WHO. Improving Maternal Newborn and Child Health India. Geneva: WHO; 2004.
10. Lim SS, Dandona L, Hoisington JA, James SL, Hogan MC, Gakidou E. India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: An impact evaluation. Lancet 2010;375:2009-23.
11. Government of India. Janani Suraksha Yojana: Features and Frequently Asked Questions and Answers. 2006.
12. Gupta SK, Pal DK, Tiwari R, Garg R, Sarawagi R, Kumar A. Assessment of Janani Suraksha Yojana (JSY) - In Jabalpur, Madhya Pradesh: Knowledge, attitude and utilization pattern of beneficiaries: A descriptive study. Int J Curr Biol Med Sci 2011;1:6-11.
13. UNFPA. Concurrent Assessment of Janani Suraksha Yojana (JSY) Scheme in Selected States of India. New Delhi: UNFPA; 2009.
14. International Institute for Population Sciences, (IIPS). District Level Household and Facility Survey (DLHS-3), 2007-08. Uttar Pradesh, India, Mumbai: IIPS; 2010.
15. International Institute for Population Sciences, (IIPS). National Family Health Survey (NFHS-3), India, 2005-06. Uttar Pradesh, Mumbai: IIPS; 2008.
16. Kumar V, Kaushal SK, Misra SK, Gupta SC. Assessment of the impact of JSY on maternal health services in rural areas of Agra district. Indian J Community Med 2012;24:118-23.
17. Ved R, Sundararaman T, Gupta G, Rana G. Programme evaluation of the Janani Suraksha Yojana. BMC Proc 2012;6:015.
18. Roy MP, Mohan U, Singh SK, Singh VK, Srivastava AK. Factors associated with the preference for delivery at the government hospitals in rural areas of Lucknow district in Uttar Pradesh. Indian J Public Health 2013;57:268-71.
19. Varma DS, Khan ME, Hazra A. Increasing institutional delivery and access to emergency obstetric care services in rural Uttar Pradesh. J Fam Welf 2010;56:23-30.
20. Centre for Operations Research and Training, (CORT). Assessment of ASHA and Janani Suraksha Yojana in Uttar Pradesh. Available from: http://www.cortindia.com/UP/UP-2007-0306. [Last accessed on 2014 Nov 25].
21. Sahu D, Gandhi NK, Soni GP. Knowledge and utilization of Janani Suraksha Yojana (JSY): An epidemiological study. Indian J Mater Child Health 2012;14:1-7.
22. Khan Z, Mehnaz S, Ansari MA, Khalique N, Siddiqui AR. Existing practices and barriers to avail of maternal healthcare services in two slums of Aligarh. Health Popul Perspect Issues 2009;32:113-23.
23. Ansari MA, Khan Z. Antenatal care services in rural areas of Aligarh, India: A cross-sectional study. J Public Health Epidemiol 2011;3:210-6.
24. Population Council. Increasing Institutional Delivery and Access to Emergency Obstetric Care Services in Rural Uttar Pradesh: Implications for Behaviour Change Communication, Policy Brief No.1. New Delhi: Population Council; 2010.

25. Sidney K, Diwan V, El-Khatib Z, De Costa A. India's JSY cash transfer program for maternal health: Who participates and who doesn't - A report from Ujjain district. Reprod Health 2012;9:2.
26. Santhya KG, Jejeebhoy SJ, Acharya R, Zavier AJ. Effects of Janani Suraksha Yojna on Maternal and New born Care Practices: Women's Experience in Rajasthan. New Delhi: Population Council 2011.
27. Singh HS, Tamulee P. Janani Surasksha Yojana: Impact on socio-economic conditions among beneficiary families. Int J Sci Res Publ 2012;2:1-4.
28. Lanjewar S, Chaudhary S, Kubde S, Bhatkule P. Evaluation of Janani Suraksha Yojna (JSY) and Universal Immunization Programme (UIP) in two districts of Maharashtra. Int J Sci Res 2013;2:97-9.
29. Vishwanath WH, Jatti GM, Tannu U. Missed opportunities of Janani Suraksha Yojana benefits among the beneficiaries in slum areas. Natl J Community Med 2011;2:40-2.
30. Malik JS, Kalhan M, Punia A, Sachdeva S, Behera BK. Utilization of health services under Janani Suraksha Yojna in rural Haryana 2013. Int J Med Public Health 2013;3:176-9.
31. Vikram K, Sharma AK, Kannan AT. Beneficiary level factors influencing Janani Suraksha Yojana utilization in urban slum population of trans - Yamuna area of Delhi. Indian J Med Res 2013;138:340-6.

How to cite this article: Priya N, Khan S, Khan Z. Determinants of Utilization of Janani Suraksha Yojana among Mothers in Selected Communities of Aligarh: A Population-based Cross-Sectional Study. Int J Sci Stud 2016;4(1):97-102.

Source of Support: Nil, **Conflict of Interest:** None declared.