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Original Research Article

Utilization of free referral transport services- 102 or Mahatari Express under Janani Shishu Suraksha Karyakram in rural block of Raipur, Chhattisgarh

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ABSTRACT

Background: Mahatari Express or 102 [an initiative of Family and Health welfare department (Government of India) and Government of Chhattisgarh under Janani Shishu Suraksha Karyakram (JSSK project)] is the dedicated vehicle for cashless transport of pregnant women from home to hospital (pick up), hospital to home (drop back) and hospital to hospital (inter facility transfer) for institutional delivery. Objective was to assess the utilization of free referral transport (Mahatari express) service in rural block of Chhattisgarh.
Methods: A community based cross-sectional study done in selected 32 villages of Dharsiwa, a rural block of Raipur district among 352 mothers having child less than one year using multistage random sampling from July 2015 to June 2016.
Results: Among all mothers, 72% mothers delivered in the public health facility. Out of this mother who delivered in government facility, 161.27% availed this Mahatari express to reach the facility for delivery while 66.80% availed only drop back facility from home to institute. 57.70% mothers benefited with both the way cost free transport using Mahatari Express.
Conclusions: Though Mahatari express was started in the year 2013 in Chhattisgarh, but less percentage of pregnant females had utilized both way free referral services to government facility during delivery.

Keywords: Janani Shishu Suraksha Karyakram, Mahatari Express, Public health facility

INTRODUCTION

Ministry of Health and Family Welfare, Government of India had a nationwide initiative- Janani Shishu Suraksha Karyakram (JSSK) on June 01, 2011 started from Mewat district Haryana. Under this scheme, there is a free entitlement for both pregnant mothers and sick infants accessing public health facilities which will reduce maternal and infant mortality.[1] In this programme, all expenses related to delivery in a public health institution would be borne entirely by the government and no user charges would be levied.[2]

In state of Chhattisgarh, JSSK was launched on 15 August 2011. The main aim of this programme is a provision of free entitlements for pregnant mothers which includes management of normal delivery, C-section and any complications during pregnancy and free treatment of sick newborns up to one year in any government facilities and free transport services from home to hospital (pick up) hospital to home (drop back) hospital to hospital (inter facility transfer). All pregnant females (rural, urban, APL/BPL) and sick newborns up to one year are eligible for this programme.[3] Mahatari express or 102 express, an Initiative of Family and Health welfare department (GOI) and Government of Chhattisgarh Under JSSK project is

the dedicated vehicle for cashless transport of pregnant women for institutional delivery.[4] In the year 2016-17, 90% of pregnant women received free drugs, 82% free diagnostics, 63% free diet, 59% free home to facility transport while 54% received free drop back home after delivery. Utilization of public health infrastructure by pregnant women has increased dramatically as a result of Janani Suraksha Yojna and JSSK. Almost 1.30 crore women delivered in Government health facilities in the year (2016-17).[5] During the FY 2023-24 more than 1.37 crore beneficiaries availed the benefits under JSSK.[6] With this background present study is done to assess the utilization of free referral transport services (Mahatari Express) among mothers in rural block of Chhattisgarh and its association with socio-demographic variables.

METHODS

Study design

It was a community based cross-sectional study.

Study area

32 villages of Dharsiwa block (rural block) of Raipur were selected.

Study period

This study took place from June 2016 to July 2017.

Study subjects

Mothers who had delivered within last one year were the study subjects.

Sample size and sampling method

352 mothers were selected for the study by using multistage random sampling method.

Study tool and technique

A predesigned and pretested questionnaire was used. Technique used was personal interview of mothers.

Study definitions

JSSK beneficiaries

Mothers who delivered in government health facility.

Availed both way transport service

If the mother availed government ambulance 102/ Mahatari Express both ways i.e. transport from home to government health institution and free drop back from government institutions to home (after 48 hours stay for normal delivery and 5 days for C-section delivery).

Statistical analysis

Data was entered in MS Excel & result is presented in actual figures and percentages, analyzed and interpreted by using chi-square test. Significance level was considered, at p value <0.05.

Ethical consideration

Study was approved by institutional ethical committee.

Methodology

Multistage random sampling was used for selecting villages. In first stage, both the community health centres (CHC) was taken for the study. In second stage, two Primary health care centres (PHC) were being selected randomly using lottery method from each CHC, thus 4 PHCs included in the study. Under each PHC, two subcentres were selected with 5 km and two subcentres more than 5 km away from the respective PHC. In each of the subcentres thus selected, two villages will be taken one in which subcentre is located and any other village selected via random sampling. Thus, study area will cover 32 villages, which include equal number of subcentre villages and non-subcenter villages. From each selected village, 11 mothers were taken randomly from each village using random number table

List of mothers having infants was obtained from all the Anganwadis/ASHA in the study area. From the list, mothers equal to sample size were selected randomly using random number table. If total number of study subjects were less than required, adjacent village was included for the study. House to house visit was done to collect data using predesigned, pretested semi-structured questionnaire.

RESULTS

Among all the study participants, approx. 253 mothers (71.88%) delivered in a government institution (JSSK Beneficiaries) and 9% in private institutes and rest 19% delivered in home. The present study revealed that out of 253 mothers who delivered in government facility, 61.26% availed the services of Mahatari express to reach the facility for delivery while 66.79% availed only drop back facility from home to institute. Both the way cost free transport was benefited by 146 (57.70%) mothers using Mahatari Express (Figure 1).

About 22.13% of the women /families used personal vehicle and 15.02% used hired vehicle to reach government facility. The most common reason cited for not using 102 (Mahatari Express) was they did not make call/line was busy followed by delay in reaching vehicle (11.22%) and 2% said that they called but got no response (Table 1).

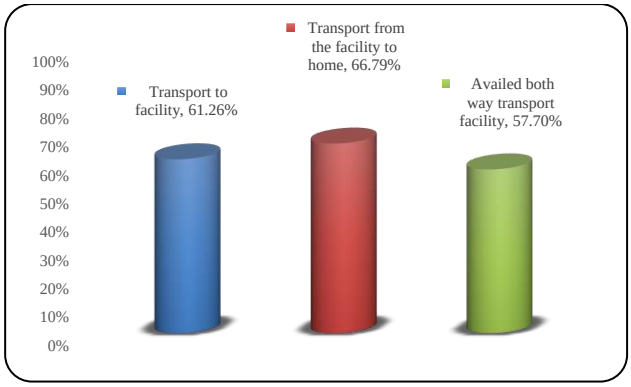

Figure 1: Percentage of beneficiaries who availed free transport services to government health facility.

Table 1: Mode of transport used by beneficiaries to reach public health facility.

Mode of transport used to reach public health facility for delivery (n=253)	N	%
Private/hired vehicle	38	15.02
Personal vehicle	56	22.13
102/108	155	61.27
By walking	04	01.58
Reason for not using 102/108 to reach delivery hub (n=98)		
Not called	82	83.68
Called but no response	02	02.04
Delay in reaching 102/108	11	11.22
Not aware of services	03	03.06

Table 2: Association of socio-demographic variables of JSSK beneficiaries with utilization of transport service.

Socio-demographic Variables	Availed both way transport service		
	Availed (n=146) (%)	Not availed (n=107) (%)	Total (n=253) (%)
Education of mothers			
No formal education	23 (58.97)	16 (41.03)	39 (15.42)
Upto middle school	62 (55.86)	49 (44.14)	111 (43.87)
High school and above	61 (59.22)	42 (40.78)	103(40.71)
	χ^2=0.279, p=0.87, df=02		
Current working status			
Housewife	129(56.83)	98 (43.17)	227(89.72)
Working	17 (65.38)	09 (34.62)	26 (10.28)
	χ^2=0.700, p=0.40, df=01		
Caste			
ST/SC	56 (59.57)	38 (40.43)	94 (37.15)
Others	90 (56.60)	69 (43.40)	159(62.85)
	χ^2=0.214, p=0.64, df=01		
Type of family			
Nuclear	54(68.35)	25 (31.65)	79 (31.23)
Joint	92 (52.87)	82 (47.13)	174(68.77)
	χ^2=5.335, * p<0.05(0.02), df=01		
Socioeconomic status			
Upto class III	18(52.94)	16 (47.06)	34 (13.44)
Below class III	128(58.45)	91 (41.55)	219 (86.56)
	χ^2=0.36, p=0.54, df=01		
Parity			
Primiparous	79(60.77)	51 (39.23)	130(51.38)
Multiparous	67 (54.48)	56 (45.52)	123(48.62)
	χ^2=1.027, p=0.31, df=01		

*p<0.05=significant

When both way transport facility was compared with socio-demographic variables of beneficiaries, it was observed that beneficiaries with high school and above education (59.22%) availed both way transport facility using Mahatari express. Working mothers availed (65.38%) this service more than housewives (56.83%). This service was availed more by mothers of SC/ST castes (59.57%) and those living in nuclear family (68.35%). Similar trend was seen in mothers of SES class below III (58.45%) and primiparous (60.77%). Age, education, occupation, caste, SES and parity did not have any statistical significant relation with transport service. However, type of family had statistically significant relationship with transport service (p<0.05) (Table 2).

Table 3 shows when both ways transport service was compared with antenatal care services, it was observed that mother who registered early (63.39%) during antenatal period availed these services than 42.86% mothers who registered late. The difference in availing these services was found statistically significant. ($p<0.05$).

A significant difference was observed in availing transport services among mothers (80.36%) who had to travelled more than 10 kms to reach delivery hub than those who travelled less than or equal to 10 km (39.72%) ($p<0.001$).

Table 3: Association of variables of antenatal care services with utilization of transport services.

Antenatal care services	Availed both way transport service		
	Availed	**Not availed**	**Total**
Time of registration			
Early registration	116(63.39)	67 (36.61)	183 (71.54)
Late registration	30 (42.86)	40 (57.14)	70 (27.66)
	χ^2=8.745, * p<0.05 (0.003), df=01		
ANC visits			
<4	41 (57.75)	30 (42.25)	71 (28.06)
≥4	105(57.69)	77 (42.31)	182 (71.94)
	χ^2=0.0000, p=0.9937, df=01		
Distance of delivery hub (km)			
≤10	56 (39.72)	85 (60.28)	141 (55.73)
>10	90 (80.36)	22 (19.64)	112 (44.27)
	χ^2=42.24, ** p<0.001 (0.0000), df=01		

*p<0.05= significant, p<0.001= highly significant

DISCUSSION

In this study, out of 352 mothers, 253 (71.88%) were JSSK and out of this 253, 57.7% beneficiaries availed both way transport service i.e. transports from home to government health institution and free drop back from government institutions to home (after 48 hours stay for normal delivery and 5 days for C-section delivery). Both way transport service utilized more by mothers with education of high school and above, working mothers, mothers of nuclear family and primiparous mothers. Similarly, mothers who did early registration for pregnancy (registration before 12 weeks) and beneficiaries for those distance of delivery hub >10 km utilized both way transport service more than who did late registration and for those distance of delivery hub <10 km. Type of family, early registration and distance of delivery hub was found to be significantly associated with mothers who availed both way transport services.

Present study showed that 61.27% of mothers availed free home to facility transport while 66.80% received free drop back to home after delivery and as per the Annual health report 2016-17 from maternal health division, MOHFW, 49% pregnant women availed free home to facility transport while 43% received free drop back to home after delivery, which is lower than the findings of present study.[5] Present study revealed 57.7% mothers availed both way free transport service i.e. transport from home to government health institution and free drop back from government institutions to home (after 48 hours stay for normal delivery and 5 days for C-section delivery), the findings of present study is in contrast with the similar study conducted by Tyagi in Sirmaur district of Himachal Pradesh where only 19% mothers received full benefit for transport.[7] Mondal et al in his study concluded that 23.4 % availed the both ways cost free transport to and from the health facility while 17.1% availed the vehicle for the one way journey either to or from the health facility while present study noted higher percentage of mothers (57.7%) availed both way transport services in addition to mothers who availed one way journey either to (61.27%) or from the health facility (66.8%).[8] Similarly, when present study is compared with the study done by Goyal et al in Wardha (Maharashtra), lower percentage of beneficiaries i.e. 28%, 19.24% and 65.83% pregnant women availed free transport services from home to health institution, from transfer to higher level facility for complications and free drop back to home respectively.[9] State Institute of Health and Family Welfare, Rajasthan (2012-13) found that nearly 59.5% and 71.26% pregnant women availed free services from home to health institution and from health institution to home respectively which is in contrast to the findings of present study which showed higher percentage of mothers using free transport to facility from home but lower percentage (66.80%) of mothers using drop back to home from facility after delivery.[10] In the study done by Rathore concluded that higher percentage of (88.0%) of achievement in provision of referral transport facility for pregnant women.[11] National Health System Resource Centre (Q1: -2012-13) found that referral transport vehicle was used for 50% of pregnant women in Orissa. Transport for pregnant women from home to hospital was good at Bihar, Andhra Pradesh, Gujarat, Haryana and Maharashtra. However, drop back transport facility was poor at all places largely because of poor awareness.[12]

The study relied on self-reported data from personal interviews, potentially introducing recall bias, especially regarding transport service usage. Additionally, its focus on 32 villages in Dharsiwa block, Raipur, limits the generalizability of findings to other regions with differing socio-economic or healthcare contexts.

CONCLUSION

JSSK is one such programme under National health mission to assure free cashless services to all pregnant mothers and sick infants to reduce economic barrier accessing public facility for childbirth. The present study noted wide gaps in utilization of services among beneficiaries under this programme.

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