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Title- JSSK BENEFITS IN POST-NATAL MOTHERS

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JSSK benefitsin post-natal mothers

ABSTRACT,

Background: Maternal mortality refers to deaths due to complications from pregnancy or childbirth. Provisionof skilled care before, during and after childbirth saves the lives of women and neonates. Large number of maternal deaths reflects inequalities in access to quality services and highlights the gap between rich and poor.

Aims and Objectives:

1. To evaluate the level of awareness of free antenatal, intra-natal and post-natalservices.
2. To assess awareness about availability and utilization in the delivery of health services.

Materials &Methods: 3 blocks were selected purposively i.e.,Bhubaneswarunder urban block, Bolagarh under rural block and Banapur a tribal blockwhere 337postnatal mothers participated.

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Results: Women 30 to 35 years in rural block and 20 to 24 years in tribal block were of the least proportion who received at least one Antenatal checkup (ANC)i.e., 45% and 25% respectively. Equal proportion of women from rural and tribal blocks i.e., 40.9%and 39.2% were referred from the health facility to higher centres in tribal areas as compared to 19.9% in urban block. Despite awareness, only 51.2%, 20.3%and 28.5% from urban, rural and tribal block availed these services. Awareness about free of cost delivery in expectant mothers was found to be 40.4% in urban, 33.2% in rural and 26.4% blocks respectively.

Conclusions:The accessibility andavailability to quality reproductive, maternal, and new-born package of health care services can be addressed by ensuring universal health coverage for comprehensive reproductive, maternal, and new-born health care.

Keywords: Maternal mortality, Neonatal mortality,Skilled care, Adolescents

INTRODUCTION:

Till date numerous strategic investments have been done under National Health Mission (NHM) for improvement of maternal health. Maternal health happens to be an important aspect for the social and economic development of any country in terms of increasing equity and poverty reduction. There has been tremendous progress of the JSY scheme, so as a top up on 1st June, 2011 the Government of India launched Janani Shishu Suraksha Karyakaram (JSSK)[(1)]. The initiative envisages all pregnant women going for institutional deliveries in government health care set upare given absolutely free and no expense of cost of delivery, including caesarean section is implemented. The entitlements include free drugs, consumables, free diet during stay in any health care setting, free diagnostics and free blood transfusion, if required. There is provision of freetransportation from home to institution, between facilities in case of drop back home and also referral to higher centres[(1)]. The same was also availed by all sicknewborns in different health care institutions for treatment during neonatal period. In 2013, it was expanded to come under its umbrella , complications during ante-natal and post-natal period and sick infants[2].

Ensuring accountability to improve maternal health requires that periodic and transparent dissemination of information regarding JSSK and awareness generation should be done. The aim of the study was

1. To evaluate the level of awareness of free antenatal, intra-natal and post-natalservices in the Community.
2. To assess their awareness about availability and utilization in the delivery of health care services.
3. To explore the perception of mothers about the barriers faced by mothers in receiving post-natal services and caregivers in providing the same.
3. To recommend for improvement of the implementation.

MATERIAL & METHODS:

Type of study: Community based cross-sectional study with descriptive and analytical elements

Place of the study: Khordha district of Odisha.

Period of study: March 2021to July 2021

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Methodology: Out of 10 blocks in Khordha district in eastern Odisha 3 blocks were selected purposively i.e., Bhubaneswar under urban block, Bolagarh under rural block and Banapur a tribal block. The post-natal mothers under these 3 blocks were enrolled in the studyand a predesigned, pretested questionnaire validated earlier by the experts of Community Medicine was implemented after taking their written consent. Urban block designated as block1, rural block as block 2 and tribal block as block 3. 337 beneficiaries in the 3 blocks were equally divided. So, an estimated number of 113 participants i.e. postnatal mothers were selected.Level of awareness of the postnatal mothers in the 3 blocks was assessed regarding free antenatal, intra-natal and post-natal services in the community.

Study population: Post-natalMothers whose childrenare less than 3 months of age.

Sample size calculation:

Considering the prevalence of one a variablesi.e. Institutional delivery as 85% from National Family Health Survey-4(NFHS -4) (Odisha Data)[3] at 95% confidence level and absolute allowable error (L) as 5%, the sample size was calculated using

$$\mathbf{N= 4pq / L^2}$$

Where, **p** (prevalence of Institutional Delivery) = 85%,

q (1-p) = (100-85) %,

L= 5%

The sample calculated as 204 mothers.

Further, upon applying design effect (correction factor) of 1.5 sample size (n)was calculated as,

n = 205 * 1.5 = 306

Considering 10% of non-responders or other limiting circumstances like missing values, implausible data and withdrawal from the interview, finally the sample size was adjusted to 306 + 31 = **337participants.**

Inclusion criteria:

1. All the mothers who were having children in the age group of $\leq$ 3 months.
2. Those individuals who were residing in the particular area for more than 6 months.

Exclusion criteria:

1. Extremely sick mother and child during our visit.
2. Non respondent individuals even after 3 consecutive visits.
3. Mothers enrolled during the antenatal period and delivered in the private sector.

Study instrument:

A pre-designed pre-tested schedule was used to record all the relevant data. It consisted of following partsi.e.,Socio-demographic profile of mother anddetails of the child.

Data collection:

After obtaining permission from Khordha Chief District Medical Officer (CDMO), the data collection was initiated from one block at a time. The help of Auxiliary Nurse Midwife (ANM), Accredited Social Health Activist (ASHA), Anganwadi Worker (AWW), AWW helper of that particular area was taken to reach the study participants. A landmark point was selected in each

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area, and the 1st household was chosen randomly using computer generated random number table. Then subsequently houses were selected in a clockwise direction.

If in a household, there were no post-natalmothers with children ≤3 mothers or if the respondent gave no consent or house was locked, the next house was selected. In case of joint family with multiple children in the age group of≤3 months, then the mother of the youngest child was interviewed. This process was repeated until the desired sample size was achieved from each block. Each block was visited 8 to 10 times. In case, the targeted number of participants were not available in one block, the deficient number was noted and added up to be collected from the next block. Data was collected on from 9am to 4pm, excluding lunch hours of local residents.

Data entry and analysis:

The data was entered and analyzed using Statistical Package for the Social Sciences (SPSS 21).

Ethical considerations: Clearance from the Institutional Ethical Committee was obtained prior to the beginning of the study.

RESULTS:

TABLE 1: SOCIO-DEMOGRAPHIC PROFILE OF STUDY PARTICIPANTS

STUDY VARIABLES	URBAN BLOCK (N= 113)	RURAL BLOCK (N= 113)	TRIBAL BLOCK (N= 111)	TOTAL% (N= 337)
AGE IN YEARS				
15-19	23 (20.4)	24 (21.2)	35 (31.5)	82 (24.3)
20-24	23 (20.4)	23 (20.4)	20 (18.0)	66 (19.6)
25-29	37 (32.7)	44 (38.9)	38 (34.2)	119 (35.3)
30-34	26 (23.0)	20 (17.7)	16 (14.4)	62 (18.4)
≥35	04 (3.5)	02 (1.8)	02 (1.8)	08 (2.4)
Age of pregnant women (years) Mean (SD)	25.82 ± 5.32	25.06 ± 5.32	24.29 ± 5.40	25.06 ± 5.37
Age of marriage for women (years) Mean (SD)$	22.33 ± 3.94	22.13 ± 4.16	20.90 ± 4.55	21.79 ± 4.26
OCCUPATION*				
Self employed	15 (13.3)	04 (3.5)	00	19 (5.6)
Labourer	29 (25.7)	24 (21.2)	18 (16.2)	71 (21.1)
Housewives	69 (61.1)	85 (75.2)	93 (83.8)	247 (35.9)

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EDUCATION*				
Illiterate	**28 (24.8)**	**49 (43.4)**	**55 (49.5)**	**132 (39.2)**
Primary school	**29 (25.7)**	**40 (35.4)**	**39 (35.1)**	**108 (32.0)**
Middle school	**25 (22.1)**	**15 (13.3)**	**14 (12.6)**	**54 (16.0)**
High school	**10 (8.8)**	**08 (7.1)**	**03 (2.7)**	**21 (6.2)**
Intermediate	**14 (12.4)**	**01 (0.9)**	**00**	**15 (4.2)**
Graduation & above	**07 (6.2)**	**00**	**00**	**07 (2.4)**
SOCIO-ECONOMIC STATUS*				
I (Upper)	**00**	**00**	**00**	**00**
II (Upper middle)	**07 (6.2)**	**08 (7.1)**	**01 (0.9)**	**16 (4.7)**
III (Middle)	**37 (32.7)**	**46 (40.7)**	**34 (30.6)**	**117 (34.7)**
IV (Lower middle)	**56 (49.6)**	**48 (42.5)**	**29 (26.1)**	**133 (39.5)**
V (Lower)	**13 (11.5)**	**11 (9.7)**	**47 (42.3)**	**71 (21.1)**
CASTE*				
General	**78 (69.0)**	**38 (33.6)**	**05 (4.5)**	**121 (35.9)**
SC	**21 (18.6)**	**35 (31.0)**	**15 (13.5)**	**71 (21.1)**
ST	**06 (5.3)**	**12 (10.6)**	**77 (69.4)**	**95 (28.2)**
OBC	**08 (7.1)**	**28 (24.8)**	**14 (12.6)**	**50 (14.8)**
PARITY				
PRIMI	**52 (46.0)**	**58 (51.3)**	**54 (48.6)**	**164 (48.7)**
MULTI	**61 (54.0)**	**55 (48.7)**	**57 (51.4)**	**173 (51.3)**
Birth order Mean (SD)	**1.61 ± 0.68**	**1.47 ± 0.61**	**1.45 ± 0.53**	**1.51 ± 0.61**
***: values are significant using chi-square at p <0.001** **$: values are significant using one way Analysis of Variance Formula (ANOVA) at p= 0.023**				

Table 1 describes the socio-demographic profile of study participants in three blocks. Majority of participants were between 25 to 29 years of age. A higher proportion of teenage mothers

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between 15 to 19 years of age was observed in tribal block i.e., 35 (31.5%) whereas proportion of mothers above 35 years was highest in urban block i.e., 04 (3.5%). A significant difference in the mean age at marriage was observed between urban and tribal blocks(p= 0.023). A higher proportion of women were homemakers in the tribal blocks i.e., 93 (83.8%) followed by rural i.e., 85 (75.2%) and urban i.e., 69 (61.1%) blocks. Illiteracy was highly prevalent among 28 (24.8%), 49 (43.4%) and 55 (49.5%) population in the urban, rural and tribal blocks respectively with p<0.001. Majority of the participants belonged to lower middle-class families i.e., 133 (39.5%) followed by middle class families i.e., 117 (34.7%) with p< 0.001.

TABLE 2: MATERNAL HEALTH CARE INDICATORS IN DIFFERENT AGE GROUP OF RESPONDENTS:

AGE IN YEARS	AT LEAST ONE ANC			AT LEAST ONE POST NATAL CHECKUP(PNC)		
	Urban* (N= 113)	Rural (N= 113)	Tribal (N= 111)	Urban	Rural	Tribal
15-19	21 (91.3)	17 (70.8)	11 (31.4)	06 (26.0)	09 (37.5)	14 (40.0)
20-24	23 (100)	11 (47.8)	05 (25.0)	07 (30.4)	08 (34.7)	04 (20.0)
25-29	27 (72.9)	32 (72.7)	14 (36.8)	13 (35.1)	21 (47.7)	16 (42.1)
30-35	24 (92.3)	09 (45.0)	07 (43.7)	09 (34.6)	05 (25.0)	06 (37.5)
≥35	04 (100)	02 (100)	02 (100)	02 (50.0)	01 (50.0)	00
*: values are significant with p value less than 0.001						

Table 2 denotes the utilisation of ante-natal and post-natal services by mothers. Universally all the women aged more than 35 years received at least one ante-natal check-up throughout their period of conception. Similar was the case of women aged 20 to 24 years residing in the urban block. The women aged 30 to 35 years of the rural block and 20 to 24 years of tribal block were among the least proportion of participants who received at least one ANC i.e., 09 (45%) and 05 (25%) respectively.

TABLE 3: UTILIZATION OF FREE REFERRAL TRANSPORT SERVICES BY THE STUDY PARTICIPANTS (MOTHER)

STUDY VARIABLE	URBAN BLOCK	RURAL BLOCK	TRIBAL BLOCK	TOTAL
Awareness about Free Referral transport services.*	91 (46.4)	61 (31.1)	44 (22.4)	196 (58.1)
Subject availed the transport facility to	66 (50.0)	38 (28.8)	28 (21.2)	132 (39.1)

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the health care institution. *				
Subject was dropped back home. *	**37 (56.1)**	**18 (27.3)**	**11 (16.7)**	**66 (19.5)**
Whether subject referred to higher health care facility. *	**37 (19.9)**	**76 (40.9)**	**73 (39.2)**	**186 (55.1)**
***: Values are significant at p<0.001**				

Table 3 shows awareness as well as utilisation of various services provided under JSSK scheme by the mothers. Awareness about free referral transport, utilization of transport facilitieswas highest in urban areas followed by rural and was lowest among tribal women. Almost equal proportion of women from rural and tribal blocks i.e., 76 (40.9%) and 73 (39.2%) were referred from their nearest health care facility to higher centres in tribal areas as compared to urban block i.e. 37 (19.9%).

TABLE 4: UTILIZATION OF FREE REFERRAL TRANSPORT SERVICES BY THE STUDY PARTICIPANTS (FOR THE SICK NEWBORN):

STUDY VARIABLE	URBAN BLOCK	RURAL BLOCK	TRIBAL BLOCK	TOTAL
Awareness about Free Referral transport services for sick children. *	**91 (51.1)**	**46 (25.8)**	**41 (23.0)**	**178 (52.8)**
Sick children availed the transport facility to the health care institution. *	**63 (51.2)**	**25 (20.3)**	**35 (28.5)**	**123 (36.4)**
Sick children were dropped back home	**63 (38.9)**	**45 (27.8)**	**54 (33.3)**	**162 (48.0)**
Sick children were referred to higher health care facility. *	**33 (55.0)**	**17 (28.3)**	**10 (16.7)**	**60 (17.8)**
***: Values are significant at p<0.001**				

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Table 4 describes the utilization of JSSK services by mothers for their children in case of sickness. Despite awareness, only 63 (51.2%), 25 (20.3%) and 35 (28.5%) from urban, rural and tribal block availed these services. Regarding referral of sick child to a higher health facility for better management, it was only 10(16.7%) in tribal block as compared to 33 (55%) in the urban block. All these findings were statistically significant with p<0.001.

TABLE 5: AWARENESS OF MOTHERS REGARDING SERVICES UNDER JANANI SHISHU SURAKSHA KARYAKRAM (JSSK) (N=337)

SL NO.	SERVICES UNDER JSSK SCHEME	Urban	Rural	Tribal
	ENTITLEMENTS FOR PREGNANT WOMEN			
1.	FREE AND ZERO EXPENSE DELIVERY AND CAESAREAN SECTION*	84 (40.4)	69 (33.2)	55 (26.4)
2.	FREE DRUGS AND CONSUMABLES	61 (33.9)	53 (29.4)	66 (36.7)
3.	FREE ESSENTAL DIAGNOSTIC AND BLOOD URINE TESTS AND USG*	82 (42.7)	64 (33.3)	46 (24.0)
4.	FREE DIET DURING STAY IN THE HEALTH INSTITUTIONS (UPTO 3 DAYS IN NORMAL DELIVERY AND 7 DAYS IN CAESEREAN SECTION)	84 (36.1)	78 (33.5)	71 (30.5)
5.	FREE PROVISION OF BLOOD*	79 (40.7)	67 (34.5)	48 (24.7)
6.	FREE PROVISIONS FROM HOME TO HEALTH INSTITUTIONS**	81 (38.6)	71 (33.8)	58 (27.6)
7.	FREE TRANSPORT BETWEEN FACILITIES IN CASE OF REFERRAL	91 (36.1)	78 (31.0)	83 (32.9)
8.	DROP BACK FROM INSTITUTIONS TO HOME AFTER 48 HRS STAY	76 (33.8)	74 (32.9)	75 (33.3)
9.	EXEMPTION FROM ALL KINDS OF USER CHARGES	79 (34.8)	77 (33.9)	71 (31.3)
	ENTITLEMENTS FOR SICK CHILDREN			
1.	FREE AND ZERO EXPENSE TREATMENT	84 (34.9)	81 (33.6)	76 (31.5)
2.	FREE DRUGS AND CONSUMABLES*	90 (40.2)	56 (25.0)	78 (34.8)
3.	FREE ESSENTAL DIAGNOSTICS	83 (34.6)	78 (32.5)	79 (32.9)
4.	FREE PROVISION OF BLOOD	60 (33.7)	58 (32.6)	60 (33.7)
5.	FREE TRANSPORT FROM HOME TO HEALTH	82	66	78

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	CARE INSTITUTION	**(36.3)**	**(29.2)**	**(34.5)**
6.	**FREE TRANSPORT BETWEEN FACILITIES IN CASE OF REFERRAL**	**82 (33.6)**	**83 (34.0)**	**79 (32.4)**
7.	**DROP BACK FROM INSTITUTIONS TO HOME**	**76 (33.8)**	**74 (32.9)**	**75 (33.3)**
8.	**EXEMPTION FROM ALL KINDS OF USER CHARGES**	**79 (34.8)**	**77 (33.9)**	**71 (31.3)**
***: values are significant at p<0.001 **: values are significant at p = 0.01**				

Table 5denotes the proportion of mothers who were aware about the various services provided under the JSSK scheme. Regarding the provisions for the expectant mothers, awareness about free of cost delivery was found to be 84 (40.4%) in urban, 69 (33.2%) in rural and 55 (26.4%) blocks respectively. Only 82 (42.7%), 64 (33.3%) and 46 (24%) mothers in all the three blocks were aware about the availability of free essential diagnostics including ultrasonography. Both these findings were found to be statistically significant with p <0.001. difference regarding the availability of free drugs and consumables for children was observed wherein only 56 (25%) mothers were aware about it as compared to 90 (40.2%) and 78 (34.8%) in urban and tribal blocks respectively.

DISCUSSION:

In our study, majority women i.e. 119 (35.3%) were between 25 to 29 years of age and the mean age was 25.06 ± 5.37 years similar to the findings of **Panigrahi SK et al**[4] in a study in a tribal district of Maharashtra. In another study by **Chandrakar A etal**[5], the mean age of mothers was found to be 23.33 ± 2.81 years which is lower than our finding. Most of the women were housewives i.e. 247 (35.9%) and belonged to lower middle class families i.e. 133 (39.5%) similar to the findings of **Goyal et al**[6]**.** In a similar study conducted by **Chaudhari's et al**[7], 35.5% and 18% women were educated up till high school and graduation respectively compared to 6.2% and 2.4% in our study. In another study conducted by **Goyal et al**[6], they found the literacy rates to be as high as 98%.

In Odisha, following the introduction of JSY on 1st June 2011, number of pregnant women receiving ANC and PNC increased at 8.4% and 5.9% respectively which was 4.8% and 0.9% in the pre-JSY era as found in a study by **Gopalan SS et al**[8]. Universally, all the women aged 20 to 24 years i.e.,23 and more than 35 years i.e., 04 from the urban block have received at least one ante-natal check-up during their pregnancy while the same parameter was found to be lowest among young tribal women between 20 to 24 years i.e., 05 (25%). Similarly, the lowest proportions of women having received at least one post-natal check-up were those between 20 to 24 years in the tribal block i.e. 04 (20%).Coverage of antenatal care services was quite high with 84% of the women having attended at least three antenatal care visits in a study by **Nandi S et al**[9].

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Only 44.17% women were aware about the provision of free transport services for pregnant women in the study conducted by **Goyal et al**[6] which is lower than our finding i.e. 58.1%. In another study by **Chandrakar A et al**[5]only 5 (1.42%) of the mothers heard about the name of the scheme as JSSK. In another study by **Sheeba PN et al**[10]in a government hospital of New Delhi found that majority (52%) of the Postnatal awareness had poor awareness about JSSK services.

A study by **Kumar V et al**[7] revealed that 28% of the pregnant women did not know anything about JSY.Another study by **Mondal et al**[11] where 12.9% of women were aware of services by JSSK and 1.4% could name JSSK. Overall, 93 (60%) mothers received all JSSK benefits during hospitalization and 29 (19%) received full benefit for transport. 96%, 86% and 64%of mothers received free of cost diagnostics, drugs and consumables respectively as reported in a study by **Tyagi et al**[12]**.** Free food was provided to 55% of women and referral transport to a higher public facility was not ensured in all cases in a study by **Nandi S et al**[9] in Chhattisgarh. In a study by **Bhagyalaxmi B et al**[13], the utilization of drop back transport facility was found to be more because provider had given information at the time of delivery or immediately after delivery. Similar findings were observed in a study by **Jan et al**[14]where 51.7% of recently delivered women were provided free ambulance services from home to the facility and 68% were provided free service from facility to the home and money by cheque was also provided to 2.8% of the women only who had hired a vehicle.

To conclude, knowledge among the post-natal mothers regarding the entitlements of JSSK in Odisha is low as compared to other states of India which needs improvement. There is a need to carry out demand generation activities among mothers regarding the entitlements of JSSK and Janani Suraksha Yojana (JSY)**.**

ETHICAL ISSUES:

Written informed consent was taken from the study participants. Confidentiality of data was maintained by giving unique identifier numbers to each study participant.

FINANCIAL SUPPORT AND SPONSORSHIP: Nil

CONFLICTS OF INTEREST: There are no conflicts of interest.

AUTHORS' CONTRIBUTIONS: All the authors contributed to concept, design, definition of intellectual content, literature search, data collection, field visits for data collection, data analysis, statistical analysis, manuscript preparation, manuscript editing, and manuscript review. All the authors agree to the final version of this manuscript.

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