

## Original Research Article

# Janani Shishu Suraksha Karyakram services utilization among rural mothers: community perspective from southern areas of West Bengal

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## ABSTRACT

**Background:** Janani Shishu Suraksha Karyakram (JSSK) was launched to increase accessibility of healthcare services for expectant mothers and children. The present study was conducted to understand the utilization pattern of JSSK services among recently-delivered women of southern West Bengal.

**Methods:** A community based cross-sectional study was conducted in the rural areas of South 24-Parganas district of West Bengal. By multistage sampling 340 mothers were selected. Data regarding child-bearing experiences, different services related to maternal health and the utilization of JSSK services were collected through interview.

**Results:** The mean age of the mothers was 23.58 years ( $\pm 4.36$  years). Majority of the respondents had education up to primary level with majority having two living children or less. During ante-natal period 74.6% of the respondents in delta regions did not undergo any diagnostic tests. In Kolkata-nearing non-delta regions, majority of the respondents (92.8%) utilized exclusively government hospital for diagnostic tests. In delta regions most of the deliveries (78.8%) happened at home. After delivery in government/accredited facility, majority of women did not get the free drop-back facility. While 18.4% of the respondents from delta region utilized free diagnostic services, 16.9% utilized the free delivery services. A marginally higher utilization of free transportation among the respondents of non-delta region was observed for transport back to home.

**Conclusions:** Delta blocks need to be given special attention especially regarding institutional delivery. Along with promotion of the services generation of awareness, acceptance and also implementation of methods to reach out to people should be focused more.

**Keywords:** Entitlements, Janani Shishu Suraksha Karyakram, Non-utilization, Rural, Service utilization

## INTRODUCTION

Over the years, maternal and child health has evolved through various stages of conceptual approach, technological advances and social prioritisation. Despite the current efforts, the health of mother and child still considered as one of the most serious health problems affecting the community, particularly in developing countries.<sup>1,2</sup> The main reason may be due to women's disadvantaged position in many countries and cultures, and in the lack of attention to women's health and life.<sup>2</sup>

In order to increase accessibility of health care services for pregnant mothers and sick neonates in public health facilities and reduction in out of pocket expenditure, the Govt. of India launched Janani Shishu Suraksha Karyakram (JSSK), which currently provides entitlements (benefits) to both mothers and sick infants (Entitlements were extended to 1 year of birth subsequently).<sup>3,4</sup>

West Bengal is a state with high political awareness and development similar to southern states in some aspects

and few poor socio-economic indicators as in northern states of India. Fewer remote sub centres have very high rate of home deliveries in the southern districts of West Bengal even after implementation of maternity benefit scheme like JSSK.<sup>5</sup> Here many factors interact in different ways to affect the utilization of health services in different sections of the society e.g. place of residence and social economic status, women's age, education, religion, culture, clinical need for care, decision-making power, and age at child birth, parity, poverty and ignorance, costs, location and quality of services. The present study was conducted to understand the utilization pattern of JSSK services among women who have recently delivered and the cost incurred thereof.

## METHODS

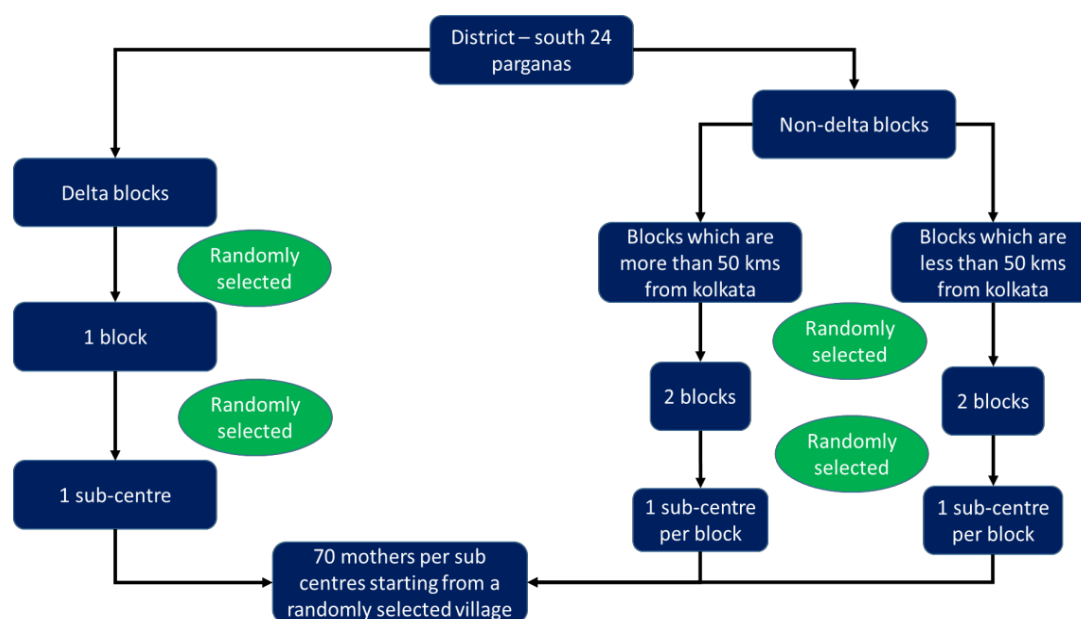
### Study setting participants

A community based cross sectional study was conducted in the rural areas of South 24-Parganas district of West Bengal (which has both delta and non-delta region), between January, 2016 and May, 2016. Women, who gave birth between 1<sup>st</sup> July 2015 to 31<sup>st</sup> December, 2015 in the studied areas of the district and given consent for participation, were interviewed irrespective of the current living status of the child/children. The mothers who were mentally unfit for interview were excluded.

### Selection of the participants

According to district data (2014-2015) of South 24-Parganas, percentage of home delivery is 37%.<sup>5</sup> Home delivery was taken as non-utilization of JSSK. The remaining 63% was considered to be having minimum utilization of the services. The number of women to be interviewed with an estimated minimum utilization rate of 63% and a precision of 10% with a design effect of 1.5 was used to calculate the overall sample required, which was found to be  $338 \approx 340$ .

Initially all blocks of the district were divided into delta and non-delta areas.<sup>6</sup> Then the non-delta blocks were further divided into "blocks within 50 km of Kolkata" and "blocks outside 50 km of Kolkata". Communications and facilities vary between these geographical distributions. It was also conceptually presumed that regions far from Kolkata would have difference in facilities and infrastructure compared to those closer. Thus among non-delta regions the blocks within 50 Kms from Kolkata were the blocks nearer and those outside 50 Kms were distant from Kolkata. One block from delta blocks was randomly selected using random number table. From each cluster in non-delta blocks, two blocks were randomly selected. A third stage of random sampling was done to select one sub-center from each chosen block. The sampling scheme is shown in Figure 1.



**Figure 1: Summary of the sampling scheme.**

### Study variables and analysis

The selected mothers were interviewed using a pre-designed and pre-tested validated structured questionnaire. Available medical records of the mother and infants, hospital discharge certificate, doctor's prescription, mother and child protection card (MCPC),

laboratory report etc., records and registers (RCH register, referral register etc.) of the sub-centres, computer database from block primary health center were also reviewed. Data collection was done through house to house visits and personal interview of mothers. Data regarding basic socio-demographic information, child-bearing experiences (e.g. parity, ANC visits, type of

delivery etc.), and different services related to maternal health (like transportation type, place of ANC visit, place of delivery etc.) and the utilization of JSSK services (e.g., free diagnostics, free drugs & consumables, free transportation etc.) were collected and entered in Epidata 3.1. Analysis was done by using Statistical Package for Social Sciences (SPSS) Version 21.0 with a comparative approach among the participants of delta and non-delta blocks.

### Ethics

The institutional review board of Christian Medical College, Vellore approved the study protocol. Permission was also given by the Institutional Ethics Committee of Medical College and Hospital, Kolkata. District health department gave official permission to conduct the study in this area. The respondents were briefed prior to interview regarding the purpose of the study. Written informed consent was obtained prior to the interview.

## RESULTS

### Background information

The mean age of the mothers was 23.58 years ( $\pm 4.36$  years) and ranged from 15 to 38 years. Around 1.7% of

them were below the age of 18. Of the respondents from delta regions 81.7% belonged to Islam. Other blocks also had majority Muslim respondents but lesser compared to delta block. Majority of the respondents (35.2%, 32.4% and 34.1% respectively in delta blocks, non-delta blocks more than 50 kms from Kolkata and less than 50 kms from Kolkata) had education up to primary level. More than 15% women from non-delta region had higher education as compared to 5% in delta region. Husbands of the respondents belonging to delta region had lower level of education compared to non-delta regions with majority having primary education (40.8%), whereas at least 40% men from non-delta blocks had education above secondary level. Majority, of the women (81.7%, 99.3%, 90.6% in Delta, Non-delta more than 50 kms, Non-delta within 50 kms respectively) were house-wives. Majority of the husbands (39.4%, 27%, and 24.6% respectively) were unskilled workers. In delta regions more than half of the families (52.1%) belong to below poverty line (BPL) category. Most of the families were nuclear (80.3%, 63.8%, 56.5% in Delta, Non-delta more than 50 kms, Non-delta within 50 kms respectively) in this region. None of the respondents from delta block stayed within 5 kms of any health facility with a doctor available, where as 62.3% respondents from non-delta block close to Kolkata (within 50 km) stayed within 5 km of any health facility with a doctor.

**Table 1: Distribution of the respondents according to their child-bearing experiences.**

		Delta (n=71)		Non-delta more than 50 km (n=141)		Non-delta less than 50 km (n=138)	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Parity of the mothers	1	18	25.4	54	38.3	58	42
	2	23	32.4	52	36.9	63	45.7
	3	15	21.1	18	12.8	14	10.1
	$\geq 4$	15	21.1	17	12.1	3	2.2
Currently living	0	1	1.4	2	1.4	1	0.7
	1	20	28.16	54	38.29	59	42.7
	2	22	30.9	54	38.29	64	46.3
	3	15	21.1	18	12.7	12	8.6
	$\geq 4$	13	18.3	13	9.2	2	1.4
ANC received at health facility	0	2	2.8	0	0	0	0
	1-2	33	46.4	6	4.3	10	7.2
	3 or more	36	50.7	135	95.7	128	92.8
Mode of delivery	Normal	67	94.4	119	84.4	84	60.9
	Instrumental	1	1.4	1	0.7	0	0
	C-section	3	4.2	21	14.9	54	39.1
	Total	71	100	141	100	138	100

### Availing maternal healthcare and utilization of the JSSK services

Table 1 shows the child-bearing experiences of the respondent mothers. Majority of the women from non-delta as well as delta blocks had two living children or less however 30.9%, 38.29%, and 46.3% respondents in Delta, Non-delta more than 50 kms, Non-delta within 50 kms respectively had 2 living children. Majority of the

respondents in non-delta blocks had 3 or more antenatal check-ups compared to only 50% in delta block. Non-delta regions less than 50 kms from Kolkata had a C-section rate of 39.1%, at the same time the Caesarean section (C-section) among women from delta block was very low at just 4%.

Different services availed by mothers are shown in table 2. About 74.6% of the respondents in delta regions had

not done any diagnostic tests, whereas in non-delta regions less than 50 kms from Kolkata, majority of the respondents (92.8%) utilized exclusively government hospital for diagnostic tests. In delta regions most of the deliveries (78.8%) happened at home. While a good number of deliveries in non-delta blocks took place in government/accredited health facility, there were still some women who delivered at home. Government

ambulance was used as a mode of transport only by 8.4% of the respondents in delta regions. Ninety-five respondents (81.9%) in non-delta blocks close to Kolkata (<50 km) took food from government or accredited hospital facility during their stay at hospital. Numbers were lesser in other two regions. Even after delivery in government/accredited facility, majority of women did not get the free drop-back facility.

**Table 2: Distribution of the respondents according to the different services during antenatal period.**

		Delta (n=71)	Non-delta more than 50 kms (n=141)	Non-delta less than 50 kms (n=138)
		Number (%)	Number (%)	Number (%)
<b>Place of diagnostic test</b>	Exclusively govt. hospital	13 (18.3)	75 (53.2)	128 (92.8)
	Private diagnostic centre	3 (4.2)	38 (27.0)	2 (1.4)
	Private hospital	2 (2.8)	8 (5.7)	8 (5.8)
	Tests not done	53 (74.6)	20 (14.2)	0 (0.0)
<b>Place of delivery</b>	Government facility	12 (16.9)	69 (48.9)	106 (76.8)
	Accredited private facility	1 (1.4)	18 (12.7)	10 (7.2)
	Other private facility	2 (2.8)	12 (8.5)	9 (6.5)
	Home	56 (78.8)	42 (29.7)	13 (9.4)
<b>Mode of transport</b>	Govt. ambulance	6 (8.4)	30 (21.2)	46 (33.3)
	Public transport	2 (2.8)	11 (7.8)	31 (22.4)
	Private vehicle	7 (9.8)	58 (41.1)	48 (34.78)
	No transport (home delivery)	56 (78.8)	42 (29.78)	13 (9.4)
<b>Source of the meal</b>	Hospital (govt. and accredited)	7 (53.8)	60 (69.0)	95 (81.9)
	Not had food from hospital	6 (46.2)	27 (31.0)	21 (18.1)
<b>Mode of transport (return)</b>	Private vehicle including own vehicle	6 (46.2)	41 (47.1)	46 (39.7)
	Govt. ambulance	6 (46.2)	33 (37.9)	56 (48.3)
	Public transport	1 (7.7)	13 (14.9)	14 (12.1)

**Table 3: Utilization of entitlements of JSSK at government or accredited hospital.**

Entitlement	Place of stay	No. of women who received the service free of cost (%)	Received with payment (%)	Did not avail (%)
<b>Free diagnostics</b>	Delta	13 (18.4)	0 (0)	58 (81.6)
	Non-delta >50 km	66 (46.8)	9 (6.3)	66 (46.8)
	Non-delta <50 km	127 (92)	1 (0.7)	10 (7.2)
<b>Free delivery</b>	Delta	12 (16.9)	1 (1.4)	58 (81.6)
	Non delta >50 km	86 (60.9)	1 (0.7)	54 (38.29)
	Non delta <50 km	115 (83.3)	1 (0.7)	22 (15.9)
<b>Free drugs and consumables</b>	Delta	11 (84.6)	2 (15.4)	0 (0)
	Non-delta >50 km	77 (88.5)	10 (11.5)	0 (0)
	Non-delta <50 km	115 (99.1)	1 (0.9)	0 (0)
<b>Free food services</b>	Delta	7 (53.8)	0 (0)	6 (46.1)
	Non delta >50 km	53 (60.9)	7 (8)	27 (31.03)
	Non delta <50 km	95 (81.8)	0 (0)	21 (18.1)
<b>Free transport(from home to govt. or accredited hospital)</b>	Delta	6 (46.1)	0 (0)	7 (53.8)
	Non-delta >50 km	28 (32.1)	2 (2.2)	57 (65.5)
	Non-delta <50 km	46 (39.6)	0 (0)	70 (60.3)
<b>Free transport(from govt. or accredited hospital to home)</b>	Delta	6 (46.1)	0 (0)	7 (53.8)
	Non delta >50 km	32 (36.7)	1 (1.1)	54 (62)
	Non delta <50 km	56 (48.27)	0 (0)	60 (51.72)

Table 3 shows the utilization of JSSK entitlements. It was clearly observed that the utilization any of JSSK entitlements was comparatively lower among the respondents of delta regions. While 18.4% of the respondents from delta region utilized free diagnostic services, 16.9% utilized the free delivery services. These utilizations were higher (92% and 83.3% respectively) among those residing nearer to the state capital. However the utilization for free drugs and consumables were observed to be comparable among the participants from the three regions. Among those residing in the nearby non-delta blocks 81.8% had free food services. But the utilization of free transport facilities were found to be lower. In this case 46.1% of the delta residents utilized the services. Among the non-delta residents living far 32.1% and 39.6% of those living nearer to Kolkata utilized the free transportation services from their homes to health facility. A marginally higher utilization of free transportation among the respondents of non-delta region was observed for transport back to home.

Very few respondents of those who utilized the JSSK services reported paying for services provided free under JSSK. Diagnostics and drugs and consumables were paid for more often. Among those who paid for diagnostic services the cost incurred was below INR 500. For drugs & consumables it was within INR 3000 and below INR 700 for food during hospital stay.

## DISCUSSION

The current article provides an insight regarding the utilization of different entitlements of JSSK in southern parts of West Bengal. In doing so it also looked into the difficulties faced in availing health facilities by women of different region especially those residing in the delta regions. Many factors such as poor road access, scattered habitation and distance from health facilities were assumed to play a role, though understanding these hardships were beyond the scope of the current article.

Non-delta regions and delta region greatly differ in the availability of and access to health care facilities. Non-delta regions on contrary to the delta blocks have more health facilities resulting in more women reporting a center within 5 kms of their residence. Accessibility is also a problem. Dhak (using DLHS-3, 2007-06 data) found that distance to the health facility was another important influential factor for adopting ANC services.<sup>7</sup>

In both delta and non-delta regions most of the women go to sub-centers for antenatal check-ups. Visiting unqualified persons (quacks) is a known practice in these regions. They choose to go to hospitals only if their condition deteriorates. The present study found that half of the women from the delta region had less than 3 antenatal check-ups where as in the non-delta region the proportion was much smaller at 12%. Functionality issues and higher population burden for BPHCs and PHCs or sub-centres may be contributing to this burden of under-

utilization of government services along with several other community and individual level factors.

Most of the respondents (74.6%) in delta regions did not get any diagnostic tests done during pregnancy. In non-delta blocks close to Kolkata (<50 km), large number of respondents (92.8%) used exclusively government hospitals for diagnostic tests. This may reflect on reliance on quality and easy access, and show distance from the capital is influencing utilization. Awareness may play an important role. Chatterjee et al found in their study that only 29.17% women in rural West Bengal were aware of availability of free diagnostic tests in a government facility.<sup>8</sup> The concurrent assessment study of JSSK showed that out of the total number of patients recommended for any lab tests, a large number of patients in Rajasthan (100%), Maharashtra (98%), HP (96%), Tripura (91%) and Kerala (70%) got their tests done in government facilities.<sup>9</sup> A few beneficiaries reported going to private other than in Kerala where in diagnostic services are provided through public-private partnership arrangements. An attempt may be made towards increasing awareness about the importance of diagnostic tests and its availability, free of cost at a government facility which appears to be pertinent in view of the findings reported by the current study.

Regarding the under-utilization of the transport services this study did not explore if women chose to deliver at home due to lack of transportation facility. This needs further investigations to assess the role of free ambulance services and poor road conditions affecting the family or individual decision to deliver at home. Poor utilization can also be due to lack of awareness, unavailability of ambulance when called over phone and very bad road condition. Chatterjee et al found in their study that 35.42% women were aware of both free transport services, from home to institution and back to home.<sup>8</sup> Concurrent assessment of impact of JSSK (NHSRC) in 2013-14 found that usage of private hired vehicle as a mode of transportation for drop back is predominant in the states evaluated.<sup>9</sup> However, increased proportion of patients reported using government free transport while going back to home in comparison to the number of beneficiaries who reported to have used government transport while coming to the facility.

The poor utilization of government or accredited health facility may well be attributed to the lack of knowledge about the accredited hospitals for maternal and child health care. Chatterjee et al found in their study that 18.75% women in the rural areas were aware about free delivery.<sup>8</sup> In delta regions most of the deliveries (78.8%) took place at home. In comparison, non-delta regions within 50 km from Kolkata had a similar proportion with institutional delivery and at a government facility (76.8%). It shows that as one move closer to capital, there is an increase in institutional deliveries. The place of delivery also influences the mode of delivery and Kolkata is no exception showing very high Caesarean section (C-

section) rate (39%) among the women living close to the metro. While this is much higher than recommended, overall C-section rate for delta block works out to be only 4%. Out of the women who chose to deliver in government or accredited hospitals, more than 80% were provided drugs and consumables free of cost. There is not much difference in availing free drugs and consumables in delta and non-delta regions. It may be argued that once they are admitted in a hospital, there is no bias in services, however it is difficult to conclude that the opposite is true.

Concurrent assessment of impact of JSSK (NHSRC) in 2013-14, found out that transportation is one main component where out of pocket expenditure was incurred by the beneficiaries of all the states.<sup>9</sup> Apart from transportation, blood transfusion and diagnostic services are the major cost incurred in Rajasthan. Medicines and diagnostic services were considered to be major cost incurred in Kerala and Tripura. In the current article the major out of pocket expenditure was observed with drugs and consumables and also with diagnostic services.

In the present assessment of service utilization by mothers the possibility of recall bias exists along with the chance of conscious falsification regarding perceived sensitive information. The availability of certain facilities like the number of ambulances, number of beds in the post-natal wards was not objectively measured. Anecdotal information is available in this study suggesting that the health system is not geared to cater to all the needs of the people. Lack of data makes it difficult to comment objectively on the impact of availability of these facilities on the utilization rates of JSSK. The scheme as a whole with all the entitlements should be promoted. Stress on free provision of blood and diagnostics to be given during promotion. Issue of institutional delivery should be promoted vigorously. Delta blocks need to be given special attention where the PHCs may be the only health care facility manned by qualified health professionals available to the population. Along with promotion of the services generation of awareness, acceptance and also implementation of methods to reach out to people should be focused more.

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