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Assessment of Awareness of Mothers about Janani Shishu Suraksha Karyakram (JSSK) in Urban Vadodara, Gujarat, India

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Abstract

Every year more than 13 lakh infants die within 1 year of the birth and out of these approximately 9 lakh i.e. 2/3rd of the infant deaths take place within the first four weeks of life. Out of these, approximately 7 lakh i.e. 75% of the deaths take place within a week of the birth and a majority of these occur in the first two days after birth. (Sources: NHM JSSK-2013). The present study was carried out in three Government hospitals in Vadodara city, selected purposively. All mothers who had delivered between Aug 2016 and Feb-2017 were enrolled till the sample size of 270 was achieved. The main tool of this research was a descriptive, detailed questionnaire which was made after in depth study of the whole JSSK services and entitlements. The maximum awareness of mothers was for free and cashless delivery (normal and caesarean) which was 84% and minimum was for free provision of blood for pregnant women (60%). Women who visited public health institutions during earlier pregnancy had (89%) not heard about JSSK. It is all the more important for the government to take appropriate measures to publicise the initiative of JSSK and the services offered under it.

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Awareness, Government, Janani Suraksh Yojana (JSY), Janani Shishu Suraksha Karyakram (JSSK), institutional delivery, maternal health care, out-of-pocket expenditure

Introduction

Maternal and child health has been the top priority of the Government of India under the national rural health mission (NRHM). Maternal deaths (75-80% of them) can be prevented by basic and emergency obstetric medical services at the time of delivery (Paul *et al.*, 2011). The decline in maternal mortality rates in India was not achieved as per the MDG goals. The main reason for poor utilisation of maternal health care services was the financial burden on the families (NFHS-3). Out-of-pocket expenditure for maternal health care services was the reason reported by 80% households (Leone *et al.*,

2013). The out-of-pocket expenditure on institutional delivery in India was 39 USD in public sector facilities in 2004-08 (Mohanty *et al.*, 2013). With the objective to address the health needs of specially women and children, the Central government had started the initiative of Janani Shishu Suraksha Karyakram (JSSK) in 2011, to provide completely free and cashless services to pregnant women including normal and caesarean deliveries and sick new born (up to 30 days after birth) in Government health institutions in both rural and urban areas, implemented in all states and Union Territories. This study aims at estimating the level of awareness of Janani Shishu Suraksha Karyakram by Mothers (target

population) in Urban Vadodara and to determine the socio-demographic factors associated with the awareness of this scheme.

Materials and Methods

A cross sectional study which was community and facility based was carried out among mothers in three Government hospitals in urban Vadodara, Gujarat, India. All mothers who had delivered between Aug 2016 and Feb-2017 were enrolled in the present study.

The following are the free entitlements for pregnant women

- Free and cashless delivery
- Free C-Section
- Free drugs and consumables
- Free diagnostics
- Free diet during stay in the health institutions
- Free provision of blood
- Exemption from user charges
- Free transport from home to health institutions
- Free transport between facilities in case of referral
- Free drop back from Institutions to home after 48hrs stay.

The following are the free entitlements for Sick newborns till 30 days after birth. This has now been expanded to cover sick infants

- Free treatment
- Free drugs and consumables
- Free diagnostics
- Free provision of blood
- Exemption from user charges
- Free Transport from Home to Health Institutions
- Free Transport between facilities in case of referral
- Free drop Back from Institutions to home

Calculation of sample size

The sample size was calculated using the formula as below:

$$N_1 = 1.96^2 \times p(1-p) / d^2$$

Where, p=prevalence of utilisation= 0.4,
d=precision=0.06, Confidence level is 95%, Non response 5%

$$N_1 = 1.96^2 \times 0.4(1-0.4) / (0.06)^2$$

$$= 3.8416 \times 0.4(0.6) / 0.0036$$

$$= 0.921 / 0.0036$$

$$= 256$$

$$= 256 \text{ with non-response } 5\% \text{ then calculation is,}$$

$$= N / (1-0.05)$$

$$= 256 / 0.95 = 270$$

$$= \text{Hence the sample size} = 270$$

This sample size (N=270) was equally distributed among the 3 hospitals taken for the survey i.e. 90 each from each hospital. Equal proportion of mothers who had normal and c-section deliveries i.e. 30 each were interviewed from each hospital. (60*3=180 approx) Permission was sought from additional medical officer, Vadodara Municipal Corporation. Letters of permission were also taken from superintendent of all the three hospitals. The head nurse of obstetrics and gynaecology of all the hospitals facilitated the enrolment process of the mothers. The contact numbers and residence addresses were taken and the mothers were traced to their homes. Appointment was taken well in advance and mothers were interviewed in their respective homes. Seriously ill antenatal mothers and those not willing to participate were excluded from the study. The study was passed in the Ethics committee with number IECHR/2016/3. All the mothers were verbally explained the details of the study and were advised of their right to withdraw at any time. A written informed consent was taken from all of them who were included in the study. A total of 275 beneficiaries were enrolled in the study. This was a community cum facility based retrospective cross sectional study.

The main tool of this research was a descriptive, detailed questionnaire which was made after in depth study of the whole JSSK services and entitlements and the (questionnaire) tool took nearly two months for preparation as it was pre-tested and modified several times till the full details of the entitlements and services were incorporated. Questions were added and modified based on the requirements. Only questions found relevant to the JSSK programme were maintained. The investigator pre-tested the questionnaire by administering it to 25 beneficiaries (mothers) and made corrections on the basis of observations. The main purpose of pre-testing the questionnaire was to ensure that the questions framed were clear and easily understood, and that maximum information could be elicited without leaving any important information related to the study.

Section: I

The questionnaire dealt with the socio-demographic profile of the respondents in Urban Vadodara and

Section II dealt with the assessment of the awareness about JSSK program and all free services offered under JSSK for mothers and infants. Data collected was entered in the excel sheet under different sections and analyzed and appropriate tests were applied.

Results and Discussion

The percentage distribution of beneficiaries by age groups, educational level, religion, caste, BPL status is shown in Table 1. In the present study, 83% of the mothers were in the age group of 20-30years. JSSK was initiated with the intention of supporting women from all sections of society-“Free for All”- 54% of them were from general category. Most of the government schemes are aimed at beneficiaries from reserved sections of the society, namely SC / ST / OBC etc or BPL Category.

This is an excellent initiative by the government with main objective of “free for all”. Only 33% of the women belonged to BPL category and this clearly showed it was utilised by all sections of society. Only 4% had completed higher secondary schooling with 92% of the study population being housewives. 13% of the women in this urban study were illiterate. A study by Johnson *et al.*, (2015) had reported illiteracy at 4% in a rural Ramnagara District in Karnataka.

The mean age of marriage in the study population was 19.9 years and the mean age of 1st pregnancy was 22 years. For 32% of women it was their 1st delivery and 52% of the women had their 1st delivery after 22 years of age. Nearly half of the women had normal or C-section deliveries (Table 2).

As seen in Table 3, the mean number of children ever born as well as mean number of children living is directly proportional to the age group i.e. mother’s current age. In other words, women just under 40 have more number of children ever born as well as mean number of children living.. The child survival rate in Muslims is less comparatively. In term of castes, Scheduled Tribes have higher mean number of children ever born than the others.

Awareness about the schemes among the target beneficiaries is one of the keys towards success of any programme. A study by Agarwal VK reported only 13% awareness among beneficiaries. Sharma *et al.*, (2012) reported 79% of awareness of JSY among rural women in Dehradun. The present study brings out the findings on awareness about free services of JSSK among target

beneficiaries. Only 11 per cent women had heard about JSSK program. Women, who heard about the program, were also asked about the source of information about JSSK. There may be more than one source of information. The main source of information was the ASHA worker i.e. out of 30 women total 17 women reported that ASHA was the source of information about JSSK while 5 beneficiaries reported they got information about JSSK from staff of district hospital. Media did not play an effective role in bringing awareness about JSSK. In a study by Johnson *et al.*, (2015) in Karnataka, India, the source of information was mainly from health professionals. Even in a study by Mohapatra *et al.*, (2008), on the assessment and impact of JSY in Orissa, it was shown that ASHA workers were the key agents of spreading awareness regarding JSY and Radio, TV, Newspaper had not contributed to any source of information. There is an urgent need to have a holistic approach on part of government to display about JSSK and the services offered under the scheme. Table 4 also shows that 40 percent women who were aware about JSSK had educational qualification of 8 – 10 standard. Awareness by economic status showed that there is not much difference in level of awareness among BPL and APL group women. Among BPL and APL group 91 per cent i.e. in each group women had not heard about JSSK.

84% of the women were aware about the free and cashless delivery for normal and C-section deliveries respectively. Almost 76 to 79% were aware about free transport facility for mother and 74% to 79% women were aware about free treatment, free drugs and consumables, free diagnostics and free diet. However provision of free blood transfusion and exemption from user charges was known to only 59 % and 62 % of women respectively. Overall, there was good awareness among the mothers about the services provided to mothers during pregnancy and delivery. In a study in rural West Bengal by Suman *et al.*, 2015, 68.75% mothers had poor awareness regarding free entitlements of JSSK. Only 18.75% mothers were aware of free normal vaginal delivery and free drugs and consumables. None of the respondents were aware about free caesarean section, free provision of blood for mother and sick infant. Only 58.33% mothers were aware about free diet during stay in health facility. Mondal *et al.*, (2015) reported awareness about free treatment, free drugs and consumables, free diagnostics and free diet ranging between 34.8% to 59.5% whereas this study showed 74% to 79% women were aware about free treatment, free drugs and consumables, free diagnostics and free diet (Fig. 1–4).

Table.1 Percentage of beneficiaries by background characteristics

Background characteristics		N	%
Age	19 years	5	1.8
	20-24 years	130	47.3
	25-29 years	97	35.3
	30-34 years	34	12.4
	35-39 years	9	3.2
	Total	275	100.0
Religion	Hindu	167	60.7
	Muslim	105	38.2
	Christian	2	0.7
	Buddhist/Neo-Buddhist	1	0.4
	Total	275	100.0
Caste	SC	63	22.9
	ST	17	6.2
	OBC	46	16.7
	General	149	54.2
	Total	275	100.0
BPL Status	Yes	91	33.1
	No	125	45.5
	Can't say	4	1.5
	No card	55	20.0
	Total	275	100.0
Education	Illiterate	37	13.5
	1-4 std completed	14	5.0
	5-7 std completed	73	26.5
	8-10 std completed	121	44.0
	11-12 std completed	20	7.3
	12 plus completed	10	3.7
	Total	275	100.0
Occupation	Housewife	253	92.0
	Monthly salaried unorganized worker	4	1.5
	Monthly salaried organized worker	4	1.5
	Engaged in family business	1	0.4
	Self employed	7	2.5
	Seasonal labour	4	1.5
	Colour work	1	0.4
	Tailoring work and make Bidi in Home	1	0.4
	Total	275	100.0

Table.2 History of marriage and reproduction of the subjects

		N	%
Age at marriage	15-17 years	27	9.9
	18-19 years	105	38.2
	20-21 years	85	31.0
	22 and above years	58	21.2
	Total	275	100
	Mean age at marriage	19.9	
First delivery	YES	87	31.6
	No	188	68.4
	Total	275	100.0
Age of woman who had first pregnancy	18-19 years	4	3.7
	20-21 years	49	45.8
	22 and above years	54	51.5
	Total	107	100.0
	Mean age at first pregnancy	22.1	
Place of last delivery	SSG hospital	103	37.5
	Shri Jamanabai General Hospital	87	31.6
	GMRES Gotri	85	30.9
	Total	275	100.0
Type of delivery	Normal	141	51.3
	c-section	133	48.4
	Forceps	1	0.4
	Total	275	100.0
Outcome of last delivery	Live birth	275	100.0
	Total	275	100.0

Table.3 Percentage distributions of women by number of children ever born and mean number of children ever born and living. According to background characteristics

Background Characteristics	Number of children ever born										Mean of children living	Number of women	
	1		2		3		4		5				Mean
current age	N	%	N	%	N	%	N	%	N	%			
15-19 years	4	80.0	1	20.0	-	-	-	-	-	-	1.2	1.2	5
20-24 years	86	66.2	36	27.7	7	5.4	1	0.8	-	-	1.4	1.4	130
25-29 years	20	20.6	51	52.6	19	19.6	5	5.2	2	2.1	2.2	2.0	97
30-34 years	2	5.9	14	41.2	8	23.5	9	26.5	1	2.9	2.8	2.7	34
35-39 years	-	-	2	22.2	3	33.3	2	22.2	2	22.2	3.4	3.1	9
Religion													
Hindu	62	37.1	69	41.3	24	14.4	8	4.8	4	2.4	1.9	1.9	167
Muslim	50	47.6	32	30.5	13	12.4	9	8.6	1	1.0	1.8	1.7	105
Christian	-	-	2	100.0	-	-	-	-	-	-	2.0	2.0	2
Buddhist/Neo-Buddhist	-	-	1	100.0	-	-	-	-	-	-	2.0	2.0	1
Caste/tribe													
SC	26	41.3	24	38.1	9	14.3	3	4.8	1	1.6	1.9	1.8	63
ST	4	23.5	9	52.9	3	17.6	1	5.9	0	0.0	2.1	2.1	17
OBC	21	45.7	16	34.8	5	10.9	3	6.5	1	2.2	1.8	1.8	46
General	61	40.9	55	36.9	20	13.4	10	6.7	3	2.0	1.9	1.8	149
Total respondents	112	40.7	104	37.8	37	13.5	17	6.2	5	1.8	1.9	1.8	275

Table.4 Percentage of beneficiaries having awareness about JSSK

characteristics of beneficiaries	Yes		No		TOTAL		
	N	%	N	%	N	%	
Heard about JSSK	30	10.9	245	89.1	275	100	
Education status of the beneficiaries who were aware about JSSK							
Illiterate	4	13.3	33	13.5	37	13.5	
1-4 std completed	1	3.3	13	5.3	14	5.1	
5-7 std completed	3	10.0	70	28.6	73	26.5	
8-10 std completed	12	40.0	109	44.5	121	44.0	
11-12 std completed	6	20.0	14	5.7	20	7.3	
Above 12 th std	4	13.3	6	2.4	10	3.6	
Total	30	100	245	100	275	100	
BPL Status of the beneficiaries who were aware about JSSK	Yes		No		Total		
	N	%	N	%	N	%	
Yes BPL	8	9	83	91%	91	100	
No BPL	12	9.6	113	90.4	125	100	
Can't say	1	25	3	75	4	100	
No card	9	16.3	46	83.7	55	100	
Total	30	10.9	245	89.1	275	100	
Awareness of services provided during pregnancy and delivery	Yes		No		Don't know		Total
	N	%	N	%	N	%	N
free delivery	231	84.0	18	6.5	26	9.5	275
free C-section delivery	230	83.6	16	5.8	29	10.5	275
Free treatment	214	77.8	27	9.8	34	12.4	275
Awareness of services provided during pregnancy and delivery	Yes		No		Don't know		Total
free drugs and consumables	204	74.2	37	13.5	34	12.4	275
free diagnostics	205	74.5	36	13.1	34	12.4	275
free diet during stay in health institution	218	79.3	23	8.4	34	12.4	275
free provision of blood	164	59.6	62	22.5	49	17.8	275
exemption from user charges	171	62.2	55	20.0	49	17.8	275
free transport from home to health institution	210	76.4	27	9.8	38	13.8	275
free transport between facilities in case of referral	205	74.5	28	10.2	42	15.3	275
free transport from health institution to home	218	79.3	26	9.5	31	11.3	275
No. of respondents							
Awareness of services provided for new borns	Yes		No		Don't Know		Total
Free treatment	217	78.9	19	6.9	39	14.2	275
free drugs and consumables	214	77.8	25	9.1	36	13.1	275
free diagnostics	212	77.1	25	9.1	38	13.8	275
free diet during stay in health institution	215	78.2	18	6.5	42	15.3	275
free provision of blood	172	62.5	53	19.3	50	18.2	275
exemption from user charges	172	62.5	50	18.2	53	19.3	275
free transport from home to health institution	212	77.1	22	8.0	41	14.9	275
free transport between facilities in case of referral	204	74.2	25	9.1	46	16.7	275
free transport from health institution to home	222	80.7	20	7.3	33	12.0	275

Table.5 Assessment of awareness about JSSK among women who sought services from government during previous pregnancies since 2011

		Percentage of beneficiaries who availed the services from public health facilities and their status of awareness					
Pregnancy History		Awareness about JSSK					
		Yes		NO		Total	
		N	%	N	%	N	%
1st pregnancy	Live birth	27	100.0	217	96.9	244	97.2
	Still birth	-	-	3	1.3	3	1.2
	Spontaneous abortion	-	-	4	1.8	4	1.6
	Total	27	100.0	224	100.0	251	100.0
		27	11%	224	89%	251	100.0
2nd pregnancy	Live birth	21	100.0	131	99.2	152	99.3
	Still birth	0	0.0	1	.8	1	.7
	Total	21	100.0	132	100.0	153	100.0
		21	14%	132	86%	153	100
3rd pregnancy	Live birth	5	100.0	54	100.0	59	100.0
	Total	5	100.0	54	100.0	59	100.0
		5	9%	54	91%	59	100.0
4th pregnancy	Live birth	5	100.0	20	100.0	25	100.0
	Total	5	100.0	20	100.0	25	100.0
		5	20%	20	80%	25	100.0
5th pregnancy	Live birth	1	100.0	8	100.0	9	100.0
	Total	1	100.0	8	100.0	9	100.0
		1	12%	8	88%	9	100.0

Table.6 Assessment of status of awareness of JSY and KPSY beneficiaries of last delivery

		Percentage of beneficiaries who are registered under scheme and their status of awareness							
Registration History	No of women Registered under the scheme in last pregnancy out of total SC,ST and BPL women	Awareness about JSSK							
		Yes		NO		Total			
		N	%	N	%	N	%	N	%
JSY registered	10	30.30%	0	0	10	100%	10	100%	
KPSY registered	10	30.30%	0	0	10	100%	10	100%	
Both JSY and KPSY	13	39.39%	8	61.5%	5	38.4%	13	100%	

Table.7 The awareness of each entitlement is summarised below

Table: 7a Pregnant women	Table: 7b Sick infants
<ul style="list-style-type: none"> • Free and cashless delivery :- 84% • Free C-Section :- 84% • Free treatment:- 77% • Free drugs and consumables:-79% • Free diagnostics:- 74% • Free diet during stay in the health institutions:- 74% • Free provision of blood:-60% • Exemption from user charges:-62% • Free transport from home to health institutions:- 76% • Free transport between facilities in case of referral:- 74% • Free drop back from Institutions to home after 48hrs stay:- 79% 	<ul style="list-style-type: none"> • Free treatment:- 79% • Free drugs and consumables:-77% • Free diagnostics:-77% • Free provision of blood:-62% • Exemption from user charges:-62% • Free Transport from Home to Health Institutions:-77% • Free Transport between facilities in case of referral:-74% • Free drop Back from Institutions to home:-80%

Fig.1 Education of Mothers

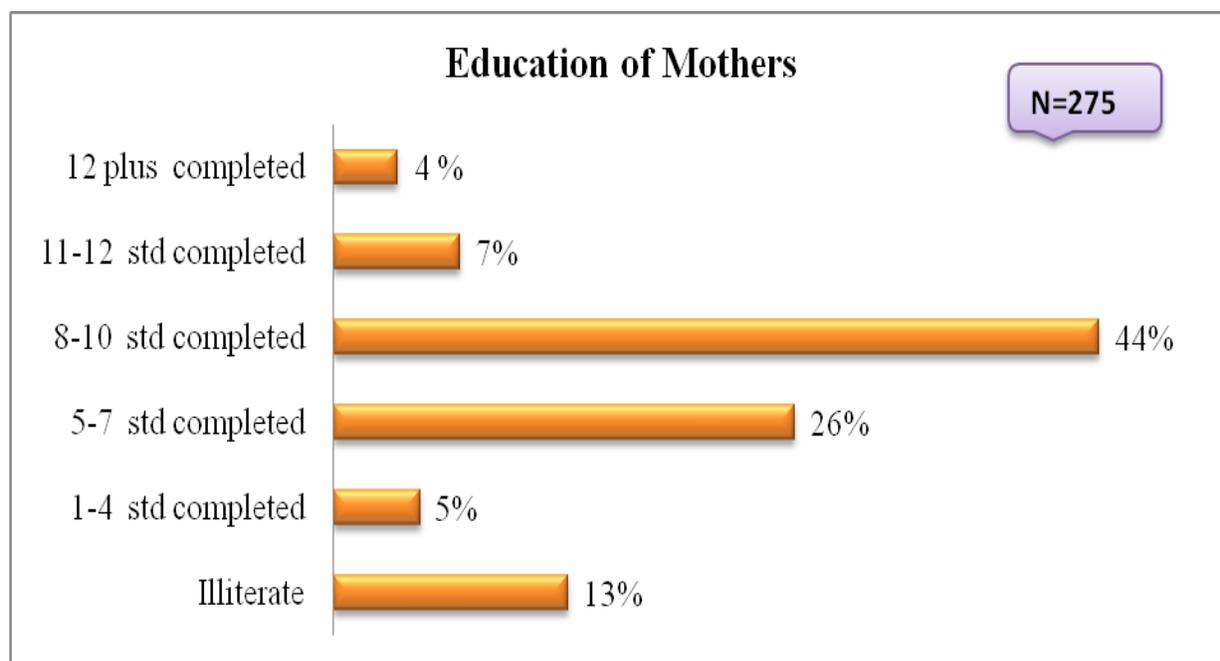


Fig.2 Age at Marriage

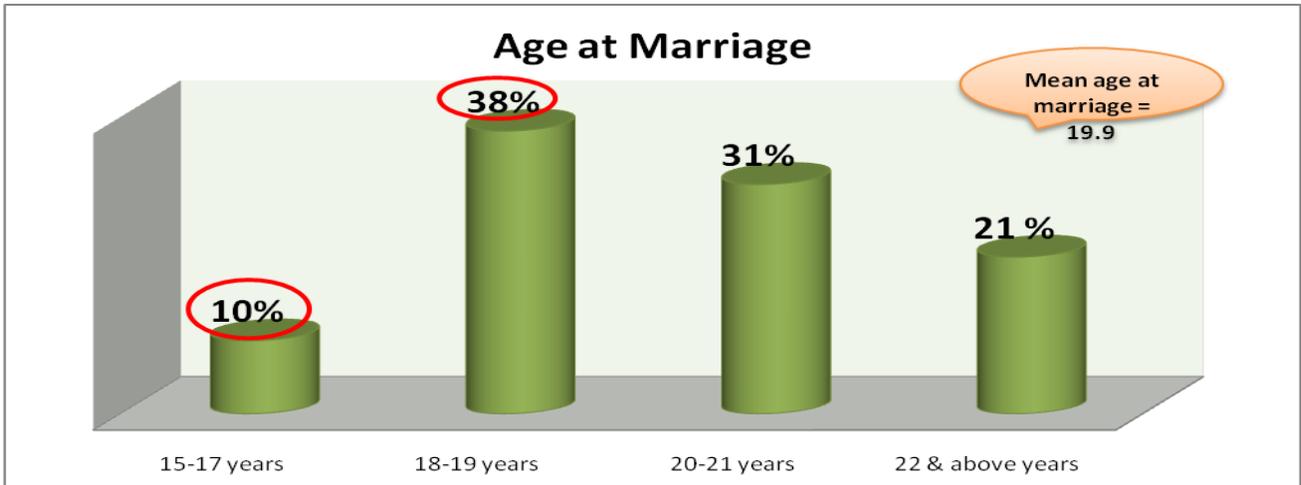


Fig.3 Awareness of services provided for Mothers

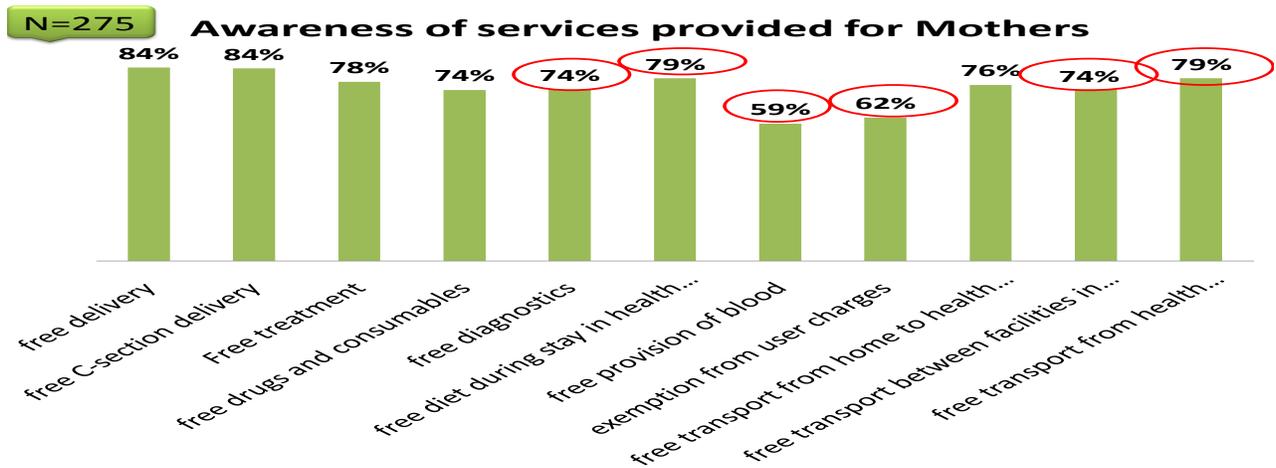
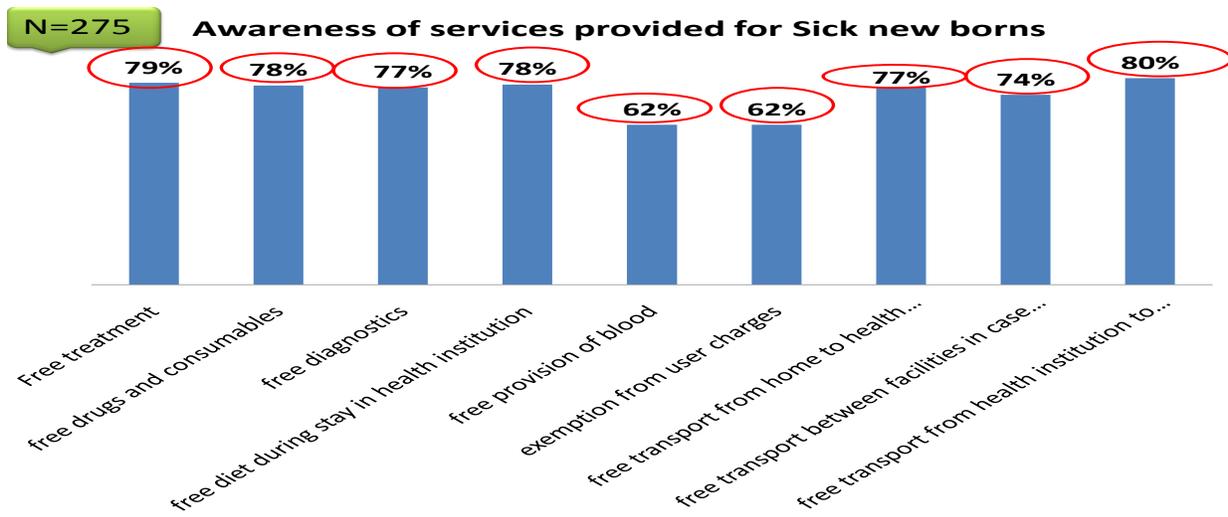


Fig.4 Awareness of services provided for sick new borns



Awareness study of government maternity benefit schemes among women attending antenatal clinic in a rural hospital in Karnataka, India by A.R. Johnson *et al.*, (2015) showed that the awareness about 108 ambulance services was 58.8% and in Wardha district, Central India (Goyal *et al.*, 2014), the awareness and utilisation of free referral transport services were not to the fullest. The present study showed an awareness of 76 to 79% for free transport facility for mothers. Information regarding awareness levels among the mothers on JSSK services provided to sick neonates was also obtained. Almost 74% to 80% were aware about free transport facility for the sick new-borns and 77% to 78% women were aware about free treatment, free drugs and consumables, free diagnostics and free diet. However provision of free blood transfusion and exemption from user charge was known to only 62 per cent of women. The awareness about provision of free blood transfusion and exemption of user charges for mothers and neonates was relatively low compared to the awareness about other services under JSSK, yet it was above 60% among the mothers in the present study.

During the survey women were also asked about their exposure to public health institutions in previous pregnancies. It was expected that due to their previous visits to public health institutions, they would have heard about JSSK. Despite visits to public health institutions after launch of JSSK program women had not heard about JSSK. It is seen from the table 5 that out of those women who visited public health institutions during pregnancy nearly 89% women had not heard about JSSK. Similarly nearly 86% women who visited public health institutions in 2nd pregnancy and 91% women in 3rd pregnancy who also visited public health institutions had not heard about JSSK. It is all the more important for the government to publicise their latest venture of JSSK and the services offered under it.

In the present study, details about registration of beneficiaries under other schemes were also evaluated. It was assumed that if beneficiaries are registered under other government schemes like JSY and KPSY then, they might have heard about JSSK. But it was not so. All beneficiaries who were registered either under JSY and KPSY had not heard about JSSK. Moreover the percentage of women registered under JSY and KPSY was also very low.

Awareness is required to be created among the beneficiaries as well as the grassroots health functionaries either through putting up hoardings and

banners in local language in the city or distributing leaflets home to home. So the potential beneficiaries can be made aware about the existence of the schemes. Awareness efforts regarding these schemes can be directed to women in community groups like Mahila Mandal and Self Help Groups. Government should disseminate information through Mass Media like TV, Radio and News Paper (JSSK evaluation, 2014) (Table 6 and 7).

Statistical analysis

After applying chi square test an association (z value= 20.954 at 99%) was found between the education of the mothers and awareness of the new JSSK scheme which was highly significant. A significant association (z value= 18.623 at 95%) was found between education and awareness of free delivery care. Also significant association (z value= 9.823 at 95%) was found between education and parity (of delivery).

Age, religion, cast, occupation and BPL status did not have any statistically significant relationship with awareness level among the respondents regarding various entitlement of JSSK. However, parity of mother had statically significant relationship with awareness of JSSK ($p < 0.01$) and awareness of free delivery care ($p < 0.05$).

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