Section: Community Medicine

Original Research Article

A STUDY OF AWARENESS AND UTILIZATION OF JANANI SURAKSHA YOJANA (JSY) AMONG BENEFICIARIES IN A PRIMARY HEALTH CENTER (MANER) OF PATNA DISTRICT

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Abstract

Background: Maternal and infant mortality remain profound challenges in global public health, serving as key indicators of a society's well-being and healthcare accessibility. In response to these persistent issues, governments worldwide have implemented various initiatives aimed at improving maternal and child health outcomes. One such initiative is the Janani Suraksha Yojana (JSY), launched under India's National Rural Health Mission (NRHM) in 2005. This study aimed to assess awareness, understanding, and utilization of JSY among beneficiaries in a primary health center (Maner) of Patna District. **Materials and Methods:** A hospital-based cross-sectional study was conducted from January to December 2021, involving 400 women registered for ANC at the Rural Health and Training Centre (RHTC) of Maner Primary Health Centre (PHC). Data were collected using a semi-structured questionnaire covering socio-demographic details, obstetric history, awareness of JSY, and utilization of its services. **Result:** The study revealed high awareness of JSY among respondents (81.5%), with 49.5% utilizing the program. Non-utilization reasons included ineligibility (88.7%) and unawareness (6.6%). Health workers emerged as the primary source of information (38.3%), followed by family members (31.9%). While 71.3% knew about JSY beneficiaries, only 24.0% were aware of its components. Socio-demographic factors significantly associated with awareness included religion ($p=0.001$), education level ($p=0.002$), age at marriage ($p=0.018$), and occupation ($p<0.001$). Education level ($p<0.001$), religion ($p<0.001$), type of family ($p<0.001$), age at marriage ($p=0.040$), and occupation ($p=0.008$) significantly influenced knowledge scores. **Conclusion:** Despite high awareness, understanding of JSY components was low, indicating the need for targeted awareness campaigns and improved dissemination of information. Variations in awareness levels among different demographic groups underscored the importance of considering contextual factors in program implementation. Enhancing awareness and understanding of JSY could potentially improve program utilization and maternal health outcomes.

INTRODUCTION

Maternal mortality and infant mortality are the main health indicators of any civilized society. Reproductive health addresses the reproductive processes, functions, and systems at all stages of life in accordance with the WHO definition of Health. The National Rural Health Mission (NRHM), an initiative by the Government of India launched in 2005, encompasses various initiatives aimed at promoting maternal and child health. Within it was a cash incentive scheme, Janani Suraksha Yojana (JSY), to promote institutional deliveries with the aim to reduce maternal mortality ratio (MMR) and to increase institutional delivery.[1] Janani Suraksha Yojana (JSY) was launched by the Government of India with the objective of increasing institutional delivery. Mother and child constitute a priority group

in a community and are also a vulnerable or special risk group. They comprise approximately 71.14% of the population of developing countries. In India, women of childbearing age constitute 22.2% of the population, while children under 15 years of age make up about 35.3% of the total population.[2] Together they constitute nearly 57.5% of the total population. The risk is connected with childbearing in the case of women and survival in the case of children. Maternal mortality ratios strongly reflect the overall effectiveness of health systems.[3] The Universal Declaration of Human Rights of 1948 in Article 25 stressed that "Motherhood and childhood are entitled to special care and assistance".[4] The place of delivery is an important aspect of reproductive health care. Janani Suraksha Yojana (JSY) was launched by the Honorable Prime Minister on 12th April, 2005, and is being implemented in all states and Union Territories (UTs). It is an ambitious scheme intended to encourage institutional delivery and provide access to care during childbirth. In India, huge health disparities exist across different socio-economic groups, regions, states, and districts among women and children. This is due to low access and under-utilization of maternal and child health care services. States like Uttar Pradesh, Bihar, Madhya Pradesh, Rajasthan, Jharkhand, Chhattisgarh, Uttarakhand, and Odisha are going through tremendous inequality in accessing equitable health care services.[5] These states are also together named as EAGs (Empowered Action Group) states, with low performance in socio-economic and health indicators, and that eventually lead to high maternal and child mortality compared to other states. According to the National Family Health Survey-5 data from India (NFHS-5), the Neonatal Mortality Rate (NMR) is 16.8 per 1000 live births. India accounts for the largest number of global neonatal deaths at 20 per 1000 live births.[6] Almost 40% of neonatal deaths are happening at the time of labor and the first 24 hours after delivery with the most common cause being pre-maturity (35%). Janani Suraksha Yojana (JSY) under the overall umbrella of National Rural Health Mission (NRHM) is being proposed by way of modifying the existing National Maternity Benefit Scheme (NMBS). While NMBS (National Maternity Benefit Scheme) is linked to the provision of better diet for pregnant women from BPL families, JSY integrates the cash assistance with antenatal care during the pregnancy period, institutional care during delivery, and immediate post-partum period in a health center by establishing a system of coordinated care by field-level health workers. The JSY would be a 100% centrally sponsored scheme. It is an initiative of the National Rural Health Mission (NRHM). The aim of this scheme is to reduce maternal and neonatal mortality by making institutional delivery services affordable and accessible to poor pregnant women in India.[7] For the success of any particular scheme and proper utilization of the benefits, it is necessary for the people to be aware of the scheme. The purpose of this study was to determine awareness and knowledge about Janani Suraksha Yojana (JSY).

Objectives:

- To evaluate the awareness and understanding of the Janani Suraksha Yojana (JSY) among women registered for antenatal care (ANC).
- To determine the socio-demographic factors linked with the utilization of the JSY scheme among its beneficiaries.

MATERIALS AND METHODS

A hospital-based cross-sectional study was conducted at the Rural Health and Training Centre (RHTC) of Maner Primary Health Centre (PHC), under the Department of Community Medicine at IGIMS, Patna. The study duration spanned from January 2021 to December 2021. The sample size was calculated using the formula n=4pq/d2 (where p= prevalence in %, q=100-p, d= allowable error, which is 10% of p). Assuming a prevalence of 50% for participants receiving JSY benefits, q was calculated as 100-50=50. Consequently, n was determined to be 400. A total of 400 women registered in the ANC register over the past year, those who delivered at our RHTC during the same period, and who exhibited a cooperative attitude were included in the study. Study subjects were selected through simple random sampling. The antenatal and postnatal females who delivered at the PHC in the previous one year, were included and those who not willing to take part in the study were excluded from the study. Ethical committee approval was obtained from the Institutional Ethics Committee, IGIMS, Patna before commencement of the study. After obtaining written informed consent, the relevant information were collected using a pretested, pre-designed semi-structured questionnaire administered through interviews. Data were entered into a Microsoft Excel sheet and analyzed using Epi Info version 7.

RESULTS

Sociodemographic factors: The age distribution of respondents revealed that the majority, constituting 92.0% of the total, fell within the age range of 18 to 30 years. Only a small proportion, accounting for 7.5%, were aged between 30 to 40 years, and a negligible percentage, comprising 0.5%, were below 18 years old. In terms of religious affiliation, Hindu respondents formed the majority, representing 76.3% of the sample, while Muslims constituted a significant minority at 23.8%. Education levels varied among respondents, with 46.5% being categorized as illiterate, 22.0% having completed primary education, and 5.8% being categorized as literate but without formal education. A smaller proportion had attained higher levels of education, with graduates comprising 3.5% of the respondents. Family structure analysis revealed that

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approximately equal proportions of respondents belonged to nuclear families (53.0%) and joint families (47.0%). Regarding socio-economic status, the majority of respondents, totaling 70.8%, were classified as Above Poverty Line (APL), while the remaining 29.3% fell under the Below Poverty Line (BPL) category. Marriage age distribution showed that a significant number of respondents (74.8%) were married between the ages of 18 to 30 years, while a smaller proportion (24.3%) were married before the age of 18. In terms of occupation, the majority of Reproductive and Child Health Workers (RDWs), comprising 81.0%, were engaged in household duties as housewives. Smaller proportions were involved in various skilled and unskilled occupations. The distribution of birth intervals since the last delivery varied, with approximately equal proportions reporting intervals of two years or less (39.3%) and three years or more (39.0%), while 21.8% were experiencing their first delivery.

Knowledge, Awareness and Utilization of Janani Suraksha Yojana: From [Table 1], we can infer that there is a high level of awareness regarding the Janani Suraksha Yojana (JSY) among respondents, with 81.5% indicating familiarity with the program, while 18.5% reported no awareness. Among those aware of JSY, approximately half (49.5%) utilized the program, while the remaining 50.5% did not. Reasons for non-utilization varied, with the majority (88.7%) citing ineligibility, followed by 6.6% being unaware of the program, and smaller proportions citing factors such as inaccessibility, uncooperative health staff, and opting for home delivery. Health workers emerged as the primary source of information about JSY, with 38.3% of respondents receiving information from them, followed by family members (31.9%), television (11.3%), radio (14.7%), and newspapers (3.7%). While the majority (71.3%) of respondents knew about the beneficiaries of JSY, a significant proportion (28.8%) did not. Awareness of the cash incentive for institutional delivery under JSY was reported by 68.3% of respondents, while 31.8% were not aware. Similarly, 30.5% of respondents knew about the objectives of JSY, whereas 69.5% did not. Knowledge about the components of JSY was relatively low, with only 24.0% of respondents indicating awareness, while 76.0% reported no knowledge of its components. These findings underscore the necessity for targeted awareness campaigns and improved dissemination of information about JSY, particularly among segments of the population with lower levels of awareness and understanding. Such efforts could potentially enhance program utilization and impact.

Table 1: Knowledge, Awareness and Utilization of JSY among the study subjects

Knowledge & Utilization of JSY		**Number**	**%**
Awareness of JSY	No	74	18.5%
	Yes	326	81.5%
Utilization of JSY	Yes	198	49.5%
	No	202	50.5%
Reason for non-utilization of JSY	Not eligible	283	88.7%
	Unaware	21	6.6%
	Not accessible	4	1.3%
	Health staff not cooperative	5	1.6%
	Home delivery	6	1.9%
	Age at delivery was < 19 years	0	0.0%
Source of information	Health Worker	125	38.3%
	Friends	0	0.0%
	Family	104	31.9%
	TV	37	11.3%
	Radio	48	14.7%
	Newspaper	12	3.7%
Knowledge about beneficiary of JSY	No	115	28.8%
	Yes	285	71.3%
Knows about Cash incentive for institutional delivery under JSY	No	127	31.8%
	Yes	273	68.3%
Knows about Objective of JSY	No	278	69.5%
	Yes	122	30.5%
Knowledge about components of JSY	No	304	76.0%
	Yes	96	24.0%

Table 2: Association of Socio-demographic Factors with Awareness about JSY

Socio Demographic Factor		**No Awareness of JSY**		**Awareness of JSY**		**Chi-square value**	**P-value**
		No.	**%**	**No.**	**%**		
Age	< 18	0	0.0%	2	100.0%	5.13	0.077
	18 - 30	64	17.4%	304	82.6%		
	30 - 40	10	33.3%	20	66.7%		
Religion	Hindu	45	14.8%	260	85.2%	11.95	0.001
	Muslim	29	30.5%	66	69.5%		
Education	Illiterate	22	11.8%	164	88.2%	12.28	0.002
	Middle & Below	45	26.2%	127	73.8%		
	H.Sc. & Above	7	16.7%	35	83.3%		
Type of Family	Nuclear	32	15.1%	180	84.9%	3.47	0.062

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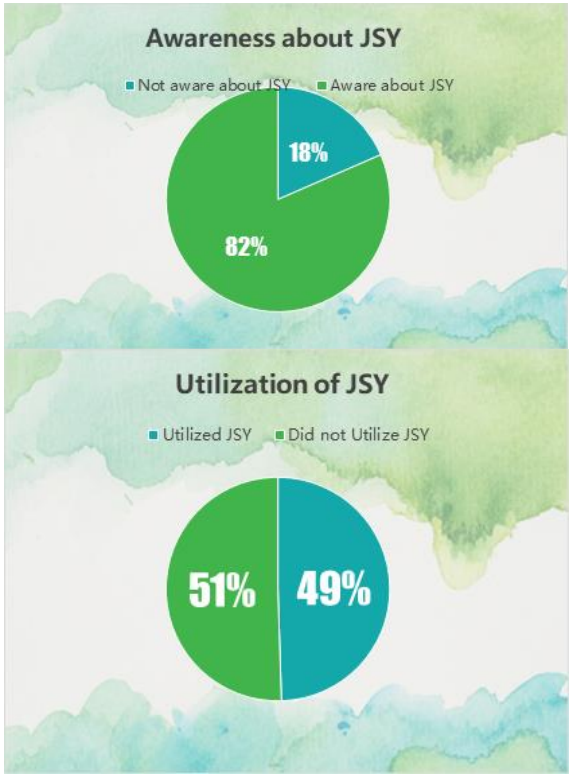
	Joint	42	22.3%	146	77.7%		
Social Class	APL (Above Poverty Line)	53	18.7%	230	81.3%	0.03	0.855
	BPL (Below Poverty Line)	21	17.9%	96	82.1%		
Age at marriage	< 18	27	27.8%	70	72.2%	8.05	0.018
	18-30	47	15.7%	252	84.3%		
	30-40	0	0.0%	4	100.0%		
Occupation	Housewife	46	14.2%	278	85.8%	36.05	0.001
	Unskilled	12	52.2%	11	47.8%		
	Semi skilled	8	38.1%	13	61.9%		
	Skilled	6	21.4%	22	78.6%		
	Clerical/shopkeeper/farmer	2	100.0%	0	0.0%		
	Semi-Professional	0	0.0%	2	100.0%		

Table 3: Association of Socio-demographic Variables with Overall Knowledge about JSY

Variable		% knowledge score		T test value* / ANOVA score+	P value
		Mean	SD		
Age	< 18	100.00	0.00	5.29+	0.005
	18 - 30	56.20	34.79		
	30 - 40	38.67	31.04		
RELIGION	Hindu	58.49	33.94	3.5*	<0.001
	Muslim	44.21	35.72		
Education	Illiterate	43.66	23.42	25.5+	<0.001
	Middle & Below	61.74	39.70		
	H.Sc. & Above	78.57	37.84		
Type of Family	Nuclear	48.96	31.11	3.8*	<0.001
	Joint	62.02	37.55		
Social Class	APL (Above Poverty Line)	55.12	35.77	0.02*	0.983
	BPL (Below Poverty Line)	55.04	32.69		
Age at marriage	< 18	47.63	37.80	3.2+	0.040
	18-30	57.32	33.71		
	30-40	70.00	20.00		
Occupation of Respondent	Housewife	57.53	33.40	3.2+	0.008
	Unskilled	34.78	39.64		
	Semi skilled	48.57	41.75		
	Skilled	53.57	36.13		
	Clerical/shopkeeper/farmer	0.00	0.00		
	Semi-Professional	40.00	28.28		



Socio-demographic factors associated with awareness regarding JSY scheme: [Table 2] represents the various socio-demographic factors associated with awareness regarding JSY scheme among antenatal women. Younger respondents showed higher awareness, with 100.0% awareness among those below 18 years old, compared to 17.4% and 33.3% among the age groups of 18-30 and 30-40 years, respectively. However, this difference was not statistically significant (chi-square=5.13, p=0.077). In terms of religion, Hindus exhibited a higher awareness rate (85.2%) compared to Muslims (69.5%), with the difference being statistically significant (chi-square=11.95, p=0.001). Education level significantly influenced awareness, with a higher proportion of literate respondents demonstrating awareness. Notably, 88.2% of those educated up to middle school or below were aware, compared to 73.8% among those educated up to high school and above (chi-square=12.28, p=0.002). Although there was a trend towards higher awareness in nuclear families (84.9%) compared to joint families (77.7%), the difference was not statistically significant (chi-square=3.47, p=0.062). Surprisingly, no significant difference in awareness was observed based on social class, with both above poverty line (APL) and below poverty line (BPL) groups showing similar awareness rates (chi-square=0.03, p=0.855). Age at marriage significantly impacted awareness, with those married below the age of 18 demonstrating higher awareness (72.2%) compared to those married between 18-30 years (84.3%) and 30-40 years

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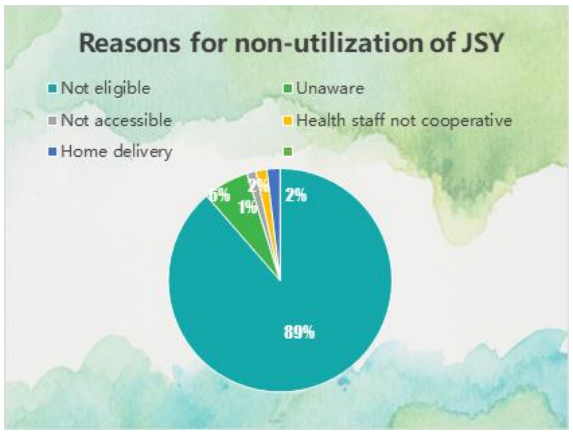
(100.0%) (chi-square=8.05, p=0.018). Occupation of the respondent also had a substantial influence on awareness, with housewives exhibiting the highest awareness (85.8%), followed by skilled workers (78.6%). Conversely, unskilled workers showed the lowest awareness (47.8%), followed by semi-skilled workers (61.9%) and clerical/shopkeeper/farmer occupations (0.0%), with these differences being statistically significant (chi-square=36.05, p<0.001).



Socio-demographic factors associated with Knowledge regarding JSY scheme: [Table 3] shows the analysis of respondents' knowledge scores concerning various socio-demographic factors. Considering age, younger respondents (< 18 years) exhibited a flawless knowledge score of 100.00%, while those aged between 18-30 years and 30-40 years scored 56.20% and 38.67%, respectively. ANOVA analysis revealed a significant discrepancy among age groups (F=5.29, p=0.005). Religion significantly influenced knowledge scores, with Hindus achieving a higher score (58.49%) compared to Muslims (44.21%), as indicated by an unpaired t-test (t=3.5, p < 0.001). Education level displayed a strong correlation with knowledge scores, with those educated up to high school and beyond (78.57%) scoring significantly higher than those educated up to middle school or below (43.66%), as demonstrated by ANOVA (F=25.5, p < 0.001). Type of family also played a role in knowledge scores, with respondents from joint families scoring higher (62.02%) compared to those from nuclear families (48.96%), as evidenced by an unpaired t-test (t=3.8, p < 0.001). However, social class did not significantly impact knowledge scores, with both above poverty line (APL) and below poverty line (BPL) groups showing similar scores of 55.12% and 55.04%, respectively (t=0.02, p=0.983). Age at marriage exhibited a significant association with knowledge scores, with those married between 30-40 years scoring the highest (70.00%), followed by those married between 18-30 years (57.32%), and those married below 18 years (47.63%), as indicated by ANOVA (F=3.2, p=0.040). Occupation of the respondent significantly influenced knowledge scores, with skilled workers scoring the highest (53.57%), followed by housewives (57.53%), semi-skilled workers (48.57%), unskilled workers (34.78%), semi-professionals (40.00%), and no score recorded for clerical/shopkeeper/farmer occupation. ANOVA revealed a significant difference among occupation groups (F=3.2, p=0.008).

DISCUSSION

In our study, the awareness rate about the Janani Suraksha Yojana (JSY) was 81.5%, which is higher than that observed in Singh et al.'s study (52.7%).[8] However, despite this high awareness, the utilization rate in our study was only 49.5%, which falls within the range reported by Rajarajan et al,[9] (46%) and Doke et al (52.57%).[10] Notably, only 24.0% of respondents in our study demonstrated awareness of JSY components, contrasting with Singh et al.'s findings where 54.5% of women had knowledge about its components. Moreover, health workers emerged as the primary source of information about JSY in our study, consistent with Chauhan et al.'s findings.[11] However, our study revealed a gap in understanding the program's components despite reliance on health workers for information. Additionally, education level and occupation significantly influenced awareness in our study, with literate respondents exhibiting higher awareness levels, consistent with Khes SP et al.'s findings.[12] However, regarding occupation, our study found that housewives exhibited the highest awareness at 85.8%, which contrasts with Khes SP et al.'s findings where working women had a higher awareness rate (56.25%) compared to housewives (38.92%). This difference suggests variations in awareness levels among different demographic groups and underscores the importance of considering contextual factors when designing targeted interventions to enhance program awareness and utilization.

CONCLUSION

The study underscores the critical importance of enhancing awareness and understanding of the Janani Suraksha Yojana (JSY) among beneficiaries to improve program utilization and maternal health outcomes. Despite high awareness rates, the understanding of JSY components remains inadequate, highlighting the need for targeted educational intervention. Socio-demographic factors such as education level, religion, age at marriage, and occupation significantly influence awareness and knowledge scores, emphasizing the importance of considering contextual factors in program implementation. Addressing these disparities and enhancing program accessibility through tailored approaches can contribute to reducing maternal and infant mortality rates and improving maternal and child health outcomes.

Limitations

1. Limited generalizability due to the study's specific focus on a single PHC, potentially

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restricting the applicability of findings to broader populations across India.

2. Recall bias inherent in self-reported data collection methods, which may impact the accuracy of participants' recollection regarding their awareness and utilization of Janani Suraksha Yojana services.

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