# Reduction of maternal mortality through Janani Suraksha Yojana - A study in Karimganj district of Assam

## Introduction

In the past two decades, India has made significant progress in social and economic development, as improvement in life expectancy, reduction of infant mortality and literacy (The World Bank, 2011; Agrawal & Unisa, 2013). However, India continues to contribute about a quarter of all global maternal deaths (Sinoj & Mishra, 2012). Developing countries, including India, bear 99 per cent of global maternal mortality (Human Rights Watch, 2009).

Maternal health continues to be an important indicator of the well-being in a country. The necessary healthcare facilities provided to mothers around the world in order to ensure their good health is central to qualitative development and a high number of maternal deaths indicate the lack of accessibility to proper medical facilities and a wide gap between the rich and poor (Ministry of Health and Family Welfare, 2015).

According to the Census 2011, the maternal mortality ratio of Assam was 328 which was the highest in the country compared to all India level which was 178. The Annual Health Survey Report 2010-2011 showed that the MMR in the districts (Karbi Anglong, North Cachar Hills, Chachar, Karimganj, Hailakandi) in the Hills and Barak valley was 342. The most common cause of maternal deaths was post-partum haemorrhage, anaemia, eclampsia, and obstructed labour. The social, economic and institutional failure leads to increasing rate of maternal mortality and morbidity. (Human Rights Law Network, 2016)

In 2010-11, the upper Assam division had the highest MMR (430) and the Hills and Barak Valley division had the lowest MMR (342) (Office of the Registrar General & Census Commissioner, 2013). In 2011-12, for a second time, the upper Assam division had the highest MMR (436) and again the Hills and Barak Valley division had the lowest MMR (288) (Office of the Registrar General & Census Commissioner, 2012). In 2012-13, for the third time, the upper Assam division had the highest MMR (404) and the north

Assam division had the lowest MMR (251) (Office of the Registrar General & Census Commissioner, 2013).

The NRHM's integral component is the safe motherhood intervention in the form of Janani Suraksha Yojana (JSY) for lowering maternal and neonatal mortality (Nair & Panda, 2011; Ministry of Health and Family Welfare, 2015). It is a hundred percent centrally sponsored scheme and it also integrates cash assistance with delivery and post-delivery care (Ministry of Health and Family Welfare, 2015; Agbakwuru & Beswick, 2009).

A good number of studies were conducted to analyse the levels of impacts of JSY in India. Evidential studies in terms of quantitative, qualitative and economic aspects showed that the evidence of effects on maternal and infant mortality and morbidity outcomes was insufficient (Murray, Hunter, Bisht, Ensor, & Bick, 2014). A number of studies of JSY in the dimensions of the effectiveness of cash transfer schemes, the effects of JSY on the beneficiaries and the level of utilisation of JSY were adequately conducted. However, the studies analysing the impacts of JSY in Assam, the highest MMR State, particularly in a Muslim dominated district, Karimganj district is comparatively lower than other areas of India.

The study attempted to observe the effectiveness of JSY among pregnant women registered under JSY in Karimganj district of Assam State. It measures the socioeconomic conditions of the JSY beneficiaries, health and educational facilities available in the villages, knowledge of the JSY beneficiaries about pregnancy, micro-birth plan and JSY, perspectives of the JSY beneficiaries about early marriage, family responsibility and family planning, levels of antenatal and postnatal care coverage, extent of awareness among the JSY beneficiaries about health and JSY and the performance of ASHA and ANM. This research work has been carried out in broader discipline of social work with collection and compendium of a varied range of reviews from interrelated disciplines.

**About Janani Suraksha Yojana (JSY)**

The prime aim of the JSY, the safe motherhood intervention, is to reduce maternal and infant mortality through increased delivery at health institutions (Agbakwuru &

Beswick, 2009). JSY offers 24 hours quality services including that of anaesthetists and Accredited Social Health Activist (Kumar, 2005). All pregnant women who are over age 19 years in Low Performing States (LPS) and all pregnant women living in below the poverty line (BPL) in High Performing States (HPS) are eligible to enrol and obtain health cards entitling them to cash assistance for institutional delivery and transportation (Agbakwuru & Beswick, 2009).

According to the Ministry of Health and Family Welfare (2015), the success indicator of the scheme is the increase in institutional delivery among the poor families. The JSY has identified Accredited Social Health Activist (ASHA) as an effective actor to bridge the Government with the poor pregnant women in l0 LPS, namely the 8 EAG states and Assam and Jammu &Kashmir and the remaining North Eastern States. In other eligible states and Union Territories, wherever, Anganwadi Workers (AWWs) and Trained Birth Attendants (TBAs) or ASHA has been involved in this purpose, she can be associated with this JSY for providing the health services.

**Statement of the Problem**

Since the outset of the Safe Motherhood Initiative, India has registered for at least a quarter of maternal deaths reported globally. India's goal is to lower maternal mortality to less than 100 per 100,000 live births, but that is still far away regardless of its programmatic efforts and rapid economic progress over the past two decades. (Vora, et al., 2009)

Maternal mortality is on an average 18 times higher in developed countries compared to developing countries. Maternal mortality and morbidity continue to be high despite the existence of national programmes for improving maternal and child health in India. This coupled with several factors, a significant one being non-utilization or under-utilization of maternal health-care services, especially amongst the rural poor and urban slum population owing to either lack of awareness or access to health-care services. (Agarwal, Singh, & Garg, 2007)

The World Health Organization (Vora, et al., 2009) estimates that, of 536,000 maternal deaths occurring globally each year, 136,000 take place in India. India, with a population of over a billion and decadal growth of 21%, estimated its maternal mortality ratio (MMR) at 301 (maternal deaths per 100,000 live births) in 2003 (Vora, et al., 2009). The MMRs vary across the states, with the large North Indian states contributing a disproportionately-large proportion of deaths. Uttar Pradesh and Rajasthan, for example, have high rates of fertility and maternal mortality while Kerala and Tamil Nadu have rates comparable with middle-income countries (Sharma & Sharma, 2014).

Karimganj District is one of the most lagging behind districts in Assam in all respects especially in education, health care, road communication, socio- economic condition etc. In Karimganj district 93 percent of population lives in rural areas. As indicated by the Human Development Report of Assam (2004) the human development index for the district stands at 0.301 (ranks 19th in the state) which is much lower than the state average of 0.407. In terms of income, education and health the district ranks 19th, 14th and 18th respectively in the state. Most of the women in Karimganj district suffer from pregnancy related complications like anaemia, high blood pressure, obstructed labour, poor health due to the poor socio-economic condition of the family. Even in rural villages in Karimganj district it is seen that people are unaware about health education, family planning, antenatal during pregnancy etc. High level of illiteracy, poverty and cultural background have been attributed to increasing the number of maternal mortality in the Assam. Apart from that many are residing in remote parts of the society especially in the village where there poor infrastructural facilities like access to good health care, good road electricity, good water and access to radio and television. One of the biggest challenges facing Assam in the area of children and women development is high maternal mortality. Although it has achieved the maximum decline of 90 points in maternal mortality ratio between 2005-06 and 2007-09, Assam, continues to remain the State having the highest Maternal Mortality Ratio (MMR) of 390 per 100,000 live births in the country (all India average: 212). (Ministry of Minority Affairs, 2004)

This study investigated the impacts of the Janani Suraksha Yojana pregnant and lactating mothers in the district of Karimganj in Assam. A good number of studies concerning the JSY were conducted. Most studies focused the States with larger areas and a few studies were conducted in Assam. Most of these studies reflected the operational mechanism and utilisation of JSY programme. The identified research gap is that the studies related to the impacts of the pregnant and lactating mothers covered under the JSY in the most backward districts like Karimganj are sparingly focused.

**An Overview of Literature**

A cross-section study analysed the reasons of missed opportunities of Janani Suraksha Yojana benefits among the beneficiaries. Data were collected from 3212 women. Out of 3212 women, 360 (11.20%) were eligible for getting the benefit of JSY. Among the 360 women, only 118 (32.78%) obtained the benefit of JSY while, 242 (67.22%) missed the opportunity of getting JSY benefit due to lack of information of JSY. The finding indicated that the poor IEC efforts in the implementation of JSY, divulging most of the poor eligible women from their rights of JSY benefits. (Vishwanath, Jatti, & Tannu, 2011)

Deshpande (2011) examined the contribution of JSY in the reduction of maternal and infant mortality in Karnataka. The outcomes indicated that only 13 percent of JSY beneficiaries had received advice on danger signs of pregnancy and care to be taken during pregnancy. Just 5% of the beneficiaries were informed on place of delivery and place of referral in case of complications indicating that the scheme is not taking sufficient precaution for safe motherhood. Counseling women for institutional delivery to reduce maternal and infant mortality is another important intervention of the JSY scheme. However, it was found that only 40 percent of deliveries among the JSY beneficiaries were institutional, the remaining had deliveries at home.

Rammohan, Iqbal and Awofeso (2013) examined the factors influencing neonatal mortality will significantly improve child survival outcomes in India. Based on household data from the nationally representative 2008 Indian District Level Household Survey (DLHS-3), the analysis was done. They found that 80% of neonatal deaths occurred within the first week of birth. The probability of neonatal mortality is significantly lower when the child's village is close to the district hospital (DH). Neonatal deaths were lower in areas where emergency obstetric care was available at the District Hospitals. The parental schooling and household wealth status improved neonatal survival outcomes.

Modugu, Kumar, Kumar and Millett (2012) analysed variations in out-of-pocket-expenditure (OOPE) for normal/caesarean-section deliveries, JSY programme use and delivery associated borrowings - by states and union territories, and socio-demographic profiling of families, in India. The study outcomes showed that half (52%) of all deliveries in India occurred at home in 2007-08. OOPE for women having institutional deliveries remained high, with considerable difference between states and union territories. Average OOPE of a normal delivery in public and private institution respectively in India were Rs. 1,624 and Rs. 4,458 and for a caesarean-section it was Rs. 5,935 and Rs. 14,276 respectively. There was a significant state-level variation in use of the JSY programme for normal deliveries (15% nationally; ranging from 0% in Goa to 43% in Madhya Pradesh) and the percentage of families having to borrow money to pay for a caesarean-section in a private institution (47% nationally; ranging from 7% in Goa to 69% in Bihar). Increased literacy and wealth were associated with a higher likelihood of an institutional delivery, higher OOPE but no major variations in the use of the JSY.

Thind, Mohani, Banerjee and Hagigi (2008) studied the determinants of home, private and public sector utilization for a delivery in Maharastra state. The dataset had a sample size of 5391 ever-married females in the age group of 15-49 years. The findings showed that a majority delivered at home (n = 559, 37%); with private and public facility deliveries accounting for 32% (n = 493) and 31% (n = 454) respectively. For the choice set of home delivery versus public facility, women with higher birth order and those dwelling in rural areas had greater odds of delivering at home, while increasing maternal age, higher media exposure, and more than three antenatal visits were associated with greater odds of delivery in a public facility. Maternal and paternal education, scheduled caste or tribe status, and media exposure were statistically significant predictors of the choice of public versus private facility delivery.

The study of the advantages of JSY programme as perceived by the beneficiaries in Bikaner District in Rajasthan by Vinod, Singh and Raj (2009) revealed that some essential advantages perceived by the beneficiaries of JSY were safe delivery at PHCs and CHCs, helpful in population control, payment of Rs. 1400 to the mother (in rural areas) after delivery, full protection after delivery etc, availability of water, bed and electricity etc. at PHCs. This results indicated that incentive under JSY in antenatal period had positive association on institutional deliveries.

The impact of Janani Suraksha Yojana on selected family health behaviours in rural Uttarpradesh was studied by Khan and Kumar (2010), which explored the extent to which the JSY has succeeded in achieving its goal or promoting positive family health behaviours that have a significant bearing on maternal and neonatal mortality. The outcomes showed that the analysis of women's awareness of the JSY and its benefits, women who know or have met the ASHA, and the impact of JSY on promoting institutional delivery showed that most women (88 percent) were aware of the JSY and the incentive it offers for institutional delivery.

The effect of community based neonatal care by community health workers (CHWs) on neonatal mortality rate (NMR) in resource-limited settings was assessed. A systematic review was conducted by exercising 13 controlled trials comprising of 192000 births. The study outcomes projected that community based neonatal care by CHWs was associated with reduced neonatal mortality in resource-limited settings. There was no consistent effect of training duration of the health workers, type of intervention (home visitation versus community participatory action and learning), number of home visits done by CHWs, and provision of only preventive versus both preventive and therapeutic care. The interventions are highly effective when baseline NMR is above 50/1000 live births [RR=0.64(0.54 to 0.77)]. The interventions showed a significant decrease in efficacy as the NMR drops below 50/1000 live births [RR=0.85 (0.73 to 0.99)], however, is still substantial. A considerable decrease in NMR is possible by providing community based neonatal care in areas with high NMR by community health workers with a modest training duration and ensuring high program coverage with home visitation on the first two days of life. (Gogia, et al., 2011)

Mandal, Kaur and Murhekar (2012) evaluated JSY in South 24-Parganas district of West Bengal. They sampled 256 mothers who were eligible under JSY and who had a child below one year of age. For stakeholder analysis, they randomly selected 97 female health worker (auxiliary nurse midwives), 32 block medical officers and public health nurses, 12 *gram panchayat pradhans* (elected representatives in local governments) and district nodal officers for JSY. They found that 57% (147) of 256 mothers who were eligible to receive JSY benefits were registered with health services within 12 weeks of pregnancy; 85.9% (220) mothers completed at least 3 antenatal care visits and 96.9% (248) mothers had completed one dose of tetanus toxoid injection.

Using the third round of the Indian National Family Health Survey (NFHS) 2005–06, mortality of most recent singleton births was assessed in a discrete-time logistic model with maternal tetanus vaccination, together with antenatal care utilisation and supplementation with iron and folic acid. The findings disclosed that around 59% of mothers reported receiving antenatal care, 48% reported receiving IFA supplementation and 68% reported receiving two or more doses of TT vaccination. The odds of all-cause neonatal death were reduced following one or more antenatal dose of TT with odds ratios (OR) of 0.46 (95% CI 0.26 to 0.78) after one dose and 0.45 (95% CI 0.31 to 0.66) after two or more doses. Reported utilisation of antenatal care and iron-folic acid supplementation did not influence neonatal mortality. In the statistical model, 16% (95% CI 5% to 27%) of neonatal deaths could be caused by a lack of at least two doses of TT vaccination during pregnancy, representing an estimated 78,632 neonatal deaths in absolute terms. (Singh, Pallikadavath, Ogollah, & Stones, 2012)

Dongre and Kapur (2013) assessed JSY's functioning by using a unique data set covering eight districts spread across seven "low performing states" in the country. The result showed that JSY is working reasonably well, judging by the proportion of women receiving incentives after delivering in a government facility, locations of receiving incentives, mode of payments and payment of bribes. However, the accredited social health activists, an important component of JSY, play a limited role in facilitating delivery in a medical facility. Significantly, although the proportion of women delivering in a medical facility has improved considerably, a significant fraction of women continues to deliver at home. These women are more deprived than those who deliver in government facilities.

The identified gap from the analysed literature sources is that there is lack of indications concerning the effectiveness and impacts of JSY in the most backward regions like Karimganj district.

**Perlman – Problem Solving Model – (Cited in Coady and Lehmann, 2008)**

In 1957, Perlman promoted a problem-solving process for social casework (i.e., direct social work practice), the problem-solving model has developed into a cornerstone of social work practice. The problem-solving model is a critically important element in generalist-eclectic approach to direct practice because its flexible structure and general guidelines for practice facilitate an eclectic use of theory and technique (the science of practice) and the use of reflective, intuitive-inductive processes (the art of practice).

In 1986, Perlman has identified the problem- solving model as an eclectic construct, with theoretical roots in psychodynamic ego psychology and selected ideas from existential, learning, and ecological systems theories. Perlman pointed out that effective problem-solving, whether in everyday life or in professional helping, consists of similar processes. In professional helping, these processes include (a) identifying the problem, (b) identifying the person's subjective experience of the problem, (c) examining the causes and effects of the problem in the person's life, (d) considering the pros and cons of various courses of action, (e) choosing and enacting a course of action, and (f) assessing the effectiveness of the action (Perlman, 1970). These problem-solving processes or stages that were outlined by Perlman are the basis of most current problem-solving models in social work.

**Overall Objective**

- To observe the impact of Janani Suraksha Yojana on the health development of the pregnant women in the district of Karimganj, in order to assess whether the effects have been beneficial, detrimental or neutral.

**Specific Objectives**

i. Analysis of the socio-economic conditions of the JSY beneficiaries in Karimganj district.
ii. Observation of the facilities available for the JSY beneficiaries in terms of health and education.
iii. Consideration of the level of knowledge of the JSY beneficiaries about pregnancy, micro-birth plan and JSY.
iv. Investigation of JSY beneficiaries' perspectives about early marriage, family responsibility and family planning.
v. Examination of antenatal and postnatal care received by the JSY beneficiaries.

vi. Consideration of the level of awareness among the respondents about health and JSY.
vii. Reflection of the level of knowledge of the objectives of JSY.
viii. Analysis of the impacts of the JSY on the JSY beneficiaries.

**Research Methodology**

This section describes the research methodology employed in this thesis.

**Research Design**

This study employed descriptive research design to garner empirical information on the impacts of the Janani Suraksha Yojana programme on the pregnant women. This study ascribes the socio-economic conditions of the pregnant women, the health and educational facilities available in the village, knowledge of the JSY beneficiaries about pregnancy, micro-birth plan and JSY, the view point of the JSY beneficiaries about early marriage, family responsibility and family planning, the level of antenatal and postnatal care received by the JSY beneficiaries and the level of awareness about the health and JSY programmes. The views of the women respondents are described in detail.

**Field of Study**

The field of study is Karimganj district in Assam. Karimganj district is the southernmost district of Assam located in the valley of Barak. The sex ratio of the Karimganj district was 963 according to the Census 2011. The sex ratio of the child population in the age group of 0 – 6 years was 969. The district has recorded a maternal mortality ratio of 342.

## Sampling Techniques

In the month of June 2016, as per the available health record, the number of pregnant mothers who had ANC check-up in Karimganj district was 12458 (one year record). This datum has been considered as the universe of this study. Stratified

Proportionate Simple Random Sampling was employed in the selection of the samples. The number of JYC beneficiaries who received at least 1 ANC check up in each block was considered as 'strata' and proportionately the samples were selected from each Block of 7 Blocks of the district. Thus, the total number of samples collected were 373 from 36 villages. However, the representation of the samples was emphasized on the Blocks.

**Tools for Data Collection**

Interview schedule was constructed based upon the objectives and hypothesis to collect field level data. The mothers who were beneficiaries of JSY programme are the primary respondents of this study. Interview schedule with 7 parts was administered for primary data collection. Initially, the interview schedule was developed in English and then it was translated into Bengali to collect the primary data from the selected JSY beneficiaries.

**Operational Definition**

**Maternal Mortality Rate (MMR):** MMR is the incidences of maternal deaths in an area within 42 days of pregnancy termination owing to pregnancy-related complications.

**Janani Suraksha Yojana (JSY):** JSY could be deemed as a social and health welfare scheme sponsored by the National Rural Health Mission to reduce maternal mortality and infant mortality rates. It is aimed at strengthening the health delivery mechanism for improving the health status of the population.

**Analysis and Interpretation Data**

The collected and collated data were codified, fed into the computer and analysed. The Statistical Package for Social Sciences was used for data feeding and analysis. The analysed tables and statistical tests were presented with suitable interpretation. Frequency distribution, chi-square, correlations, ANOVA, T-test were administered and presented.

## Limitations of the Study

- Standardised tool was not employed in this study.
- Some of the interviews went for a long period than expected. In such cases the respondents were tired.

## Main findings

The major findings of this study are:

***Socioeconomic Background of the Respondents:***

- ✰ The mean age of the respondents at the time of interview is 26.4 years. A majority of the respondents are in the age category of less than 30 years. Most of the respondents in the age group of 22 – 30 years are from South Karimganj Block.
- ✰ The mean age of the respondents at the first pregnancy is 20.2 years. The mean age of the respondents at the time of the marriage is 18.7 years.
- ✰ A substantial proportion of the respondents had their first pregnancy at the age of 18. Around three-fifth of the respondents had married during the secondary school education and immediately after secondary school completion.
- ✰ Most respondents (66.8%) belong to the general communities.
- ✰ Of the 373 respondents, 57.9% of them are Muslims.
- ✰ Around seven-tenth of the respondents are dwelling in joint family system.
- ✰ The average number of children of the respondents is 2.41. More than three-fifth of the respondents have family members of 6 and above. Of the 373 respondents, 34% of them have 2 children, 42.6% of them have 3 children and above and 23.3% of them have 1 child.
- ✰ Out of 373 respondents, 12.9% of them report that earlier their children had died during pregnancy. Of the reported respondents on the death of the children, 4.8% of them believe that due to failure of institutional delivery their children had died.
- ✰ None of the respondents have crossed higher secondary school education.
- ✰ More than half of the respondents (57.6%) are home makers.

- More than three-fifth of the respondents have monthly income of their spouses in the ranges of Rs.5000 to Rs.10000.
- A preponderance of the respondents (93.6%) live in owned houses.
- Most of the respondents (58.4%) live in Katcha houses.
- A sizeable proportion of the respondents (56.8%) have electricity connection in their houses.
- Around three-fifth of the respondents do not have sanitary latrine in their houses.
- A considerable proportion of the respondents (40.5%) express that the major source of drinking water is drawn from well.
- A majority of the respondents (69.2%) have to travel to the nearest towns from 4 to 35 km.
- The mean distance of the nearest towns for the respondents is 19.8 km.

***Health and Educational Facilities in the Villages***

- A vast majority of the respondents (87.7%) express that they have sub-centres of Primary Health Centres in their villages.
- Of the 373 respondents, 84.2% of them have ICDS anganwadi in their localities.
- A larger majority of the respondents (95.2%) opine that their villages have Primary Schools.
- A vast majority of the respondents (95.2%) respond that their villages did not have colleges.
- All the respondents express that they have accessibility and availability of ASHA as the chief health providers in their villages.
- A vast majority of the respondents (95.2%) lack accessibility and availability of ultrasound facilities in their villages.
- A majority of the respondents (85.5%) articulate that the mobile health clinic service was irregular.
- A vast majority of the respondents (89.3%) state that their villages have Village Health Sanitation and Nutrition Committees.
- A considerable proportion of the respondents (36.7%) believe that the Village Health Sanitation and Nutrition Committees are functioning to some extent.

***Knowledge about Pregnancy, Micro-birth Plan and JSY Information***

- More than four-fifth of the respondents receive advice on breastfeeding.
- Around four-fifth of the respondents have received advice on diet.
- Of the 373 respondents, 85.3% of them each state that they received micro-birth plan information about the place of next check up and expected date of delivery.
- More than 35% of the respondents have no knowledge about the promotion of institutional delivery, reduction of maternal death and reduction of infant death.
- More than half of the respondents have knowledge about the promotion of safe delivery to some degree.

**Perspectives about Early Marriage, Family Responsibility and Family Planning**

- Most respondents (54.2%) believe that the early marriage was undesirable.
- A majority of the respondents (68.9%) agree on that their spouses share the family responsibilities.
- Around three-fifth of the respondents state that their spouses decline limiting the family sizes.
- More than three-fifth of the respondents have no knowledge about the different methods of family planning.

**Level of Antenatal and Postnatal Care Coverage**

- About three-fifth of the respondents have awareness about antenatal care to a better extent.
- Around three-fourth of the respondents have their first ANC in the last pregnancy at the third month.
- Most respondents (53.6%) have received ANC more than 3 times.
- A sizeable proportion of the respondents (39.1%) have consciousness of the essentiality of tetanus toxoid during pregnancy to some extent.
- More than half of the respondents have received 2 doses of tetanus toxoid injection during the last pregnancy.
- Many respondents (51.5%) have consumed 50-100 iron and folic tablets during the last pregnancy.

- Of the 373 respondents, 231 (61.9%) of them are aware about the postnatal care. Of the 231 respondents, 122 of them have awareness about the postnatal care to some degree.
- More than half of the respondents have availed postnatal care.

**Level of Awareness about Health and JSY**

- A larger majority of the respondents (80.4%) have not participated in the family welfare campaigns.
- A substantial proportion of the respondents (47.5%) have occasionally listened radio programme on maternal and child health.
- A considerable proportion of the respondents (48.3%) have occasionally watched television programme on maternal and child health.
- A larger majority of the respondents (84.2%) have aware about the severe anaemia that affects safe delivery.
- More than two-fifth of the respondents have not aware about the untied fund of the Government.
- A significant proportion of the respondents (66%) express that the health facilities have not been improved in the last one year.
- Around four-ninth of the respondents opine that the Primary Health Centres are providing services round the clock to some extent.
- A considerable proportion of the respondents (48.3%) are aware about the Janani Suraksha Yojana to less extent.
- The mean years of knowing JSY by the respondents is 3.17 years.
- A vast majority of the respondents (95.2%) have learnt about the JYC through ASHA.
- A considerable proportion of the respondents (48.5%) are unaware about National Rural Health Mission.
- More three-tenth of the respondents have lesser awareness about the activities of ASHA.
- More than half of the respondents have awareness about maternal health.
- More than three-fifth of the respondents are aware about safe delivery.
- Half of the respondents are aware about pregnancy related complications to some extent.

- A vast majority of the respondents (59.5%) have awareness about institutional delivery to an enhanced degree.
- Around half of the respondents are aware about the functioning of Village Health Sanitation and Nutrition Committees to a lesser extent.
- A considerable proportion of the respondents (48.5%) are unaware about the observation of Village Health and Nutrition Day.
- Most respondents (66.8%) are unaware about the importance of breastfeeding for the better health of the child.
- Around two-fifth of the respondents are unaware about the essence of newborn care.

**Performance of ASHA and JSY Programme**

- Most respondents (67%) have experienced pregnancy related complication during the last pregnancies.
- A substantial proportion of the respondents (45.3%) are very dissatisfied with the performance of ASHA.
- A sizeable proportion of the respondents (47.2%) are very dissatisfied with the performance of ANM.
- A vast majority of the respondents (85.3%) have delivery of the last children at institutions. Around two-third of them have delivery at Government Hospital.
- Around 15% of the respondents have delivery at homes.
- More than half of the respondents have travelled from 30 minutes to 60 minutes to reach the hospitals for delivery.
- A majority of the respondents have received financial assistance under JSY.
- A larger majority of the respondents (84.2%) are advised by ASHA about child immunization.
- Most respondents (43.7%) have rated the performance of ASHA has well (good).
- A majority of the respondents (59%) are dissatisfied with the health facilities of JSY.

**Extent of ANC and PNC Coverage**

- A majority of the respondents (64.6%) have received moderate levels of ANC and PNC coverage.

**Level of Knowledge about the Objectives of JSY**

- Most respondents (57.1%) had moderate levels of knowledge of the objectives JSY. Only 9.9% of the respondents had low levels of knowledge about JSY's objectives.

**Level of Awareness about Health and JSY Activities**

- Around half of the respondents have moderate levels of awareness about health and JSY activities. 15% of the respondents had high levels of awareness about health and JSY activities.

**Classification of the Performance of JSY Programme**

A distinct proportion of the respondents (72.4%) categorised the performance of JSY programme to moderate degrees. Just 9.4% of the respondents ranked the JSY programme as high.

**Hypothesis Testing**

- There is a significant positive correlation between the weight of the respondents and the weight of the babies delivered in the last pregnancy.
- There are significant mean differences between the extent of ANC and PNC coverage and the socioeconomic variables (present age, religion, family size, the number of children, monthly income of the husbands) at 5% level.
- There are significant mean differences between the classification of the performance of JSY and 7 socioeconomic variables (present age, religion, education, family size, number of children, monthly income of the husbands and occupation) at 5% level.
- There are significant mean differences between the classification of the performance of JSY and 3 health related variables (number of ANC checkups,

number of IFA tablets taken during pregnancy and number of PNC checkups) at 5% level.

**Discussion**

Janani Suraksha Yojana was launched under National Rural Health Mission in the district Karimganj in 2005 with the target to reduce maternal mortality rate, infant mortality rate and improve the health delivery mechanism and improve health status of people. Under this scheme, a selectee number of ASHAs have been identified at the village levels to facilitate early registration of antenatal women, provide ante-natal care, and ensure timely transportation of women for institutional delivery. Both the women and the ASHAs are given cash assistance for ensuring a safe institutional delivery.

This study disclosed that ***the majority of the respondents (64.6%) have received moderate levels of ANC and PNC coverage.*** This resembles the findings of the study conducted by Mangal and Ladha (2012) that showed 49.52% women took proper antenatal care. However, their observations contradiction with the datum of this study that many respondents (51.5%) have consumed 50-100 iron and folic tablets during the last pregnancy, that is, they have not consumed the required iron and folic tablets.

***There were significant mean differences between the extent of ANC and PNC coverage and the socioeconomic variables (present age, religion, family size, the number of children, monthly income of the husbands) at 5% level.*** The respondents in the present age group of 22-30 years (Mean = 2.12) have moderate levels of ANC and PNC coverage. The respondents who are Muslims (Mean = 2.14) have experienced moderate levels of ANC and PNC coverage. The respondents who have 8 family members and above (Mean = 2.40) have received the moderate levels of ANC and PNC coverage. The respondents who have 2 children have availed moderate levels of ANC and PNC coverage. The respondents who have their husbands' monthly income in the range of Rs.5001-Rs.7000 have experienced moderate levels of ANC and PNC coverage.

Most JSY beneficiaries (57.1%) had moderate levels of knowledge of the objectives JSY. Around half of the JSY beneficiaries have moderate levels of awareness about health and JSY activities. A distinct proportion of the JSY beneficiaries (72.4%) categorised the performance of JSY programme to moderate degrees. It is observed that the variation of the attributes of the extent of ANC and PNC coverage was the highest than other components.

Many researchers have revealed that JSY has increased institutional deliveries when compared to the previous years. This outcome is also in line with the findings of this study. This study has disclosed the fact that Muslim dominated Karimganj district has a good number of institutional deliveries. Indeed, this research has denied the version of the study of Mandal, et al. (2012) that institutional delivery was low among Muslim women. Eventually, it could be stated that the study revealed that when the JSY beneficiaries have improved the knowledge of the objectives of JSY, relatively, the ANC and PNC coverage has increased.

It could be accentuated that JSY is an effective problem-solving model because the programme has a cascade of courses of action for preventing maternal and infant deaths. When compared to the previous years before the implementation of JSY, the rate of MMR has been reduced to a sizeable extent. However, there exists lack of health infrastructure and facilities and lack of commitment among certain health personnel. If these issues are overwhelmed, undoubtedly the JSY is the effective problem-solving model for significantly decreasing MMR.

## Suggestions

Based on the study observations, the following social work implications are made.

### At Micro-Level:

- For the micro-level intervention, the role of a professional counsellor is essential for interacting with the expectant mothers. The Government might introduce qualified social workers as counsellors for JSY Programme.

- The educational institutions conducting social work course have to effectively educate the students on social casework, one of the primary methods of social work. The professional counsellors could adopt both these methods in their practices.

**At Mezzo-Level:**

- Group work exercise could be an effective process to enable JSY beneficiaries to improve their social functioning through meaningful group engagement and experiences that could help to overcome issues preventing access to institutional delivery. In this intervention, the role of a professional counsellor or a social worker is crucial and the Government needs to absorb qualified personnel for that role.
- In the group work exercise, Panchayat Raj Institution members, self-help group members and other influential stakeholders of the JSY coverage area could be engaged in order that to facilitate the JSY beneficiaries to overcome situation or system that affects access to health facilities.

**At Macro-Level:**

- JSY, the health programme, is also a social welfare programme. The Professional Social Workers at national or state level have to evolve an effective social welfare policy which should be evolved based on ground level social research that advocates an effective health programme for further enhancing institutional deliveries. Further, they have to lobby with Members of Parliament, Members of Assembly and statutory commissions for advocating effective social welfare policy.
- At national or state level, intensive research might be carried out to strengthen antenatal and postnatal care and addressing the health issues of the high-risk pregnancies.
- The network of health personnel of both government and private health institutions at panchayat, block, district, state and national levels needs to be established for effective coordination and continuum of health care services for the prevention of maternal and infant deaths.

**Conclusion**

Despite its technological progression, hitherto, India ranks high in maternal mortality rate. The poor and marginalised often affected in this scenario. In 2005, with the rightful intention, the Government of India launched the National Rural Health Mission and under which the Janani Suraksha Yojana for safe motherhood intervention was rolled out in districts like Assam. This state has ranked the highest in maternal mortality rate in India. Considering the socioeconomic condition of Karimganj district, one of the southernmost districts of Assam, this study attempted to observe the impact of JSY on the JSY beneficiaries of this district.

In order to fill up the research in analysing the impact of JSY in minority-dominated as well as backward areas of Karimganj district, this study was undertaken. This research shows that a vast majority of the respondents have learnt about the JSY through ASHA. The majority of the respondents have received moderate levels of ANC and PNC coverage. However, the majority of the respondents are dissatisfied with the health facilities of JSY. The Government or Civil Society Organisations have to realise that the execution of effective promotion of maternal and child health programmes for enhancing the health standard of women and children in rural and tribal areas. The JSY when managed with ample health facilities and qualified and committed JSY programme and health personnel, the programme would be one of the best problem-solving models in the reduction of maternal and infant mortality rates.

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