EVALUATION OF JANANI SURAKSHA YOJANA SCHEME UNDER NRHM AT MULBAGAL TALUK, KOLAR

By

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DISSERTATION SUBMITTED TO
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IN

COMMUNITY MEDICINE

Under the guidance of

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I hereby declare that this dissertation entitled "EVALUATION OF JANANI SURAKSHA YOJANA SCHEME UNDER NRHM AT MULBAGAL TALUK, KOLAR" is a bonafide and genuine research work carried out by me under the guidance of Dr. RANGANATH B.G, Department of Community Medicine, Sri Devaraj Urs Medical College, Tamaka, Kolar.

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LIST OF ABBREVIATIONS

NRHM-National Rural Health Mission

JSY- Janani SurakshaYojana

ASHA-Accredited Social Health Activist

PHC- Primary Health Centres

CHC-Community Health Centres

SC- Sub-Centre

SC-Scheduled Caste

ST-Scheduled Tribe

OBC- Other Backward Classes

BPL-Below poverty line

MMR-Maternal Mortality Ratio

IMR- Infant Mortality Rate

NMR- Neonatal Mortality Rate

MDG- Millennium Development Goals

NHP- National Health Policy

RCH- Reproductive and Child Health

DLHS- District Level Household Survey

ANC- Antenatal Care

INC-Intranatal Care

PNC- Post-natal Care

ID- Institutional Delivery

Union HM-Union Health Minister

VHSC- Village Health and Sanitation Committee

NMBS-National Maternal Benefit Scheme

MO-Medical Officer

SBA- Skilled Birth Attendant

ICDS- Integrated Child Development scheme

AWW- Anganwaadi Worker

ANM-Auxillary Nurse Midwifery

FHW-Female Health Worker

MPW-Multi Purpose Worker

FRU-First Referral Unit

TT- Tetanus Toxoid

IFA- Iron and Folic Acid

NGO-Non-Government Organization

WHO- World Health Organization

ICMR- Indian Council of Medical Research

UIP- Universal Immunization Schedule

PPS- Probability Proportional to Size

NFHS- National and Family Health Survey

KSHSRC- Karnataka State Health System Resource Centre

IEC-Information, education and Communication

MCH- Maternal and Child Health

DH- District Hospital

HPS- High Performing States

LPS- Low Performing States

EAG- Empowered Action Group

EmOC- Emergency Obstetric Care

NMBS- National Maternal Benefit Scheme

ABSTRACT

INTRODUCTION AND OBJECTIVES

National Rural Health Mission (NRHM) was launched by the Government of India to achieve goals set under National Health Policy and Millennium Development Goals to be achieved by 2015. The goal of the NRHM is to improve the availability of and access to quality health care by the people, especially for those residing in rural areas, the poor, women and children. Janani Suraksha Yojana (JSY), a centrally sponsored safe motherhood intervention was launched under NRHM with a vision to reduce overall MMR and Neonatal Mortality rate (NMR) and to increase the institutional deliveries among poor pregnant women.

Concurrent evaluation of JSY under NRHM has not being undertaken in Kolar district as evident from the 2009 evaluation report. Assessment of JSY in Kolar will provide information on the structure and facilities available for its delivery, the actual process involved in its implementation and the output achieved as per the objectives. Assessment of factors necessary to bring about corrections in process, accessibility, acceptability and quality of care of JSY services provided during antenatal, intra natal and postnatal care period are essential.

There is variation in frequency of deliveries in the Government administered primary health centres (PHC) of Kolar. The factors' influencing these variations in frequency of deliveries in the health centres needs to be understood from the perspective of availability, accessibility, acceptability and quality of health care.

Hence, an evaluation study of JSY in Kolar was undertaken with the following objectives:

(1) To assess the availability and provision of facilities and structure for providing JSY services for pregnant women.

(2) To assess the performance of activities and output achieved under the JSY scheme.

(3) To study the factors influencing the variation in the frequency of deliveries in the Primary Health Centre institutions of Kolar.

METHODOLOGY

STUDY AREA

The study was undertaken in Mulbagal taluk area of Kolar district. For the study purpose, the PHC s' in Mulbagal taluka were conveniently grouped into two categories. In the first category, PHCs' with more than 20 deliveries per month for consecutive three months of January to March 2012 constituting three PHCs.' The second category PHCs' with less than 20 deliveries per month for consecutive three months consisting of 14 PHCs'.

STUDY POPULATION

Women who were registered as JSY beneficiaries and who had delivered a live child in the last one year between April 2012 and March 2013 in the selected PHCs' under the two categories.

STUDY DESIGN

Evaluation study of JSY scheme under NRHM using a cross-sectional descriptive study design approach.

STUDY TOOL Proforma and interview questionnaire

STUDY DURATION April to December 2013.

RESULTS AND INFERENCES

This evaluation study done to assess the JSY scheme performance at Kolar found that Skilled Birth Attendants (SBA) trained NRHM staff nurses are available round the clock in the studied PHCs' to deliver obstetric care services. Nearly 4% of villages under the studied health centres did not have provision of ASHA. In nearly 33 % of PHCs', medical officer and headquarters stationed ANM were residing in the headquarters for 24X7. Utilization of institutional delivery services was more frequent in PHC situated in a place convenient to be accessed by the communities.

Only 21 % of the studied JSY beneficiaries received cash incentive for bearing the expenses incurred in and around the time of delivery and only 17.1% of them utilized the cash as intended by scheme. More than 96% of the JSY beneficiaries were accompanied by ASHA for ANC visits, institutional delivery and had paid postnatal visits. Only 19% of the JSY beneficiaries had utilized 108 ambulance services to reach the place of delivery. Around 60% of the delivered women breastfed the newborn within half an hour of delivery and two third of them gave pre lacteal feeds. Only 25% of the studied JSY beneficiaries had received good quality obstetric care in the studied primary health care facilities.

CONCLUSION

This study concludes that the services under the JSY scheme in the studied health centres of Kolar are being provided to a large extent but are either incomplete or delayed. It is clearly evident that there is lack of adequate monitoring of the services rendered by the health care workers including ASHA by their immediate supervisory staff. Relatively difficult accessibility to health centres is an important factor for underperformance of 24X7 Primary Health Centre institutions.

KEY WORDS: Evaluation, Janani SurakshaYojana, NRHM, ASHA, Kolar

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURE

INTRODUCTION

The estimated maternal mortality ratio (MMR) in India is 178 per lakh live births which contributes to 20% of the maternal deaths globally.[1] The estimated Infant mortality rate (IMR) is 42 per 1000 live births and neonatal mortality contributes to 29 per 1000 live births in the country.[1] There is a need to reduce Maternal Mortality Rate to 109 and Infant Mortality Rate to 28 in order to achieve the Millennium development Goals (MDG) by the year 2015. The MDG goal 4 and 5 concentrates on improvement of maternal health and reducing infant mortality and child mortality respectively.[2] The National Health Policy (NHP) had set goal to reduce MMR to 100/lakh live births and IMR to 30/1000 live births by 2010.[3]

In the light of the goals set under NHP and MDG to be achieved by 2015, the Government of India launched the National Rural Health Mission (NRHM) in the year 2005. NRHM aims to carry out necessary architectural correction in the basic health care delivery system of the country. This mission adopts the synergistic approach by relating health to determinants of good health and also aims at mainstreaming of AYUSH. The goal of the mission is to improve the availability of and access to quality health care by the people, especially for those residing in rural areas, the poor, women and children.[4]

Under reproductive and child health programme (RCH), approaches to improve obstetric care during pregnancy, promotion of institutional delivery and post-partum care is being carried out.[5] As per DLHS-4 (2012-2013) only 55.4% of the pregnant mother had full antenatal care (ANC) check-ups in Kolar district. Around 6.6% of the

deliveries were happening at homes and 3.1% of the women are yet to receive postnatal visits within two weeks of delivery.[6]

Janani Suraksha Yojana (JSY) is a safe motherhood intervention under NRHM launched with a vision to reduce overall MMR and Neonatal Mortality rate (NMR) and to increase the institutional deliveries among poor pregnant women. This 100% centrally sponsored scheme integrates the cash assistance with antenatal care during the pregnancy period, care during delivery and post-delivery care by establishing a system of coordinated care by field level health workers. The success of the scheme would be determined by the increase in institutional deliveries among the poor families.[7]

A number of concurrent evaluations of JSY have been carried out in the country since its inception.[8-22] UNFPA evaluation undertaken among JSY beneficiaries in five North Indian states in 2008 found that 74.4% of the studied JSY beneficiaries received at least three ANC check-ups during the last pregnancy, 54.9% of them underwent institutional delivery and 80% of those who delivered in institution received post natal care (PNC).[8] In the year 2009, the concurrent evaluation of NRHM including JSY covered seven districts of Karnataka state. The coverage of JSY was 39% among scheduled tribes, 43% among scheduled castes and 48% for the other backward castes.[9]

Concurrent evaluation of JSY under NRHM has not being undertaken in Kolar district as evident from the 2009 evaluation report.[9] Assessment of JSY in Kolar will provide information on the structure and facilities available for its delivery, the actual process involved in its implementation and the output achieved as per the objectives.

The general utilization of health care services is dependent on better access, quality of care provided and acceptability of the services.[23-28] Assessment of these factors will be necessary to bring about corrections in process, accessibility, acceptability and quality of care of JSY services provided during antenatal, intra natal and postnatal care period.

There is variation in frequency of deliveries in the Government administered primary health centres (PHC) of Kolar.[29] The factors' influencing these variations in frequency of deliveries in the health centres needs to be understood from the perspective of availability, accessibility, acceptability and quality of health care. Hence, an evaluation study of JSY in Kolar was undertaken with the following objectives:

OBJECTIVES OF THE STUDY

(1) To assess the availability and provision of facilities and structure for providing JSY services for pregnant women.

(2) To assess the performance of activities and output achieved under the JSY scheme.

(3) To study the factors influencing the variation in the frequency of deliveries in the Primary Health Centre institutions of Kolar.

REVIEW OF LITERATURE

NATIONAL RURAL HEALTH MISSION

National Rural Health Mission (NRHM) was launched in the year 2005 to strengthen the Rural Public Health System. The Vision of the mission is to provide effective health care to the rural population throughout the country with special focus on the States and Union Territories (UTs), which have weak public health indicators and/or weak infrastructure.[30]

Reduction in infant and maternal mortality, universal access to public services for food and nutrition, sanitation and hygiene, universal access to public health care services with emphasis on services addressing women's and children's health and universal immunization are the important goals of the mission. IMR reduced to 30/1000 live births by 2012 and maternal mortality reduced to 100/100,000 live births by 2012 are few among the expected outcomes from the Mission.[31]

Fig1: The planning process in NRHM

The planning process:

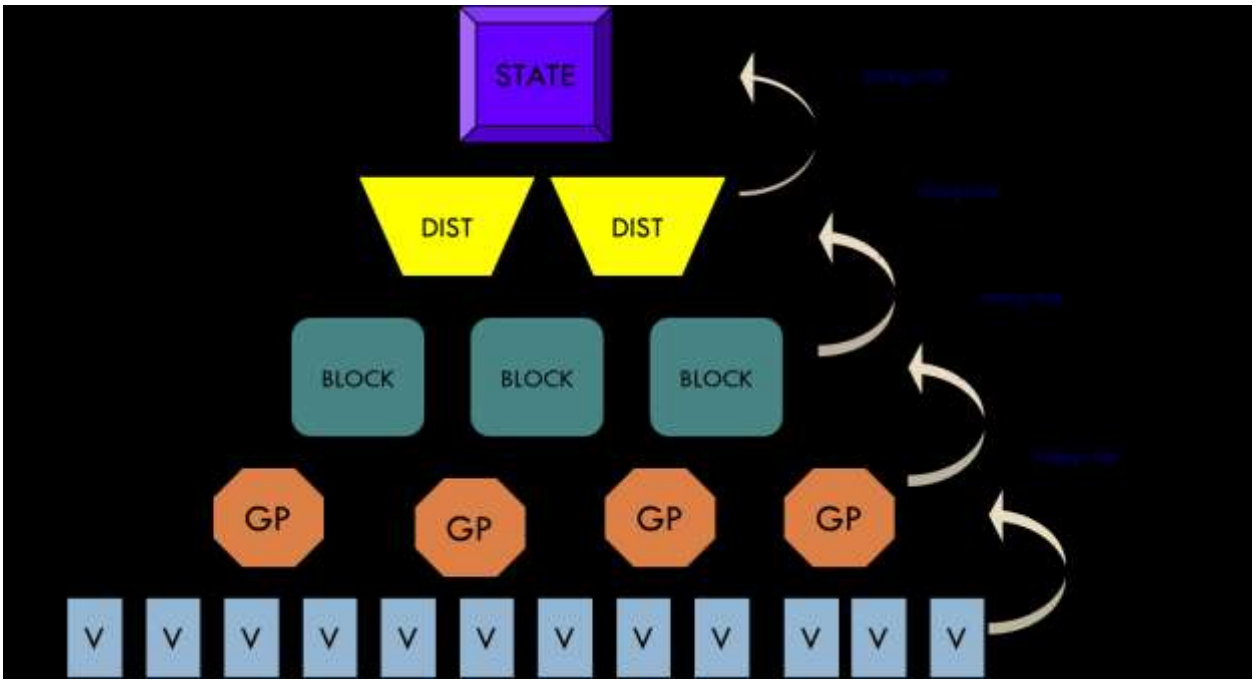
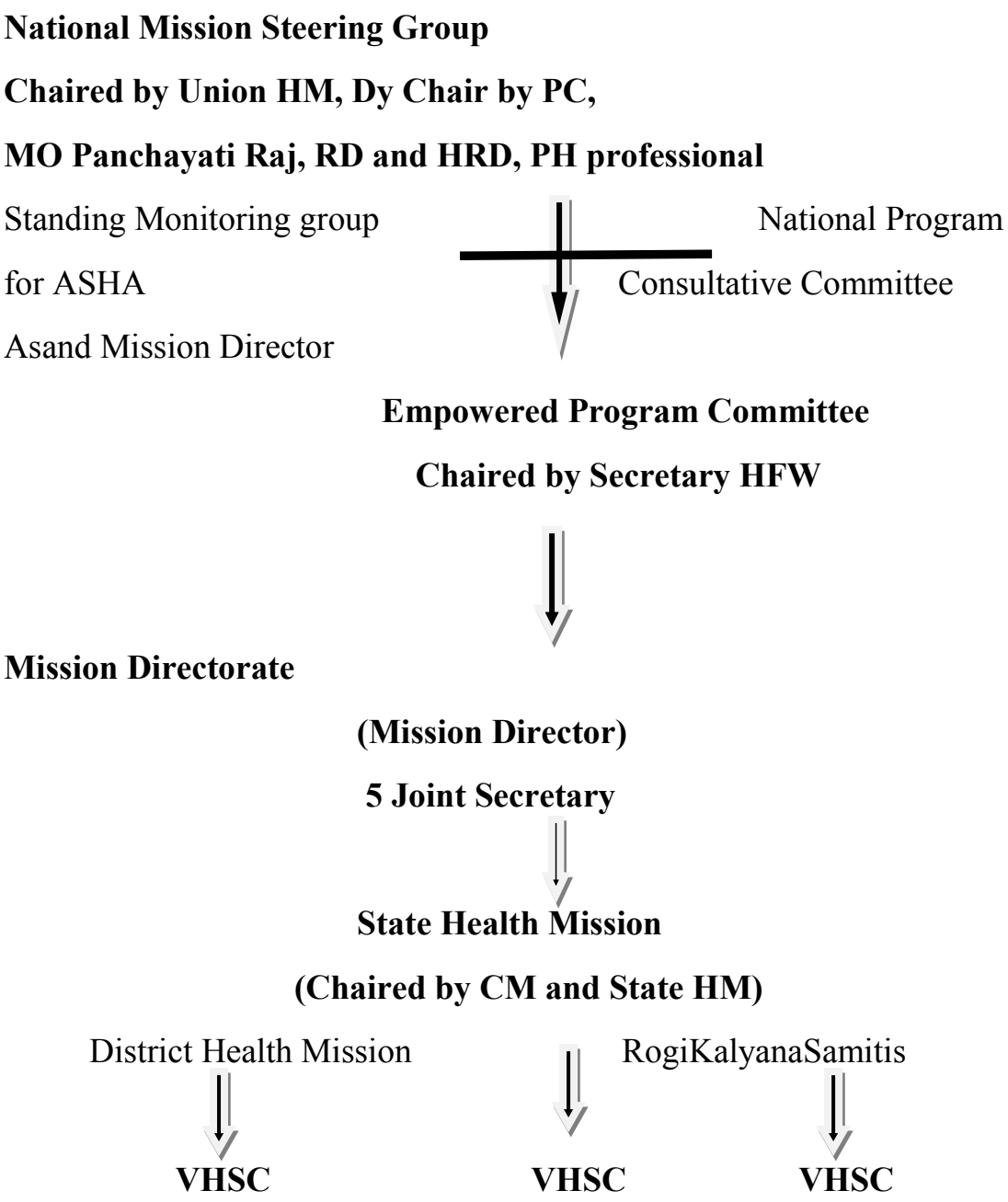


Fig 2: structure of NRHM in Central, state and district level



The main aim of the NRHM is to provide accessible, affordable, accountable, effective and reliable primary health care, and bridging the gap in rural health care through creation of a cadre of Accredited Social Health activist (ASHA). The mission is instrumental in integrating

multiple vertical programmes along with their funds at the district level. [32]

Plan of action to strengthen the infrastructure:

1. Creation of a cadre of ASHA.
2. Strengthening the sub centres
3. Strengthening of Primary Health Centres
4. Strengthening of Community Health Centres

District becomes the core unit of planning, budgeting and implementation of the programme. All vertical health and family welfare programmes merge into one common District Health Mission and at state level into State Health Mission. There is a provision of a mobile medical unit at district level for improved outreach services. The involvement of private sector as a part of the RCH initiative was considered since 75% of health care services are being currently provided by private sector and a more effective public health care delivery system was ensured through Public Private Partnership (PPP).[31]

To achieve the goals set by NRHM in terms of Maternal Mortality Rate and Infant Mortality rate, Janani Suraksha Yojana was launched on 12th April 2005.[33] Janani Suraksha Yojana is operational in all states of India. Nearly 1.1 crore women were benefitted in the year 2011-12.[31]

A baseline survey is to be taken at the district level incorporating facility survey as well as survey of the households. There exists a community monitoring at the village level. The Panchayat Raj institutions, rogikalyanasamiti, quality assurance committee, state and a district health mission etc. monitors the program. The planning commission is to be the eventual monitor of the outcomes. External evaluation is also to be taken up at frequent intervals. [31]

JANANI SURAKSHA YOJANA (JSY)

Janani Suraksha Yojana (JSY) being implemented since 2005 as a scheme under NRHM is 100% centrally sponsored which was introduced with an objective to reduce the maternal and neonatal mortality. This scheme mainly aims at increasing the institutional delivery in order to achieve its objective. This scheme is a modification of the existent National Maternal Benefit Scheme (NMBS) to provision of better diet for pregnant women from BPL families, JSY integrates the cash assistance with antenatal care during the period of pregnancy, institutional care during delivery and immediate post-partum period in a health centre by establishing a system of coordinated care by field level health worker. [33]

Target group includes all pregnant women belonging to BPL household, of age 19 years or above and up to two live births.[33]

Strategies [34]:

- Main strategy is to link the cash assistance under JSY to institutional delivery.
- Early registration of the beneficiaries with the help of the village level health workers like ASHA or an equivalent worker;
- Early identification of complicated cases
- Providing at least three antenatal care, and post-delivery visits
- Organizing appropriate referral and provide referral transport to the pregnant mother
- Convergence with Integrated Child Development Services (ICDS) worker by way of involving Anganwadi worker (AWW) intensively
- Devising as well as ensuring transparent and timely disbursement of the cash assistance to the mother and the incentive to the Accredited Social Health Activist (ASHA) or an equivalent worker with fund available with ANM

- Operationalization of 24/7 delivery services at PHC level to provide basic obstetric care
- Operationalization of First Referral Units (FRUs) to provide the emergency obstetric care
- Building partnerships through a process of recognition/accreditation with doctors, hospitals/nursing homes/clinics from the private sector especially in the rural areas to provide obstetric services to the JSY beneficiaries

Role of ASHA or other link health worker associated with JSY:

- Identify pregnant woman as beneficiary of the scheme and report or facilitate registration for ANC
- Assist the pregnant woman to obtain necessary certifications wherever necessary
- Provide and / or help the women in receiving at least three ANC checkups including TT injection, IFA tablets
- Identify a functional Government health centre or an accredited private health institution for referral and delivery
- Counsel for institutional delivery
- Escort the beneficiary women to the pre-determined health centre and stay with her till the woman is discharged
- Arrange to immunize the newborn till the age of 14 weeks

Inform about the birth or death of the child or mother to the ANM /MO

- Post natal visit within 7 days of delivery to track mother's health after delivery and facilitate in obtaining care, wherever necessary
- Counsel for initiation of breastfeeding to the newborn within one-hour of delivery and its continuance till 3-6 months and promote family planning

Assessment of the work of the ASHA or any link worker associated with JSY

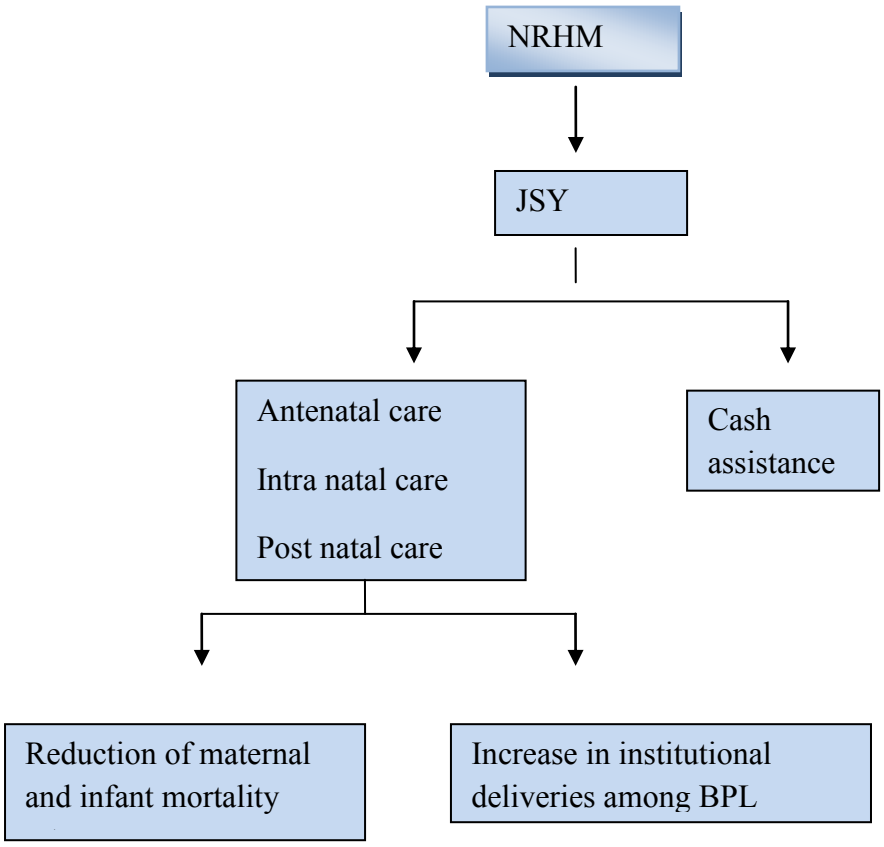
Assessment is based on the number of pregnant women she has been able to motivate to deliver in a health institution and by the number of women she has escorted to the health institutions.

Features of JSY:

Tracking of Pregnancy: Each beneficiary registered under JSY should have a JSY card along with a MCH card. ASHA / AWW/ any other identified link worker under the overall supervision of the ANM and the MO PHC should mandatorily prepare a micro-birth plan. This will effectively help in monitoring Antenatal Check-up, and the post-delivery care.

Health care institutions accredited under JSY are sub-centre, Primary Health centre (PHC), Community Health Centre (CHC), First Referral Units (FRU), General wards of Sub Divisional, District and State Hospitals and Govt. medical colleges. In case of Accredited Private Institutions, only those families who have genuine BPL cards (as per last approved BPL census) or SC/ST certificate (issued by concerned tehsildar) will be eligible for the benefits under JSY. Those deliveries taking place in Municipal Hospitals will also get covered under the JSY benefits like any other Government health care institution.

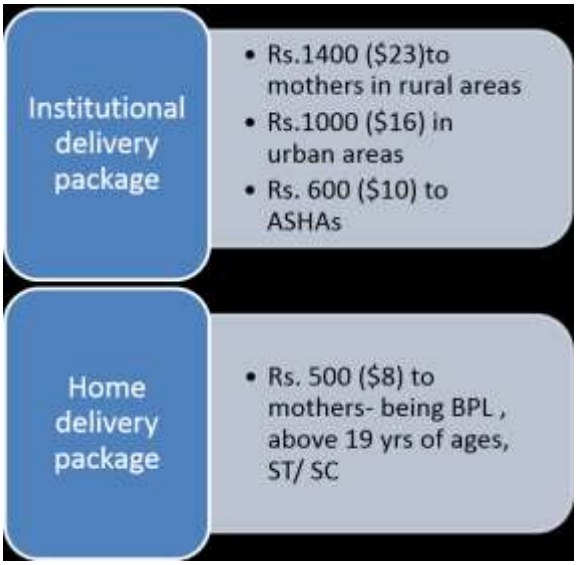
Fig 3: JSY Scheme under NRHM-Components

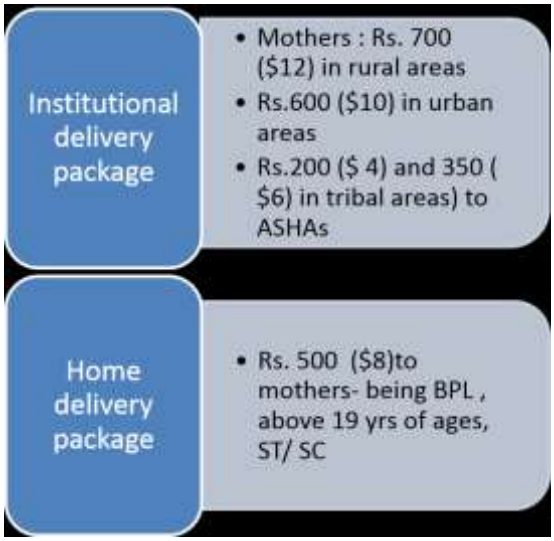


Disbursement of cash assistance:

As the cash assistance to the mother is mainly to meet the cost of delivery, it should be disbursed effectively at the institution itself.

Fig 4: **Cash assistance for the mother and ASHA under JSY:**





Low Performing States **High Performing States**

Low Performing States (LPS): Uttar Pradesh, Uttaranchal, Madhya Pradesh, Chhattisgarh, Rajasthan, Bihar, Jharkhand, Jammu and Kashmir, Orissa, Assam

❖ Eligibility:

- Low performing states (LPS): All women, >19years delivering in Govt. hospital
- High Performing States (HPS): Only BPL, >19 years, SC/ ST women

Evaluation of JSY

1. Performance of JSY:

a) Registration of JSY beneficiaries:

Sharma R conducted a descriptive cross-sectional study to assess the implementation status of JSY in few selected districts of Rajasthan in the year 2008. Of the 200 pregnant women who were JSY beneficiaries studied, 72% of them were registered within 3 months of pregnancy. The study concludes that seventy percent of the beneficiaries were pre-aware about at least one of the aims and vision of Janani Suraksha Yojana. [35]

Parul Sharma and co-authors conducted a comparative study of utilization of JSY among pregnant women of rural and urban slum areas of Dehradun in Uttar Pradesh in the year 2008-09. Out of 227 married women delivering in Government hospital who were studied, majority (78.42%) of them were registered by health personnel; maximum registration (83.64%) being in the urban slums. The authors concluded that the JSY utilization was found to be low in rural areas and strengthening of IEC activities needs to be emphasized.[36]

Khan ME and Ashok Kumar conducted a community based cross-sectional study at Solapur slum area in Maharashtra to explore the reasons of missed opportunities of JSY benefits among the pregnant beneficiaries in the year 2009. Out of 360 eligible women, 67.22% missed the opportunity of getting the JSY benefits. Of them, 25.62% and 15.29% women had difficulty in getting the documents and card was not filled in time by ANM respectively. The authors concluded that continuous IEC activity and active involvement of health service provider namely the ANM, MPW is needed.[37]

Karnataka State Health System Resource Centre (KSHSRC), Bangalore in collaboration with Jagruthi, an NGO at Dharwad conducted an exploratory study on JSY with the objective of identification of factors related to good or poor performance of JSY at low and high performing PHCs' in Bagalkot and Chikmagalur districts in Karnataka. The women interviewed were mainly around age 22, and distributed among muslim, SC/ST and general BPL category. Around 96% of the women had received the Thayi (mother) card and 89% had received the BPL card. The study concluded that a larger study could focus on perspectives of different stakeholders as well as caste break up of different JSY beneficiaries to ensure that there is equitable distribution of JSY funds.[38]

Paul Sharma and coauthors assessed the effects of JSY upon the utilization of ANC in rural and urban slum communities of Dehradun. Out of the 2221 married women interviewed, 78.42% of the women were registered with some health personnel. Out of these 74.15% were registered with ASHA. The registration of the women with some health personnel was influenced by socio-economic status, level of education and religion of the mother. The authors concluded that the JSY utilization was found to be low in rural areas and emphasizes on strengthening of IEC activities.[36]

Vikas Kumar and coauthors conducted an assessment of the impact of JSY on maternal health services in rural areas of Agra district, Delhi. The assessment of antenatal, postnatal and delivery care services before and after implementation of JSY was carried out in women who had at least two children, one born before and another born after implementation of JSY. The antenatal registrations were found to be increased to 95.60% from 61.60% in JSY period. There were 25.52% increases in early antenatal registration during JSY period.[39]

b) Providing Information on JSY during Antenatal care

Khan ME and Ashok Kumar conducted a study at Solapur slum area in the year 2009 to explore the reasons for missed opportunities of JSY benefits among the pregnant beneficiaries. Out of 360 eligible beneficiaries, 67.22% missed the opportunity of utilizing JSY, 37.19% of the women missed the opportunity of utilization of JSY due to lack of information on JSY which was the important reason. This study shows that the IEC efforts are poor in the implementation of JSY, divulging most of the poor eligible women from the rights of JSY benefits.[37]

Vijay S Singh assessed the awareness of JSY among the ANC who were registered in a PHC of tribal area at Thane district in Maharashtra. Out of 110 ANC registered women interviewed, 52.7% knew that there exists a program for pregnant women which aim at safe institutional delivery.[40]

KSHSRC at Bangalore and Jagruthi an NGO at Dharwad had done an exploratory study on JSY at Bagalkot and Chikmagalore districts of Karnataka involving high and low performing PHCs' to identify factors related to good or poor performances. The women interviewed were mainly around age 22, and distributed among Muslim, SC/ST and general BPL category All the women were aware of the JSY scheme and had been informed either by the ANM, ASHA or AWW and purpose of JSY incentive told to them was to buy nutritious food to the mother. The study concluded that a larger study could focus on perspectives of different stakeholders as well as caste break up of different JSY beneficiaries to ensure that there is equitable distribution of JSY funds.[38]

Mahawar and Coauthors conducted a cross-sectional study on pregnant JSY beneficiaries and assessed JSY at Indore district of Madhya

Pradesh from November 2008- October 2009 with the objectives to evaluate perception, utilization and administrative and financial aspects of JSY in Indore District. A total of 265 respondents including beneficiaries of JSY, ASHA and medical officers from five different health centres were included. For 90% of the JSY beneficiaries, ASHA was the main source for creating awareness about JSY.[41]

Mutharayappa R conducted an assessment of functioning of JSY under NRHM in Hassan district of Karnataka involving 1200 households. About 98% of the respondents were aware of JSY scheme and majority of them had been informed by ASHA and AWW worker. Thirty three percent of them said that ANMs' were the source of information on JSY.[42]

2) Output of JSY in terms of:

a) ASHA involvement, Antenatal and intra natal care

Sharma R conducted a descriptive cross-sectional study on pregnant JSY beneficiaries and assessed the implementation status of JSY in few selected districts of Rajasthan in the year 2008. Of the 200 beneficiaries studied, 72% of the beneficiaries received at least 3 antenatal check-ups, postnatal visits and ASHA was present at the time of delivery. The study concludes that seventy percent of the beneficiaries were pre-aware about at least one of the aims and vision of Janani Suraksha Yojana.[35]

Mahawar P and co-authors conducted a cross-sectional study on pregnant mothers who are JSY beneficiaries to assess JSY in terms of its perception, utilization and administrative and financial aspects in Indore District of Madhya Pradesh based on the responses by 265 beneficiaries and medical officers of 5 health centers from November 2008- October

2009. For 90% of the JSY beneficiaries, ASHA was the main source for creating awareness about JSY.[41]

Paul Sharma and co-authors conducted a comparative study of utilization of JSY of rural and urban slum areas of Dehradun of Uttar Pradesh in the year 2008-09. Of the 227 studied married women delivered in government hospitals, 29.2% women went for 3 or more antenatal care visits proportion being higher (33.64%) in urban slums. Only 48.35% women had consumed 100 IFA tablets proportion being higher in rural women (79.4%). All the women had received complete TT immunization. The authors concluded that the JSY utilization was found to be low in rural areas and strengthening of IEC activities needs to be emphasized.[36]

b) Promotion of Institutional deliveries

Sanjeev K Gupta and Dineesh Kumar Pal evaluated JSY using a descriptive study design at Jabalpur (M.P. - India) during 2006-07 to assess the social profile, knowledge and utilization pattern of 300 JSY beneficiaries. Findings showed that among 300 beneficiaries 77.66% belonged to below poverty line (BPL) category. Around 67 % of the respondents arranged their own / hired vehicle for transportation for delivery. Only 17.33 % were motivated by ANM /Dai/ ASHA/ AWW for institutional delivery. It concludes that decision of expenditure depends upon husband in one third of cases and the arrangement of vehicle for transport is still a major issue of concern.[43]

Sharma AK in his short communication titled National Rural Health mission: Time to take stock said that JSY beneficiaries have increased from 7 lakhs to 72 lakhs from 2005 to 2008.JSY has brought pregnant women for institutional delivery but has failed in ensuring 48hrs of hospital stay. Streamlining of JSY implementation in the EAG states

has been assisted by ASHA being active and instrumental in bringing the women for institutional delivery in EAG states.[44]

KSHSRC at Bangalore in collaboration with Jagruthi, a NGO at Dharwad had conducted an exploratory study on JSY, one of the objective being identification of factors related to good or poor performances. The study involved high and low performing PHCs' at Chikmagalur andBagalkot districts of Karnataka. The study explored that 82% of the women had planned to deliver at the PHC, 11%at home and 7% at a private hospital consulting with family. Around 96% of women finally delivered in a Government hospitals with 68% being conducted by a Government doctor. Only 25%women used the 108 services to get to the hospitals while 61% had used a private vehicle.[38]

Thansia K and Seemanth HR conducted a study in 2009 a study conducted to assess and evaluate the operational mechanism, utilization, non-utilization, awareness and perception of mothers on Janani Suraksha Yojana in two blocks each district of south Orissa. The study revealed that there was a lack of orientation of the health staff other than ASHA on JSY. ASHA played a major role in motivation for institutional deliveries in two third of the utilizers, Most of the utilizers expressed problem of communication and transport. Further no availability of 24x7 facilities and lack of staff were major deterrents for prospective mothers in accessing JSY services. The study recommends for streamlining of funds flow, accreditation of private hospitals, intensification of IEC activities and community leaders and women group for utilization of JSY benefits.[45]

Muthurayappa R conducted a study to assess the functioning of JSY under NRHM in Hassan district of Karnataka. Out of 1200

household studied 85% of the deliveries took place in Government health Centre, which can be attributed to JSY scheme implementation in districts.About 98% of the respondents were aware of JSY scheme and majority of them had been informed by ASHA and AWW worker. Around 33% of them said that ANMs' were the source of information on JSY.[42]

Mahawar P and co-authors assessed JSY using a cross-sectional study design at Indore district from November 2008-October 2009 with the objectives to evaluate perception, utilization and administrative and financial aspects of JSY in Indore District. A total of 265 respondents including beneficiaries of JSY, ASHA and medical officers from 5 different health centres were included. Total 42.8% of beneficiaries had three antenatal checkups. ASHA motivated 49% of beneficiary for institutional delivery**.** Around 60% of ASHA received training within last 6 months only. 24.8% of beneficiaries received cash just after the delivery. ASHA accompanies beneficiaries to health centre in as much as 47% in PHC and CHC.[41]

Panja TK and coauthors assessed JSY scheme at Bankura district, West Bengal to find out institutional delivery rate, utilization of JSY during antenatal period and relation between can benefit under JSY during antenatal period and institutional delivery. Out of 324 women studied 50.5%women utilized JSY, 84.1%of women underwent institutional delivery, 46% of women consumed 100 IFA tablets and 91% of women got 3 or more ANC check-ups which was better in women who received financial assistance from JSY during antenatal period. The study concluded that cash incentive under JSY in antenatal period had positive association on institutional deliveries.[46]

In a tertiary care hospital of Madhya Pradesh, Sanjeev K and coauthors assessed the impact of JSY on institutional delivery rate and maternal mortality and morbidity. This study compared the institutional deliveries before (2003-05) and after (2005-07) implementation of JSY scheme. The institutional delivery increased by 42.6% after implementation even in rural, illiterate and primary literate person of lower socio-economic status. The scheme appeared to increase the institutional delivery by at-risk mothers, which has the potential to reduce maternal morbidity and mortality and improve child survival. The authors concluded that he available sources should be utilized to improve the performance and implementation of JSY scheme in India.[47]

Paul Sharma and coauthors assured the effects of JSY upon the utilization of antenatal care services in rural and urban slum communities of Dehradum. Out of 2221 married women interviewed 58.08% women were from urban slum and 41.92% women belonged to rural areas. Around 75.17% women delivered in government hospitals 29.21% women went for 3 or more ANC visits. Only 48.31% women consumed 100 IFA tablets. All the women received complete immunization. The authors concluded that the JSY utilization was found to be low in rural areas and strengthening of IEC activities needs to be emphasized.[36]

Vikas Kumar and coauthors assessed the impact of JSY on maternal health services in rural areas of Agra districts, Delhi. Deliveries at Government health facility had almost doubled from pre –JSY period of 25-60% to the JSY period of 53.20%.[39]

Gita Guin and coauthors assessed the impact of JSY on MMR in a tertiary referral hospital using retrospective analysis 2001-2009. The study found out that there is a steady rise in the total number of

institutional deliveries from 1685 in 2001 to 3957 in 2009. MMR in 2001 was 1500/100000 live births which doubled in 2006 and a decline to 2464/100000 live births was noted in 2009 which can be attributed to maternal benefit schemes like JSY.[48]

Gupta.R.K in a cross-sectional study conducted in the year 2005 to determine the performance of institutional and non-institutional deliveries among 400 households in the slums of Delhi. The results revealed that non-institutional deliveries were found to be about 46 percent. Factors such as "economic status" were identified as the ones for preference for non-institutional deliveries. The researcher concluded that improvement in the economic condition of the people may promote institutional deliveries. Hence researcher felt that there was a need to assess the knowledge of mothers regarding Janani Suraksha Yojana as it provides financial assistance to the mothers.[49]

c) <u>Disbursement of JSY Incentive:</u>

Khan ME and Ashok Kumar conducted a community based cross-sectional study in the year 2009 among 3212 women to explore the reasons of missed opportunities of JSY benefits among the beneficiaries. Among 360 women eligible beneficiaries, 32.78% women got the benefit of JSY. The authors concluded that continuous IEC activity and active involvement of health service provider like ANM, MPW is needed.[37]

In an exploratory study on JSY carried out by KSHRSC at Bangalore in collaboration with Jagruthi, an NGO at Dharwad to identify the factors responsible for good/poor performance at Chikmagalur and Bagalkot districts of Karnataka , the women interviewed were mainly around age 22, and distributed among Muslim, SC/ST and general BPL category. Around 18% of the women did not receive the entire JSY

amount. The study concluded that a larger study could focus on perspectives of different stakeholders as well as caste break up of different JSY beneficiaries to ensure that there is equitable distribution of JSY funds.[38]

Mahawar P and co-authors conducted a cross-sectional study to assess JSY in terms of its perception, utilization and administrative and financial aspects in Indore District of Madhya Pradesh based on the responses by 265 beneficiaries and medical officers of 5 health centers from November 2008- October 2009. Around 25% of beneficiaries had received cash just after delivery.[41]

In a nationwide DLHS done in 2002-04 and 2007-09, assessment of the effect of JSY was done on intervention coverage and health outcomes. Delivered women receiving cash payments from JSY varied from <5% to 44%. Most of the least educated women did not receive JSY payments.[50]

d) Post natal care:

Vikas Kumar and coauthors assessed the impact of JSY on maternal health services in rural areas of Agra districts, Delhi which found out that the overall coverage of postnatal check-ups, i.e.; at least one has increased in JSY period (69.20%) than pre JSY period of 46.0%, thus noting a positive impact of JSY on Postnatal care.[39]

e) **Utilization of JSY:**

Parul Sharma and coauthors conducted a comparative study of utilization of JSY of rural and urban slum areas of Dehradun in Uttar Pradesh in the year 2008-09. Out of 227 married women delivering in Government hospitals, 88 women belonged to rural areas. The study showed that

utilization of JSY was low in rural areas (38.7%). The authors concluded that the JSY utilization was found to be low in rural areas and emphasizes on strengthening of IEC activities.[36]

In a cross sectional study conducted by SharmisthaBhattacherjee and co-authors, aimed to find out the status of maternal health care services utilization and associated factors among 953 recently delivered women in a block of Darjeeling district of West Bengal, utilization of maternal health care services including antenatal care during pregnancy, provision of safe delivery and postnatal care after delivery was assessed. The study found out that utilization of full antenatal care was 48.6%, institutional delivery 73.5% and adequate postnatal visit was 72.6% among the study population. The important factors associated with low utilization of services were belonging to Islam, Scheduled tribe, lower socio‐economic status, and lower literacy level of both the husband and wife. The major barrier towards utilization of these services was ignorance followed by distance to the health care center. The study concluded that low utilization of pregnancy related health care utilization among the study population; especially in case of antenatal care.[51]

Naresh R Makwana and co-authors conducted a cross-sectional study to assess the skill and knowledge of female health workers (FHWs') in delivery of RCH services at Jamnagar district in Gujarat during October 2008 to March 2009. Out of 63 female health workers studied, antenatal care achieved impressive coverage of more than 95% with regards to antenatal registration, tetanus toxoid to pregnant women, and iron-folic acid (IFA) tablet prescription to expectant mothers. The study concluded that quality of services needs to be improved by train and re-train the workers on different aspects of the RCH program, so that

their skills and knowledge can be utilized well and support system of supervision and monitoring of activities of FHWs should be strengthened.[52]

A cross sectional study on utilization of financial assistance under Janani Suraksha Yojna in Rural areas of Haryana conducted by Jagbir Singh Malik and co-authors included 1386 mothers who delivered within last 12 months (January to December 2010) in the study who were entitled for benefits under JSY by interview technique. The study revealed that about 14% mothers had not received the financial assistance until the time of interview. Only 7.6% mothers had got the financial assistance within 1 month after delivery. In nearly half (48.8%) study subjects, financial assistance was delayed beyond three months after delivery. More than half (52.7%) got the JSY assistance in cash form. The incentive was not properly utilized as it was given to the family pool (70.2%) or put in savings account (5%). Only in about one‑fifth of mothers, it was used for mother's care (I7.8%) and child care (5.8%). The study concluded that there exists a discrepancy in payment of JSY incentives for which the program managers should make the monitoring system for disbursement of funds more effective.[53]

A cross sectional study conducted by Shah PP, Modi DK, Shah SP and Desai SA on effect of maternity schemes on place of delivery in a tribal block of Gujarat in the year 2012 showed that women are more likely to deliver at institution even in absence of cash transfer programme if there is availability of free emergency transportation, free and quality obstetric care at either public or private health facility for normal and complicated deliveries and community based mobilization efforts to ensure that maximum number of women take advantage of government benefits. The study concluded that though JSY has been successful in increasing institutional deliveries, it has been largely ineffective in

leveraging upon availability of large number of private practitioners. Providing free emergency transportation and contracting-out services to private practitioners similar to CY in next phase of JSY might further augment its effectiveness.[54]

A study on analysis of secondary data from two large population-based national surveys namely Sample Registration Survey and Annual Health Survey was conducted by the Government of India. Population-level estimates of Institutional Deliveries (ID) and caesarean section proportions for all 284 districts in nine provinces were sourced from the Annual Health Survey (2010—11). WHO recommended a minimum 5% caesarean section proportion to be considered as 100% need met. District caesarean section rates, expressed as the proportion of need met, were calculated. This fraction was multiplied by the ID proportion to give an effective coverage. District-level predictors of effective coverage were estimated in a regression model. In 139 districts, median ID proportion and effective coverage of ID were equal at 62% each, while in 145 districts these were 51% and 35% respectively. Bivariate association between MMR and effective coverage in the districts was stronger than with simple ID coverage. The study found out that literacy, urbanization, poverty, and fertility had a significant association with effective coverage of ID. A gap exists between access to just ID and access to EmOC, possibly indicating that mothers delivering in institutions are not necessarily receiving appropriate or adequate care. This study suggests effective coverage of ID is a better indicator for monitoring safe motherhood interventions than mere ID coverage.[55]

In a JSY impact evaluation study done by Lim SS et al, the effect of JSY on intervention coverage and health outcomes were assessed using data from the nationwide district-level household surveys done in 2002—

04 and 2007—09 to assess receipt of financial assistance from JSY as a function of socioeconomic and demographic characteristics; and used three analytical approaches (matching, with-versus-without comparison, and differences in differences) to assess the effect of JSY on antenatal care, in-facility births, and perinatal, neonatal, and maternal deaths. The study found out that implementation of JSY in 2007—08 was highly variable by state from less than 5% to 44% of women giving birth receiving cash payments from JSY. The poorest and least educated women did not always have the highest odds of receiving JSY payments. JSY had a significant effect on increasing antenatal care and in-facility births. In the matching analysis, JSY payment was associated with a reduction of 3.7 perinatal deaths per 1000 pregnancies and 2.3 neonatal deaths per 1000 live births. In the with-versus-without comparison, the reductions were 4.1 perinatal deaths per 1000 pregnancies and 2.4 neonatal deaths per 1000 live births. The study concluded that there is a need to emphasize the need for improved targeting of the poorest women and attention to quality of obstetric care in health facilities. Continued independent monitoring and evaluations are important to measure the effect of JSY as financial and political commitment to the programme intensifies.[56]

A survey was conducted to highlight the preference of women for home deliveries and utilization of antenatal and postnatal health facilities in three districts of Karnataka by Sudeep K in the year 2008. The result revealed that in spite of the exposure of primary healthcare services, the deliveries conducted in the health institutions or deliveries assisted by the trained personnel were very less. Time of delivery, illiteracy, economic conditions of women, and customs of natal home, transportation and place of stay of health workers had contributed to this phenomenon. Lack

of health personnel and inadequate facilities had also contributed to this. The researcher concluded that if women had access to good antenatal services, adequate rest and nutrition during pregnancy and proper counseling, this problem could have been minimized by promoting institutional deliveries to reduce perinatal and neonatal mortality rates. [57]

A study conducted to evaluate safe motherhood practices and observe impact of JSY on it by Mangal S and Ladha N in a rural field practice area of a Medical College in Jaipur using 30-cluster technique of WHO in two month duration. Seven women (delivered in last 11 months) were selected from each cluster making a total sample size 210. The study revealed that 49.52% women took proper antenatal care which includes proper TT immunization, complete Iron-Folic Acid prophylaxis and appropriate antenatal checkups. Delivery was institutional or at health center in 93.8% cases. Most of the mothers who registered at the beginning of pregnancy received proper antenatal care. Registration for JSY had a significant relationship with literacy level of husband and socioeconomic status. Motivation for registration under JSY was the monetary incentive in 60% cases, while 30.6% mothers were motivated by ASHA. The study concluded that all these observations point towards better safe motherhood interventions in the surveyed area can be attributed to JSY registration. The study was conducted with the support of ICMR-STS 2011 project.[58]

A cross-sectional study was conducted in two eastern districts of Maharashtra during July- September 2010 among JSY beneficiaries (delivered in 2009) and children born in calendar year 2008 by stratified random sampling in five stratas viz. Tribal, Non- tribal, Council, Urban-slum and Urban non-slum with an objective to evaluate the performance of the Janani Suraksha Yojana (JSY) and Universal immunization

programme (UIP) in Nagpur and Bhandara districts of Maharashtra. The study concluded that more women from rural area (85.29%) were actually benefitted by scheme than women in urban area (46.96%) which was statistically significant ($\chi 2$ =13.73, df =1, P = 0.0002). District RCH officers and MO-CHCs/PHCs rated the scheme satisfactory. Private practitioners were unaware of the scheme and only 1-2% of them were running the scheme successfully.[59]

Rajani Ved and co-authors conducted a JSY evaluation study with the objectives of the evaluation were to assess trends in institutional delivery, the availability and quality of care at delivery and in post natal period; the capability of health institutions and the role of village level health workers called the Accredited Social Health Activists (ASHA). Based on number of institutional deliveries during 2008-09 districts were categorised and proportion of scheduled caste/ tribe population was carried out and three districts in each of eight EAG (Empowered Action Group) states were selected as high performing, poor performing and tribal districts. Quantitative and qualitative methods were used to map the contexts, mechanisms and outcomes as evidenced from primary and secondary data. The quantitative survey conducted in twelve districts included 2759 institutional deliveries and 710 home deliveries. The study shows that over 50% of women who had their previous delivery at home had opted for institutional delivery. The steep increase in institutional delivery, despite the fact that out of pocket expenditure exceeded the cash transfer, signified that women preferred institutional delivery for health and safety reasons. The increased availability of services was also a major contributor to the change. The study supports the contention that JSY has resulted in an increase in institutional deliveries, and that it has enabled and empowered poor women to access public health facilities. The study recommended the removal of all exclusionary criteria in case of home

and institutional deliveries, provision of free pregnancy and newborn care and increasing infrastructure and human resource providing emergency obstetrics and neonatal care services.[60]

A cross-sectional study was conducted by Teenashu M and Venkateshwar AR to review the implementation process of JSY in the state and to provide inputs for any corrective action in the three districts of Orissa in the year 2008. The study revealed that at the district, block and sub-centre level there was a shortage of medical and paramedical staff, inadequate facilities for institutional delivery. However, available staff was well trained on various implementation procedures under JSY. IEC activities were also being implemented efficiently. Beneficiaries revealed that HW (F) and ASHAs were playing the key roles in generating awareness regarding JSY. Still many non-beneficiaries were not aware about the JSY. Hence the researcher concludes with two major recommendations: (i) strengthening of infrastructure, supplies and human resources at all levels under the JSY, and (ii) Streamlining the fund flow mechanism at two levels: immediate compensation to the beneficiary after the delivery and regular payments/salaries to the ASHA.[61]

A nationwide district-level household survey done in 2002-04 and 2007-09 to assess the effect of JSY on intervention coverage and health outcomes was studied by Stephen SL and Lalitdandona. The study revealed that implementation of JSY in 2007-08 was highly variable by state from less than 5% to 44% of women giving birth receiving cash payments from JSY. The poorest and least educated women did not always have the highest odds of receiving JSY payments. JSY had a significant effect on increasing antenatal care and in-facility births. In the matching analysis, JSY payment was associated with a reduction of 3·7 perinatal deaths per 1000 pregnancies and 2·3 neonatal deaths per 1000

live births. In the with-versus-without comparison, the reductions were 4·1 perinatal deaths per 1000 pregnancies and 2·4 neonatal deaths per 1000 live births. The study emphasizes the need for improved targeting of the poorest women and attention to quality of obstetric care in health facilities.[62]

A descriptive study was conducted by Vaishali AS and Shekar T to evaluate the utilization of Janani Suraksha Yojana among the 100 beneficiaries in Orissa. Beneficiaries were selected randomly through probability proportionate to sample size (PPS). The results revealed that major advantages of the JSY perceived by the beneficiaries were safe delivery at PHCs and CHCs, helpful in population control, payment of cheque after delivery and full protection after delivery. Hence the researcher concluded that Janani Suraksha Yojana is a safe motherhood intervention for the health and welfare of the mothers.[63]

A study was conducted to assess the gaps in delivery services and utilization of resources at Basic and Comprehensive Emergency Obstetric Care Centres, accredited sub centres and private hospitals in district Jaipur, Rajasthan by Sharma MP and co-authors during October-December 2008 in 31 selected health facilities. Data was collected by facility survey, interview of service providers and beneficiaries. The study revealed that that there is an increase in institutional deliveries following implementation of JSY. Though the normal deliveries were conducted 24 hours by the Basic and CEmOCs however the necessary drugs were in short, supply and use of partograph was absent at the health facilities. The quality of emergency obstetric care services was still poor due to the lack of blood storage units and anaesthetists in CEmOCs. Private accredited hospitals fared better as they had the manpower and managed more complicated cases as compared to government facilities.

The study concludes that JSY is perceived as an effective scheme by the beneficiaries but gaps in resources and lack of quality of services needs to be adequately dealt with.[64]

A cross-sectional community based survey was done by Vikram K and co-authors with an objective to identify the beneficiary level factors of utilization of JSY scheme in urban slums and resettlement colonies of trans-Yamuna area of Delhi from December 2009 to November 2010. Mothers of infants in the selected areas of the two districts were studied using stratified random sampling on a population proportionate basis. Socio-demographic factors, antenatal services availed and distance of nearest health facility was studied. Of the 469 mothers interviewed, 333 (71%) had institutional delivery, 128 (27.3%) had benefited from JSY scheme and 68 (14.5%) had received cash benefits of JSY. Belonging to Hindu religion and having had more than 6 antenatal check-ups were the significant predictors of availing the benefits of JSY. The authors concluded that there is a need to improve the awareness among urban slum population about the utilization of JSY scheme. Targeting difficult to access areas with special measures and encouraging more antenatal visits were essential, prerequisites to improve the impact of JSY.[65]

Recent changes in JSY under NRHM

Despite the fact that Janani Suraksha Yojana has contributed in increasing the institutional deliveries in the public health facilities, recent evaluation conducted by National Health Systems Resource Centre (NHSRC) and study report on Maternity Protection in India by Ministry of Labour and Employment/International Labour Organization noted with concern that JSY excludes a significant proportion of women by virtue of exclusion criteria/ conditionalities of minimum age of mother and parity. These

women who are excluded include adolescents below the age of 19 years and multiparous women who are at higher risk of maternal and perinatal outcomes. Removal of conditionalities associated with parity and minimum age of the mother for institutional deliveries in the High Performing States. Removal of conditionalities associated with parity and minimum age of the mother for home deliveries in all States/UTs.[66]

Payment of uniform and composite incentive to ASHA with effect from financial year 2013-14 in all states and UTs'. 1) Rs.600/- per delivery in rural areas- Rs. 300/- for antenatal component and Rs.300/- for facilitating institutional delivery. 2) Rs.400/- per delivery in urban areas. Rs. 200/- for antenatal component and Rs.200/- for facilitating institutional delivery.[67]

Table 1: Study reports on Evaluation of JSY under NRHM

Evaluation report	Year	Study area	Findings	
DLHS-4 Conducted by: International Institute for population sciences [6]	2012-2013	Kolar district, Karnataka (Rural)	Pregnant women who received any antenatal check-up Pregnant women who had three or more than three visits Pregnant women who had at least one tetanus toxoid injection Pregnant women who had full antenatal care Delivery at Government health institutions Mothers who received post-natal care within 48hrs of institutional delivery Delivery attended by Skilled birth attendees Discharge of mothers from institution after minimum stay of 48 hrs Percentage of women who received JSY benefits PHCs functioning on 24X7 basis PHCs having lady medical officer PHCs having residential quarters for Medical officers PHCs having newborn care services on 24X7 basis PHCs conducting at least 10 deliveries during last one month on 24X7 basis	90.6% 99.6% 100% 55.2% 72.4% 89.1% 95% 58.8% 60.4% 81.3% 10% 21.9% 100% 34.6%
NFHS-3[68]	2005-06	Karnataka	Mothers who had at least 3 antenatal care visits for their last child birth Births assisted by SBA Institutional births Mothers who received postnatal care within 2 days of the last child birth	73.4% 62.3% 56.8% 55.9%
Concurrent evaluation of JSY under NRHM in Karnataka-2009[9]		Karnataka State Districts covered: Bijapur. Raichur Uttara	No. of JSY beneficiaries Percentage of JSY beneficiaries in each social category ❖ Scheduled Caste ❖ Scheduled Tribe ❖ Other Backward Classes	987 43.2% 38.9% 47.8%

		Kannada Davangere Mandya Mysore Chamarajanagar	❖ Others - Percentage distribution of JSY beneficiaries by time of registration ❖ Registered within first trimester ❖ Registered in second trimester ❖ Registered in third trimester - Percentage distribution of JSY beneficiaries by place of registration ❖ District hospital/Sub-divisional hospital ❖ CHC/Rural hospital ❖ PHC ❖ HSC ❖ Anganwadi centre ❖ Govt. accredited private hospital ❖ Home - Percentage distribution of JSY beneficiaries by place of delivery ❖ Private facility ❖ Public facility ❖ Home - Percentage distribution of JSY beneficiaries by type of delivery ❖ Normal ❖ Assisted ❖ Caesarean - Percentage distribution of JSY beneficiaries by duration of stay in hospital/health facility after delivery ❖ Less than 1 day ❖ 1-3 days ❖ 3 or more days - Percentage distribution of JSY beneficiaries who received incentive	37.8% 42.5% 29.6% 27.9% 4.5% 6.2% 17.5% 35.8% 1.3% 5.2% 11.2% 56.7% 32.1% 79.9% 5.1% 15.0% 29.2% 48.3% 22.5%

			❖ By cash ❖ By cheque ❖ No incentive received Percentage distribution of JSY beneficiaries by time of receipt of cash incentive ❖ At the time of delivery or within a week after delivery ❖ After a week of delivery ❖ Do not remember the exact time	42.7% 43.4% 13.9% 4.2% 16.3% 79.5%
Concurrent assessment of JSY in selected states Conducted by UNFPA[8]	2008	Bihar, Orissa, Rajasthan, Madhya Pradesh and Uttar Pradesh	No. of studied women delivered in 2007-08 Percentage of women aware about JSY scheme Percentage of women who got advice for institutional delivery during last pregnancy Percentage of women aware about ASHA Among women who were aware of JSY scheme: Percentage of women aware about 24x7 government facility for delivery Percentage of women aware about accredited private hospitals Percentage of women undergoing institutional delivery Percentage of JSY beneficiaries % of JSY beneficiaries by caste ❖ SC/ST ❖ OBC ❖ Others % of JSY beneficiaries in BPL category of households *(Among JSY beneficiaries)* % of institutional deliveries by duration of stay after delivery at least 2 days % of JSY beneficiaries received any money after delivery Among who received any money after delivery % of mothers who received JSY incentive before discharge *(Among JSY beneficiaries)*	1200 81% 64.5% 81.1% 70.7% 36.6% 54.9% 46.7% 44.1% 50.3% 49.8 47.4% 34% 76.2% 13.6%

			↳ % of women registered for ANC ↳ % of women received at least 3 ANC checkups during last pregnancy ↳ % of women who consumed at least 100 IFA during last pregnancy ↳ % of institutional deliveries received postnatal care ↳ % of mothers delivered at institution got advice for breast feeding	92.6% 74.4% 64.8% 76.4% 73%
Concurrent Evaluation: II-JSY **State Institute of Health and Family Welfare, Jaipur.**[69]	2008	Jaipur, Rajasthan	Based on the survey and interaction with different respondents including ANMs (180), LHVs (41), ASHA (212), AWW (263), Medical Officer (59), RCHO (8), BCMO (31), Beneficiaries (2045) and Non- Beneficiaries (1026), the data collected has been compiled and tabulated. ↳ In maximum cases (64.5%) amount was given 48 hours or at the time of discharge and 71.2% of beneficiaries respondedthat payments were made through bearer cheque. ↳ About 33.7%reported that they had paid certain amount towards seeking treatment or medicine, ↳ Of those who paid, 74% respondents reported that the amount towards seeking treatment was paid to the Medical Officers. ↳ 5.4% respondents reported that money was demanded at the time of payment of incentives for institutional delivery. ↳ 71.5%beneficiaries were followed after delivery. ↳ 44.2% had reported that payment to the beneficiary was done after 48 hours of delivery. ↳ 92.9% ASHA reported that they did follow up of the women after the delivery. ↳ According to 95.9% respondents, their ANC card was prepared. ↳ A majority (97.2%) reported institutional delivery. ↳ The deliveries were conducted by the LHV/ANM followed by Medical Officers. ↳ About 83%of the beneficiaries had some information about the JSY.	

			ANM (35.6%) and ASHA (35.6%) were the major source of information regarding JSY. 98.5% reported that they had received financial assistance for institutional delivery. 82.5% of the respondents reported that they had received theprescribed amount for institutional delivery. In maximum cases (64.5%) amount was given 48 hours or at the time of discharge and 71.2% of beneficiaries responded that payments were made through bearer cheque.
Evaluation of National Rural Health Mission (NRHM) in Meghalaya Directorate of Programme Implementation and Evaluation. Conducted by Government of Meghalaya AMC RESEARCH GROUP[70]	Sep-Nov 2010	1740 beneficiaries studied (covered the beneficiaries for five years period i.e 2005-06, 2006-07, 2007-08, 2008-09, and2009-10)	More than 90% of the beneficiaries have heard of ASHAs in the Garo Hills districts Less than 50% of the beneficiaries in East Khasi Hills district and West Khasi Hills district were aware of JSY scheme, while more than 70% of beneficiaries in Garo Hills districts are aware of JSY scheme. Most of the beneficiaries get information about JSY scheme from ASHAs and ANMs. Less than 50% of beneficiaries have stated that they have got JSY cards, while 50% of beneficiaries faced difficulties in getting JSY cards in East Khasi Hills district and Jaintia Hills. Around 70% of the beneficiaries use private vehicles to reach place of delivery, while 80% of beneficiaries have stated that nobody facilitated in arranging the transport. 90% of the JSY beneficiaries in all seven districts are receiving cash incentives. Average amount received by beneficiaries as cash incentive is Rs.700. Around 81.2% of the beneficiaries in East Khasi Hills district utilize the money for buying medicines for self, while most of the beneficiaries in other remaining districts spend it on child care.
An assessment of functioning and impact Of Janani Suraksha Yojana in Orissa conducted by MOHFW[13]	2007-08	Orissa	Rapid appraisal of the JSY in the three districts of Balasore, Jagatsinghpura and Nayagarh, selected on the basis of high, middle and low percentage of institutional deliveries respectively within the central revenue division of Orissa. Out of the 90 beneficiaries in interviewed, 79% were informed about the JSY by the ASHAs and 38% by the HW (F)s. With regard to availing the JSY benefits, 79% of the beneficiaries were motivated by the ASHAs and 33% by the HW (F)s.

			➢ In Balasore district, the ASHAs have played an excellent role in providing information and motivating the mothers to avail the JSY benefits. ➢ It was revealed that out of the 90 beneficiaries interviewed, 60 (67%) had received the money through cheques, 20 (22%) by cash, and 10 (11%) had not received money as yet. ➢ Out of the total beneficiaries, 32 (36%) received it after a time lag of one month, 21 (23%) from 2 – 6 months, 10 (11%) had never received the money. Out of these 10 cases, who had not received compensation as yet, six delivered in the last three months and four in last 4 -6 months. ➢ Among the beneficiaries, 13% had delivery within 10 -12 months, 13% in 7-9 months, 37% within 4-6 months, and 37% during the last three months. As much as 92% of deliveries were in the Government hospitals. ➢ Majority (2/3rd) of deliveries were conducted by doctors (67%), nurses (26%), and the HW(F)s (2%). The deliveries conducted by doctors were highest in Jagatsinghpur (90%), followed by Balasore (67%), and lowest in Nayagarh (43%). ➢ As much as 54% of the deliveries were of the first order, 32% second order, and 13% were having birth order ➢ About 70% of the beneficiaries had arranged the transportation on their own cost. ➢ In case of majority of the beneficiaries (78%), the ASHAs had accompanied them to the institution for delivery. ➢ The utilization of the JSY money to the beneficiaries, 58% were utilizing the money for purchase of drugs, 44% for food, and 33% for travel. As much as 12 % beneficiaries had asserted that they had to make payment to nurses, while 6% to the doctors.19% had deposited the money for the child in the bank.
Evaluation Study of National Rural Health Mission (NRHM) In 7 States[18]		7400 households from 296 Villages in 37 districts in the seven selected states	Out of 4747 JSY beneficiaries, Check up after last child- 49.4% Had heard about ASHA- 81.4%

Evaluation Theory and Evaluation Practice - in the NRHM context[71]	2009	Sample of 300 women with recent child birth in 30 sampled villages	▪ There is increase in institutional deliveries and with equity: more in SC/ST/ BPL, though majority home deliveries from these same groups. ▪ High proportion of home deliveries in those below 19 and high parity which means higher mortality risk. ▪ Persistent Home deliveries- One thirds due to referral transport issues, One thirds due to Poor service quality and cost barriers and One thirds due to behavioral and social issues. ▪ Most JSY payments are delayed and happen between 4 to 15 days after delivery. Need to aim for same day payments. ▪ Transport component of ASHA package not usually used for transport. Only small % of pregnant women use EMRI is there – use in complications and where transport is difficult is low. ▪ Only approx. 14% are staying 48 hours, only 33% stay 24 hours.

MATERIAL AND METHODS

STUDY AREA

Kolar District located in the southern region of Karnataka state is a semiarid and a drought prone district. Less than 14% of the land is under forest cover. More than 90% of the drinking water requirements in the district are met by ground water resources. Around 16% of the villages in Kolar district are affected by excess fluoride concentration in groundwater which range from 1.5 to 4.05 mg/L, leading to endemic fluorosis. The main occupations in these communities are agricultural activities. There is intense cultivation of mulberry for silk worms, horticulture farming and floriculture. Quarrying, stone crushing and manufacturing brick and roof tiles manufacturing are major unorganized sectors in Kolar.[72]

As per the 2011 census, the population of Kolar was 15, 40,231 with sex ratio of 976, effective literacy of 74.33 % and female literacy of 66.56%.[73] Kannada is the language spoken by the majority and significant proportion of population also speak Telugu in the Andra Pradesh boarder region and Tamil in KGF.

Of the five taluks in Kolar district namely Srinivasapur, Bangarpet, Kolar Mulbagal and Malur, the study was undertaken in Mulbagal taluk area which is located 25 kms from the district headquarters. In Mulbagal taluk 17 PHC are providing primary health care services to the public out of which 10 PHC s are working round the clock (24X7) to deliver obstetric services.[74]

STUDY PHCs'

For the study purpose, the PHC s' in Mulbagal taluka were conveniently grouped into two categories. In the first category, PHCs' with more than 20 deliveries per month for consecutive three months of January to March 2012 constituting three PHCs.' The second category PHCs' with less than 20 deliveries per month for consecutive three months consisting of 14 PHCs'.

STUDY POPULATION

Women who were registered as JSY beneficiaries and who had delivered a live child in the last one year between April 2012 and March 2013 in the selected PHCs' under the two categories were identified.

Criteria for inclusion of the women into the study:

Currently married women aged 19 years and above, who has delivered a live child in the selected PHCs' and who is a permanent resident of these PHC areas or has lived temporarily in these PHC areas during pregnancy and or after delivery.

Criteria for exclusion of the women to be considered under the sample for the study:

Women who have delivered in the selected PHCs' and not a permanent resident nor lived temporarily in these PHC areas during pregnancy and / in the post natal period.

STUDY DESIGN

Evaluation study of JSY scheme under NRHM using a cross-sectional descriptive study design approach.

STUDY TOOLS

I) Proforma (Annexure I)

A structured proforma was prepared to collect information on variables to assess the facility to deliver JSY services and accessibility of JSY services at the PHCs' of Mulbagal related to like accessibility of MCH services in terms of distance of the health centres from the referral centres/central places, distance of the health centres from the national highways, situation of the PHCs', transport facilities, available and type of place and characteristic of the place where the centres are situated. Information was collected in the performa on availability of structure and facility to provide pregnancy and delivery services. The process information related to antenatal, intra natal and postnatal care was obtained from the registers and records maintained in the health centres and from the information contained in the Thayi card available with the mother.

The information required to complete the proforma was obtained by visiting the selected PHCs'. Parturition register, JSY registration record and registers maintained in the health centres were reviewed. The Thayi card possessed by the selected JSY beneficiaries under the study which was issued by the concerned health worker was reviewed.

Using the proforma the following assessment was carried out.

A) Assessment of the structure and facilities:

The following information was collected from the PHCs'.

a) Availability of PHC building with labor room and post-natal ward facilities
b) Availability of residential accommodation facilities for medical officers, staff nurses and ANM in the health centre premises.
c) Availability of building for subcentres
d) Availability of 24X7 facilities for providing obstetric care services.
e) Availability of doctors' 24X7
f) Availability of headquarters stationed ANM
g) Availability of NRHM staff nurse 24X7 to provide obstetric care.
h) Skilled Birth Attendant (SBA) training of NRHM staff nurse

B) Assessment of the accessibility of JSY services in the PHC facilities:

a) Situation of the PHC
b) Distance from National Highway NH-4 to PHC
c) Distance from PHC to the nearest FRU (Mulbagal CHC)
d) Distance from PHC to the District Hospital
e) Situation of PHC near Andra Pradesh Border area
f) Quality of road leading to PHCs'.
g) Frequency of transport facility to reach PHCs'-Public/private.

II) Interview questionnaire: (ANNEXURE-II)

A close ended structured questionnaire was administered by interview method. This questionnaire was validated and pretested before being administered. The variables studied through the questionnaire included socio-economic status, process involved in registration of the pregnant mothers and process in delivery of antenatal, intra natal and postnatal care services by the health care workers. The interview component of the questionnaire was prepared in English and later translated into Kannada language which was again validated and pretested.

Validation of questionnaire tool:

The interview questionnaire schedule in both English and Kannada version was given to subject experts consisting of one professor in sociology, one professor in community nursing a professor in obstetrics and gynecology, one district NRHM program officer, a taluk heath officer and a professor in English and Kannada. The question was validated as very relevant, relevant, relevant to some extent or not relevant. Kappa score was calculated for multiple raters. Score of 0.8 and above was considered as almost perfect agreement and such questions were considered for the interview. The questions with score of less than 0.8 were subjected for reframing appropriately.

Administration of questionnaire:

The investigator pilot tested the questionnaire on 15 JSY beneficiaries in one of the selected communities which was monitored by the supervisor. The actual questionnaire on the study sample was administered by the investigator with the assistance of ANM and ASHA of the community.

Operational definitions

1. **JSY beneficiary:** Women who has been mentioned as JSY beneficiary in the parturition register and Thayi card issued to the mother (Up to two live births belonging to SC/ST caste and if belongs to other backward classes has owned the BPL card issued by the Government).[34]
2. **Temporary resident:** Women who has delivered a live child in the selected PHCs' and not a permanent resident nor lived temporarily in these PHC areas during pregnancy and / in the post natal period. The detail was recorded using the parturition register maintained in the studied PHCs'.
3. **Permanent resident: Women** who has delivered a live child in the selected PHCs' and who is a permanent resident of these PHC areas. The detail was recorded using the parturition register maintained in the studied PHCs'.
4. **Quality of road:** The road which leads to PHC from various villages undercover of PHC and the one which leads to First referral Unit (FRU) was looked for quality and was categorized as good/poor quality.
5. **Transport facility:** This is noted as told by the JSY beneficiary, the mode of transport used by the JSY beneficiary

to reach the place of delivery, categorized as public, private/own and 108 ambulance.

6. **Household:** Individuals living together under a common roof and took meal from a common cooking facility.

7. **The head of Household**: the person who was perceived by household members to be the primary decision-maker in the family and who may or may not have been the main income-earner.

8. **Education of the mother:** completed years of formal schooling.

9. **Marital Status of the mother:** as married /Divorced/ separated /Widow

10. **Occupation:** Engagement in a particular income-earning activity for the major part of the day was categorized as 'main occupation'.

11**. Type of family:**

1. Nuclear: one which is composed of the husband, the wife, the minor children and direct dependent.

2. Joint: composed of two or more couple and their children, including older persons related to them.

3. Three generation family: Representatives from three generations residing there among the households.

Using the questionnaire the following assessments were carried out.

A) Assessment of the JSY performance in two categories of PHCs' in Mulbagal Taluk

a) Process of Registration - Timing of registration of JSY beneficiary, as told by the respondents of the interview administered.

b) Information on JSY- Information about JSY to the beneficiaries during antenatal period given by health personnel as said by the respondents during the interview.

c) JSY incentive disbursement- The process and its timing as said by the respondents of the interview.

d) Involvement of ASHA: The involvement of ASHA during antenatal, intra natal and post natal period was recorded as said by the respondents of the interview.

B) Assessment of output of JSY scheme:

The following variable to assess the output was assessed from the interview.

a) Social category of the beneficiaries
b) Time of registration of registration
c) Received JSY cash incentive
d) Duration of stay in hospital/health facility after delivery
e) Promoted for institutional delivery, breast feeding, and usage of postpartum contraception.
f) Avoiding pre-lacteal feeds, initiation of early breast feeding.
g) Accompanied by the concerned ASHA for antenatal visits, institutional delivery.

h) Postnatal visits by ASHA / ANM.

C) Assessment of quality of care during pregnancy, intra natal and postnatal period for the JSY beneficiaries

The information on antenatal care, intra natal care and postnatal care of the JSY beneficiaries were obtained from the thayi card and from the interview questionnaire administered to the beneficiaries.

To assess the quality of care in the two categories of PHCs' studied; a score was given to each JSY beneficiary under the study. A minimum score of three and a maximum of 23 were made. Based on the total scoring of each of the beneficiary, they were divided into two categories.

JSY beneficiaries with:

1) Score ≤ 19 was interpreted as poor quality services.
2) A Score of ≥ 20 was interpreted as good quality services.

Table 2: Variables used in quality assessment of obstetric care rooted through JSY scheme in Primary Health Institution

Sl.no	MCH service	Score given
1.	Timing of registration for JSY during antenatal period	Within first three months-2 ≥Three months -1
2.	Minimum of three ANC visits	1-3 visits-1 ≥ 4 visits-2
3.	Complete IFA tablets taken during antenatal period	< 30 IFA tablets-1 30-60 IFA tablets-2 60-100 IFA tablets-3
4.	At least one TT injection received during antenatal period	Received-1 Not received-0
5.	Motivation for institutional delivery during antenatal period by the health personnel	Motivated-1 Not motivated-0
6.	Motivation for post partal family planning during antenatal period	Motivated-1 Not motivated-0
7.	Motivation for Early breast feeding given during antenatal period	Motivated-1 Not motivated-0
8.	At least 48 hours of hospital stay after delivery	Stayed -1 Not stayed-0
9.	Zero dose immunization for the newborn	Given-1 Not given-0

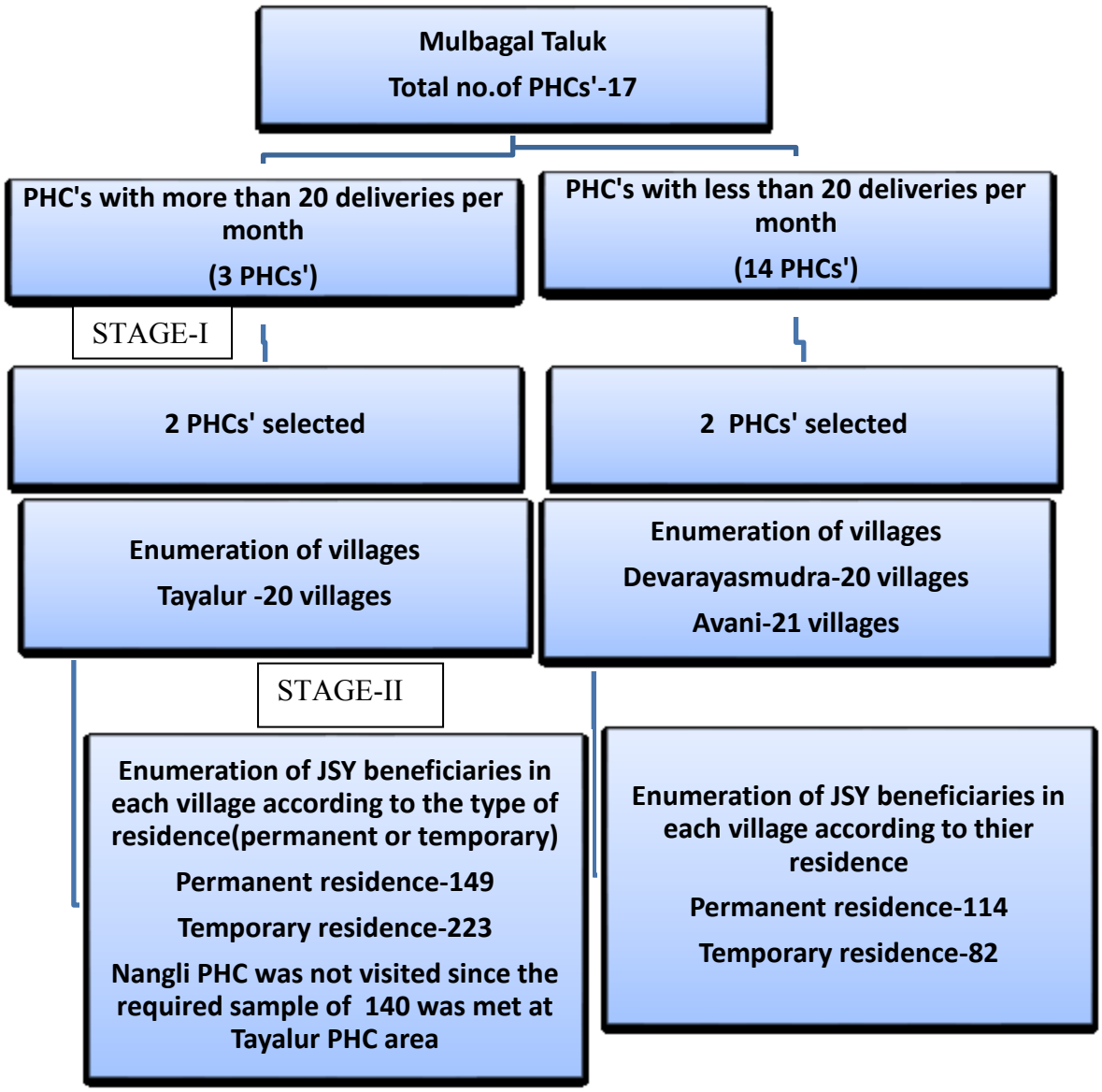
10.	Avoidance of pre-lacteal feeds	Avoided-1 Not avoided-0
11.	Initiation of breast feeding within half an hour after delivery	Initiated within half an hour-2 Half an hour-3hrs-1 >3hrs -0
12.	PNC visits done by ANM	Yes-1 No-0
13.	PNC visits done by ASHA	Yes-1 No-0
14.	ASHA accompanying the JSY beneficiary for ante natal care check-ups	Accompanied-1 Not accompanied-0
15.	ASHA accompanying the JSY beneficiary for institutional delivery	Accomapnied-1 Not accompanied-0
16.	Timing of receiving JSY incentive after delivery	Within 2 days of delivery-2 >2 days-1
17.	Usage of political influence to get JSY cash benefit after delivery.	Yes-0 No-1
18.	Proper usage of JSY cash benefit.	Yes-1 No-0
	Total maximum score Total minimum score	23 03

SAMPLING:

All the primary health centres in Mulbagal taluk were enumerated. Ten of these PHCs' have 24X7 facilities for obstetric care. Fourteen PHCs' were identified where deliveries per month in last three consecutive months of January to March 2012 were less than 20. Similarly three PHCs' were identified where more than 20 deliveries were conducted in the last three months before the conduct of study. Two PHCs' each were selected randomly from these two categories of centres identified based on the number of deliveries. PHCs' Tayalur and Nangali were selected from the category of conducting more than 20 deliveries per month and PHCs' Devarayasamudra and Avani were selected from the category of conducting less than 20 deliveries per month.

In these sampled PHCs' a list of all JSY beneficiaries who had delivered from April 2012 to March 2013 was prepared from the parturition registers. This list of JSY beneficiaries was considered as the study population.

Fig 5: Sampling of PHCs' and JSY beneficiaries for the evaluation of JSY at Mulbagal, Kolar.



SAMPLE OF JSY BENEFICIARIES FOR THE EVALUATION STUDY

Sample size: The calculated sample size of JSY beneficiaries for the evaluation of JSY scheme was 278 (N). This sample was derived considering 86% (p) beneficiaries getting cash benefit under this scheme in concurrent evaluation study of NRHM in Karnataka in the year 2009.[8] The allowable error for the sample size calculation considered was 10% (E) and the design effect of 1.5 was considered. Sample size was calculated using the formula:

$N=1.96^2p\ (1-p)\ /\ E^2X\ 1.5$

Sample selection:

It was decided to select and study 140 JSY beneficiaries each from the two categories of PHCs' area in Mulbagal taluk. JSY beneficiaries from each of the PHCs' category were selected based on the residence criteria. The residence criteria being either residing permanently in the studied PHC area or lived temporarily during pregnancy and or in the postnatal period in the PHC area. One PHC out of the two in both the category was selected randomly. The JSY beneficiary according to permanent and temporary residence who had delivered during the study period of April2012 to March 2013 were enlisted village wise in the PHC area. The first village to be visited was selected randomly from the list of all the villages under the PHC. The households of the selected JSY beneficiaries for the study in this village were visited along with the ANM/ASHA of the locality. The interview questionnaire was administered to the JSY beneficiaries. If the JSY beneficiary was temporary resident and had already left the place after delivery or postnatal care, her care provider was interviewed. The nearest village to the last household containing the

JSY beneficiary was visited and the survey was similarly continued. This method was followed until the required sample of 70 JSY beneficiaries in each of the permanent and temporary residential category was met. In case if the required sample could not be met in one PHC area, the second sampled PHC under that category was visited and similar procedure of enlisting the JSY beneficiaries according to village and sampling the first village was made.

In the PHC category of less than 20 deliveries per month the health centre area of Devarayasamudra and Avani had to be visited to study the required sample of JSY beneficiaries. Whereas in the PHC category of more than 20 deliveries per month, the required sample of JSY beneficiaries could be met in the single PHC area of Tayalur. There was no need to visit and study the JSY beneficiaries in the second PHC of Nangali.

STUDY PERIOD

This evaluation study on a cross section of JSY beneficiaries in Mulbagal taluk of Kolar district was carried out from April to December 2013. This study collected information on structure, facilities and process for delivery of JSY services in Kolar district for the period of April 2012 to March 2013.

STATISTICAL ANALYSIS

The data for the evaluation study was analyzed from the proforma and interview questionnaire. The data from the study tools of questionnaire and proforma was entered into Microsoft excel spread sheet. The qualitative variables were coded.

The frequencies of the variable measured to evaluate JSY scheme was calculated as proportions. The process of JSY services provided in the health centres was assessed based on antenatal care, intra natal care and postnatal care. The association between the process of obstetric care for the JSY beneficiaries and the health centres of delivery was analyzed by chi-square test. The association was considered significant if the p-value was less than 0.05.

Odds ratio (OR) with 95% confidence interval for utilization of JSY services versus characteristics of JSY beneficiaries was found out using binary logistic regression. p-value less than 0.05 were considered significant. All the statistical analysis was performed using SPSS-18 software.

ETHICAL CONSIDERATIONS

The study received approval by the research review board and the ethical review board of Sri Devaraj Urs Medical College, Kolar. Verbal informed consent was obtained from the participants or their guardians before proceeding with the survey activities. Anonymity of the respondents at all stages of data analysis was maintained.

RESULTS

I) Assessment of facilities and structure for providing JSY services in PHCs' of Mulbagal taluk, in Kolar district.

Assessment of the availability of facilities and structure for providing JSY services in the selected PHCs' was made. The obstetric care services made available in the studied PHCs' for 24 X 7 trained skilled birth attenders namely doctors, NRHM Staff nurse and ANMs' were available.At PHC Devarayasamudra which has residential accommodation facility for doctors, the availability of doctors for 24X7 was noted unlike at Avani PHC and Tayalur PHC.

Availability of headquarters stationed ANM for 24 X 7 was noted in PHC Tayalur which was not ensured at PHC Devarayasamudra and Avani. The (Headquarters stationed ANM) who is popular and has served the population for long time. She attracted more beneficiaries to utilize the services provided in Tayalur PHC. There was no much difference is the population under cover of the studied PHCs' in two categories. All the subcentres had an ANM posted and the ratio of medical officers required and post filled were as recommended except in Tayalur where one medical officer post was vacant during the study period.

Table 3: Availability of facilities in the studied Primary Health Centres' of Mulbagal taluk.

Facility/Coverage	PHC where delivery was conducted		
	D. samudra	Avani	Tayalur
Population covered by PHCs'	11098	10127	13560
No. of sub-centres	3	3	5
No. of subcentres with building	1	3	4
Proportion of sub-centre with ANM posted	3 (100%)	3 (100%)	5 (100%)
No. of doctors sanctioned: No. of doctors available	2:2	1:1	2:1
Availability of doctors in Headquarters for 24 hrs.	Yes	No	No
Availability of ANM in Headquarters for 24 hrs.	No	No	Yes
PHC with accommodation for MO	Yes	No	No
No. of villages without ASHA worker	2	nil	Nil

Table 4: Accessibility to the Primary Health Centre in Mulbagal Taluk

Criteria	**Primary Health Centre where delivery was conducted**		
	D. samudra	**Avani**	**Tayalur**
Situation of the PHC	On the inter-village connecting road	On the inter-village connecting road	On the main state road (Mulbagal to V.Kota)
Distance from National Highway NH-4	2 Km	5 Km	13.3 Km
Distance to the nearest FRU (Mulbagal CHC)	13.8 Km	11 Km	13.4 Km
Distance to the District Hospital	23.9 Km	31.3 Km	42.6 Km
Situation near Andra Pradesh Border area	No	No	Yes
Road Quality	Good	Poor	Poor
Public transport facility	Available less frequently	Available less frequently	Available more frequently
Hired/Private transport facility	Available less frequently	Available less frequently	Available less frequently

Accessibility to the obstetric services at PHCs' were assessed in terms of distance from PHC to first referral Unit (FRU), quality of road leading to PHCs' , frequency of transportation services to reach PHC and situation of PHC, distance from National Highway. PHC Tayalur is situated on state highway connecting Mulbagal (Karnataka) with V.Kota (AP) which is 13.3Km from Mulbagal. PHC Devarayasamudra and Avani is situated two km and three km from NH-4 respectively. Both these PHCs' are situated in inter-village road with less frequent public and private transport facilities and poor quality of road. Connectivity and access is better to Tayalur PHC. The access to health services provided by the PHC is an important aspect to realize the goal of institutional delivery. The access is considered if the facilities are not available at a reasonable distance. The suitability of the location of the health facility as determined by its road connectivity and transport facilities or nearness to the centre of social life or economic activity may determine the accessibility. It is well known that where any service provided to the beneficiary is made available and easily accessible; the service becomes acceptable which improves its utilization and no. of deliveries as observed in PHC Tayalur.

II) Assessment of the performance of activities and output of JSY scheme in PHCs' of Mulbagal Taluk, Kolar

All the 17 Primary Health Centres (PHC) in Mulbagal taluk of Kolar district were conveniently divided into two categories based on the total number of deliveries conducted in the consecutive three months of January to March 2012. The first category was where the total number of deliveries was less than 20 in the consecutive three months and the second was where more than 20 deliveries were conducted in the same period. PHC of Devarayasamudra and Avani were randomly

selected from Category I and PHC Tayalur was selected from Category II health centres. All the women who had delivered in these sampled PHCs' during the period April 2012 to March 2013 were enumerated according to the place of residence either as permanent or temporary in the PHC area. It was ensured that equal numbers of women were sampled to represent this characteristic of residence. Out of the total 196 deliveries conducted at PHC Devarayasamudra and Avani in the period of one year, 136 women were sampled and studied for assessment of the utilization of JSY services. Similarly of the total 362 deliveries conducted at PHC Tayalur in one year 140 women were sampled and assessed for utilization of JSY services.

Table 5: Distribution of JSY beneficiaries studied according to the place of residence and place of delivery.

Place of Residence	PHC where delivery was conducted	
	D.Samudra, Avani n (%)	Tayalur n (%)
Residing permanently in the delivered PHC area	70 (51.4)	70 (50)
Residing temporarily in the delivered PHC area	66 (48.5)	70 (50)
Total	**136**	**140**

Table 5 shows the frequency of women selected from PHCs' of Devarayasamudra, Avani and Tayalur. This selected sample of women who had delivered in these centres consists of equal proportion of women residing permanently and temporarily in these health centre areas.

Majority (71%) of the interview questionnaire was answered by the JSY beneficiaries in this study. Around 29% of the interview responses were from the care takers of the JSY beneficiaries where majority were mothers of the JSY beneficiaries. The care takers were the respondents in those PHCs' were the JSY beneficiaries had lived temporarily either during pregnancy or after delivery or both and had left the place to their permanent place of residence.

Table 6: Socio-demographic characteristics of the studied JSY beneficiaries' according to the place of delivery

Socio-demographic characteristics	PHC where delivery was conducted			
	D.Samudra,Avani n (%)	Tayalur n (%)	Total n (%)	p-value
Age group				
19-30 yrs	114 (83.8)	112 (80)	226 (81.9)	
>30 yrs	22 (16.2)	28 (20)	50 (18.1)	0.40
Religion				
Hindu	121 (89)	121(86.4)	242 (87.7)	0.52
Muslim	15 (11)	19 (13.6)	34 (12.3)	
Caste				
Scheduled caste	50 (36.7)	56 (40)	106 (38.4)	
Scheduled tribe	35 (25.7)	26 (18.5)	61 (22.1)	0.351
Others	51 (37.6)	58 (41.4)	109 (39.5)	
Education				
Illiterate	9 (6.7)	10 (7.1)	19 (6.9)	
Primary/middle	56 (41.1)	53 (37.9)	109 (39.5)	
schooling	42 (30.9)	46 (32.8)	88 (31.9)	0.9551
High school	29 (21.3)	31 (22.2)	60 (21.7)	
College and above				
Occupation				
Homemaker	39 (28.6)	59 (42.1)	98 (35.5)	
Service/employed	2 (1.4)	3 (2.2)	5 (1.8)	0.0194
Manual labourers	95 (69.9)	78 (55.7)	173 (62.7)	
Husbands' education				0.2009
Illiterate	29 (21.2)	32 (22.8)	61 (22.1)	
Primary/middle	33 (24.5)	20 (14.3)	53 (19.2)	
schooling	59 (43.3)	68(48.6)	127 (46.0)	
High school	15 (11)	20 (14.3)	35 (12.7)	
College and above				
Husbands' occupation				
Agriculture land owner	3 (2.2)	1 (0.7)	4 (1.4)	
Manual labourer	93 (68.4)	109 (77.8)	202 (73.1)	
Service/employed	26 (19.2)	24 (17.1)	50 (18.1)	
Self employed	14 (10.2)	6 (4.28)	20 (72.4)	0.06
*With **BPL status**	135 (99.2)	134 (95.7)	269 (97.4)	
Sex of the youngest living child				
Male	59(43.3)	74(52.8)	133 (48.1)	0.1153
Female	77(56.6)	66(47.1)	143 (51.8)	

*BPL-Below Poverty Line

Table 6 describes the socio-demographic characteristics of the women who were registered for JSY benefits and delivered in the PHCs' of

Devarayasamudra, Avani and Tayalur in Mulbagal Taluk of Kolar. More than 80% of these women are below the age of 30 years. Majority of them are Hindus (86%) and around 60% of them belong to scheduled caste and scheduled tribe category. Nearly 93% of the women had formal education. Around 42% of the women who had delivered in PHC Tayalur were homemakers compared to 28.7% in the PHC Devarayasamudra and Avani (p value is <0.05). Nearly 70% and 55.7% of the women who delivered in PHC Devarayasamudra and in PHC Tayalur respectively were engaged in manual labor work as a source of livelihood. Around 68.3% of the husbands' of the studied women in the PHC Devarayasamudra area and nearly 80% in PHC Tayalur area were manual labourers. Majority of the women in PHC Devarayasamudra and Avani (99.2%) and 95% of the women who delivered in PHC Tayalur and received the JSY benefits were categorized under BPL status by the Government.

Table 7: Antenatal care of the studied JSY beneficiaries according to place of delivery

Antenatal care	PHC where delivery was conducted			
	D.Samudra, Avani n (%)	Tayalur n (%)	Total n (%)	p-value
Timing of registration				
within 3 months	134(98.5)	134(95.7)	268 (97.1)	
after 3 months	2(1.5)	6(4.3)	8 (2.9)	
Number of Antenatal visits				
Minimum 3 and above 3	124 (91.1)	131 (93.5)	255 (92.3)	0.45
< 3 visits	12 (8.9)	9 (6.4)	21 (7.7)	
Accompanied by ASHA for antenatal check-ups	132 (97)	135 (96.4)	267 (96.7)	
Told about JSY in antenatal period by health personnel	107 (78.6)	84 (60)	191 (69.2)	0.0008
Received TT injection	136 (100)	140 (100)	276 (100)	
Received IFA tablets	136 (100)	140 (100)	276 (100)	
Institutional delivery promoted by health personnel	108 (79.4)	117 (83.5)	225 (81.5)	0.37
Breast feeding promoted by health personnel	112 (82.3)	137 (97.8)	249 (90.2)	0.000007
Postpartum contraception promoted by health personnel	112 (82.3)	137 (97.8)	249 (90.2)	0.000007
Total	**136**	**140**	**276**	

Table 7 describes the antenatal care in the women who delivered in the studied PHCs'. Around 91.1% of the studied women who had delivered in Devarayasamudra, Avani PHC and 93.5% at Tayalur had undergone less than the four recommended antenatal visits. Most of them had registered (>95%) within 3 months of pregnancy. Nearly 97% of the pregnant women said they were accompanied by ASHA for the antenatal check-ups. Sixty percent of the mothers who had delivered in Tayalur PHC and 78.6% of women who had delivered in Devarayasamudra PHC told that they received information about JSY services from the health personnel in the antenatal period. As per the information recorded in the mother card of the studied JSY beneficiaries, everybody had received the recommended dose of tetanus toxoid and Iron and Folic acid prophylaxis in their antenatal period. According to the interview response of JSY beneficiaries and care takers of beneficiaries who had delivered in PHC Devarayasamudra and Tayalur, institutional delivery was advised only in 79.4% and 83.5% of them respectively. Though breast feeding and postpartum contraception was not promoted universally in these women the rates were better among the women delivered at Tayalur PHC compared to Devarayasamudra PHC (97.8% v/s 82.3%).

Table 8: Intranatal care of the studied JSY beneficiaries according to place of delivery

Intranatal care	PHC where delivery was conducted			
	D.Samudra,Avani n (%)	Tayalur n (%)	Total n (%)	p-value
Accompanied by ASHA for delivery	134 (98.5)	136 (97.1)	270(97.8)	
Delivery conducted by				<0.0000001*
Doctor	18 (13.2)	5 (3.6)	23 (8.3)	
Nurse	113 (83.1)	74 (52.9)	187(67.7)	
ANM	5 (3.7)	61 (43.5)	66(23.9)	
Total	**136**	**140**	**276**	

*p-value was calculated for difference in deliveries conducted by staff nurse v/s doctors and ANMs' in the studied PHCs' using chi-square test.

Table 8 shows, majority (67.7%) of the deliveries in the studied PHCs' were conducted by the NRHM trained nurse. The NRHM trained nurses conducted nearly 83.1% of the deliveries in Devarayasamudra and Avani PHCs' and 52.9% of the deliveries in Tayalur PHC. This difference was found to be highly statistically significant (p value < 0.05). Nearly 43.5% of the deliveries in PHC Tayalur was conducted by the ANM who was residing in the headquarters whereas only 3.7% of the deliveries were conducted by ANM in PHC Devarayasamudra and Avani. This difference was found to be significant statistically (p value < 0.05). Only (13.2%) and (3.6%) of the deliveries in the PHC Tayalur and Devarayasamudra was conducted in the presence of a doctor.

Table 9: Postnatal care of the studied JSY beneficiaries according to place of delivery

Postnatal care	**PHC where delivery was conducted**			
	D.Samudra, Avani n (%)	**Tayalur n (%)**	**Total n(%)**	**p-value**
Stayed in the health care facility for 48 hrs. after delivery	134 (98.5)	106 (75.7)	240 (86.9)	<0.0000001
Post-natal visits made by				
ANM	125 (91.9)	119 (85)	244 (88.4)	
ASHA	132 (97.1)	135 (96.4)	267 (96.7)	
Initiation of breast feeding				
Within half an hour	76 (55.9)	89 (63.5)	165 (59.8)	0.19
After half an hour	60 (44.1)	51 (36.4)	111 (40.2)	
Pre-lacteal feeds given	92 (67.6)	90 (64.2)	182 (65.9)	
Total	**136**	**140**	**276**	

Table 9 shows, nearly 86.9% of the JSY beneficiaries who delivered in the studied PHCs' of Mulbagal taluk stayed in the health centre facility for at least 48 hours following delivery. Significantly 98.5% of the JSY beneficiaries stayed for 48 hours at Devarayasamudra and Avani PHCs' compared to 75.5% of the JSY beneficiaries who delivered at PHC Tayalur. Postnatal visits were made for 88.4% of the mothers by ANM and ASHA and the difference in visits made by ANM and ASHA in the studied PHCs' was not significant statistically. Only 59.8% of the mothers who delivered in these studied PHCs' breastfed their child within half an hour after delivery.

The percentage of mothers who breastfed the newborn within half an hour of delivery was more among mothers who delivered in Tayalur PHC(63.5%) when compared to 55.9% of the mothers breastfeeding the newborn within half an hour after delivery in Devarayasamudra PHC. However this difference in breastfeeding initiation within half an hour of delivery between two PHC categories was not statistically significant. Almost 65.9% of the newborn children who were delivered in the studied PHCs' under Mulbagal Talk received some prelacteal feeds. It was 67.6% among the newborns who delivered in Devarayasamudra PHC and 64.2% in Tayalur PHC. However, the difference in the number of newborn children receiving prelacteal feeds following delivery in these two categories of PHCs' was not statistically significant.

Table 10: Disbursement of incentives to the studied JSY beneficiaries according to place of delivery

Incentive disbursement Under the JSY Scheme	**PHC where delivery was conducted**			
	D.Samudra, Avani n (%)	**Tayalur n (%)**	**Total n (%)**	**p-value**
Received JSY cash incentive	136 (100)	139 (99.2)	275 (99.6)	
Timing of disbursement of cash				
Within 15 days	132 (97.1)	130 (92.9)	262 (94.9)	
After 15 days	4 (2.9)	8 (5.7)	12 (4.3)	0.16
Took assistance of local representative for release of cash incentive	1 (0.7)	4 (2.9)	5 (1.8)	
Total	**136**	**140**	**276**	

Table 10 shows the details on disbursement of cash incentive to the JSY beneficiaries. Most (99.6%) of the JSY beneficiaries who delivered in PHCs' studied under Mulbagal taluk, Kolar had received the JSY cash incentive in the form of an open cheque. Only one woman who delivered in the PHC Tayalur did not receive the cash benefit even though she had been registered as JSY beneficiary. Another woman had failed to encash the cheque even after 3 months as she want to keep it as a treasure to be remembered. Nearly 95% of the JY beneficiaries were disbursed of cash within 15 days following delivery.

Around five (1.8%) who had delivered in PHC Tayalur and one in PHC Devarayasamudra had to influence the Health Personnel through the local elected representatives for the release of the JSY cash incentive.

Table 11: Various use made of JSY cash Incentive among the beneficiaries in PHC areas studied in Kolar District.

Various uses made of JSY cash Incentive	**n (%)**
For actual health benefit of mother/child	47 (17.1)
For purchase of clothes/ornaments for child	116 (42.3)
For transport expenses back to home from health care facility	32 (11.7)
To celebrate child birth at home/ceremony	21 (7.7)
Husband used the money	56 (20.4)
Others	2 (0.8)
Total	**274**

Table 11 shows, only 17% of the mothers who were registered for JSY benefits in the studied PHCs' of Mulbagal taluk actually utilized the money for the intended health benefits as per the scheme. The remaining

mothers told they utilized the money for the purchase of clothes, ornaments, for transport, for celebration of births and their husbands taking the money.

Table 12: Pattern of transport to the place of delivery among the studied JSY beneficiaries

Transportation facility used at the time of delivery	PHC where delivery was conducted			
	D.Samudra, Avani n (%)	Tayalur n (%)	Total n (%)	p-value
Own transport facility	32 (23.5)	49 (35)	81 (29.3)	
108Ambulance	34 (25)	19 (13.5)	53 (19.2)	0.01*
Hired transport/ public bus	70 (51.5)	72 (51.5)	142 (51.4)	
Total	**136**	**140**	**276**	

*p-value was calculated for usage of 108 ambulance v/s own transport facility and hired transport/public bus using chi-square test.

Table 12 describes that more than 51% of the JSY beneficiaries who had delivered in these health centres used a hired vehicle/public bus to reach the place of delivery. Around 29.3% of these women who delivered at PHCs' of Tayalur and Devarayasamudra utilized their own transport facility like two wheelers, own auto to reach the place of delivery. Only 19.2% of the mothers utilized the ambulance facilities under NRHM to reach the health centre at the time of delivery. Around 25% of the women who came to deliver at PHC Devarayasamudra and Avani utilized 108 ambulance facilities and 13.5% of women utilized ambulance facility to reach PHC Tayalur for delivery. This difference in the utilization of free ambulance facilities to reach the place of delivery in these two categories of studied PHC was highly statistically significant.

Table 13: Involvement of ASHA in JSY Scheme according to place of delivery

ASHA involvement	PHC where delivery was conducted		
	D.Samudra,Avani n (%)	Tayalur n (%)	Total n(%)
Accompanied beneficiary for ANC check-up	132 (98.5)	135 (96.4)	267 (96.7)
Accompanied beneficiary for institutional delivery	132 (98.5)	135 (96.4)	267 (96.7)
Made postnatal visits for the beneficiary	132 (98.5)	135 (96.4)	267 (96.7)
Received incentive for promoting institutional delivery	131 (97.7)	135 (96.4)	267 (96.7)
Total	**136**	**140**	**276**

Table 13 shows, majority of the studied JSY beneficiaries who delivered in the PHCs' of Devarayasamudra and Avani (98.5%) and Tayalur (96.4%) were accompanied by an ASHA for antenatal checkups during pregnancy and for institutional delivery. Around 97.7% and 96.4% of the studied JSY beneficiaries were visited by an ASHA in the postnatal period in the PHC areas of Devarayasamudra and Tayalur respectively. The difference in the services provided by ASHA for the JSY beneficiaries in these two categories of PHC studied at Mulbagal taluk was not statistically significant.

III) Assessment of the factors influencing the variation in the frequency of deliveries in PHC institutions in Mulbagal taluk, Kolar.

To assess the quality of care in the two categories of PHCs' studied; a score was given to each JSY beneficiary under the study from minimum of three to maximum of 23. The total score for each JSY beneficiary was the sum of individual scores given for the services received namely,

1. **No. of ANC visits:** Antenatal visits of ≥4 visits was scored as 2, Antenatal visits of 1-3 visits was scored as 1.
2. **Timing of registration for JSY during antenatal period**: Registration within first three months was scored as 2 and three months and above was scored as 1
3. **Complete IFA tablets during pregnancy taken:** If taken complete IFA , scored as 1 and if not taken- 0
4. **At least one TT injection during pregnancy**: If taken - scored as 1 and if not taken 0
5. **Motivation for institutional delivery**: If motivated scored as 1 and if not taken 0
6. **Motivation for family planning**: If motivated - scored as 1 and if not taken 0
7. **Motivation for Early breast feeding**: If motivated- scored as 1 and if not taken 0
8. **At least 48 hours of hospital stay after delivery**: If stayed- scored as 1 and if not taken 0
9. **Zero dose immunization for the newborn**: If taken- scored as 1 and if not taken 0

10. **Avoidance of pre-lacteal feeds** - If avoided- scored as 1 and if not - 0
11. **Initiation of early breast feeding**- If done within half an hour of delivery-scored as 2 , If initiated breast feeding ½ an hour to 3 hrs of birth- scored as 1 and if started after 3 hrs- scored as 0
12. **PNC visits done by ANM** - If visited scored as 1 and if not visited 0
13. **PNC visits done by ASHA-** If visited scored as 1 and if not visited 0
14. **Usage of political influence to get JSY cash benefit after delivery** - If taken- scored as 1 and if not taken 0
15. **Proper usage of JSY cash benefit**- If used properly- scored as 1 and if not used properly scored as 0
16. **ASHA accompanying the JSY beneficiary for ante natal care check-ups**- If accompanied 1 and if not accompanied 0
17. **ASHA accompanying the JSY beneficiary for institutional delivery check-ups-** If accompanied 1 and if not accompanied 0

Based on the total scoring of each of the beneficiary, they were divided into two categories.

1. Score ≥ 20 was interpreted as good quality health care
2. A score of ≤ 19 was interpreted as poor quality health care.

Table 14: Quality of MCH services received by the studied JSY beneficiaries

Quality of MCH services	PHC where delivery was conducted			
	D.Samudra, Avani n (%)	**Tayalur n (%)**	**Total n (%)**	**p value**
Poor quality (≤19)	98 (72.1)	110 (78.6)	208 (75.3)	0.209
Good quality (≥20)	38 (27.9)	30(21.4)	68 (24.7)	
Total	**136**	**140**	**276**	

Table 14 describes the quality of MCH services given to JSY beneficiaries' studied in the two categories of PHCs' in Mulbagal taluk. More than 75% of the JSY beneficiaries in the PHCs' studied got score of ≤ 19 which is interpreted as poor quality services. Around 25% of the studied JSY beneficiaries had scored ≥ 20 which is interpreted as good quality of services availed. There was no significant difference in the quality of services in the two categories of PHCs' (p value-0.209).

Table 15: Association of characteristic of the JSY beneficiaries with quality of maternal health care

Characteristics of the JSY beneficiary	Quality of maternal care services			Odds Ratio (C.I)***	p value
	Good n (%)	Poor n (%)	p value		
Number of living children					
One	30 (44.1)	61 (29.3)	0.02*	0.99 (0.54-1.83)	0.99
Two	38 (55.9)	147 (70.7)			
Education of the JSY beneficiary					
Literate	67 (98.5)	150 (72.1)	0.05**	3.38 (0.40-28.45)	0.26
Illiterate	1 (1.5)	58 (27.9)			
Education of husband					
Literate	42 (61.7)	173 (83.1)	0.0002*	0.45 (0.19-1.09)	0.08
Illiterate	26 (38.2)	35 (16.8)			
Religion					
Hindu	64 (94.1)	178 (85.5)			
Muslim	4 (5.9)	30 (14.5)	0.06*		
Caste					
Caste(SC)	18 (26.5)	88 (42.3)			
Caste(ST)	18 (26.5)	43 (20.7)	0.06*		
Other backward classes	32 (47.0)	77 (37.0)			
Age					
<30 years	10 (14.7)	40 (19.2)			
>30 years	58 (85.2)	168 (80.8)	0.40*		
Occupation of the JSY beneficiary					
Laborers	48 (70.5)	78 (37.5)			
Homemakers	20 (29.5)	130 (62.5)	0.22*		
Has BPL card					
Yes	66 (97.0)	203 (97.5)			
No	2 (3.0)	5 (2.5)	0.68**		
Sex of the youngest living child					
Male	28 (41.1)	105 (50.4)			
Female	40 (58.9)	103 (49.6)	0.18*		

*p- value was calculated using Chi-square test

** p-value was calculated using Fisher exact test

***C.I –Confidence interval

Table 15 shows the association of characteristic of the JSY beneficiaries with quality of maternal health care services delivered in the PHCs' studied in Mulbagal Taluk. Around 24.6% of the studied JSY beneficiaries had received good quality of maternal health care services. Out of 68 JSY beneficiaries who received good quality antenatal, Intranatal and post natal care services in the studied PHCs' 55.9% of them had two live children and 98.5% of them were literates. Most of the studied JSY beneficiaries (94%) belonged to Hindu caste, 43% of them belonged to Scheduled castes and Scheduled tribes. Majority (85.2%) of the JSY beneficiaries were aged above 30 years, around 70.5% of them were labourers and 97% of them had BPL card, 59% of them had female child as their youngest living child. The JSY beneficiaries with two living children (p,0.02), JSY mothers who were literates (p,0.05) and education of husbands of JSY beneficiaries (p,0.0002) were the characteristics of the JSY beneficiaries which were associated with good quality of maternal care services with statistical significance. These characteristics of the JSY beneficiaries were subjected to binary logistic regression. It was found that literate JSY beneficiaries had 3.38 times higher odds of utilizing good quality maternal health care services.

DISCUSSION

This evaluation study assessed the Janani Suraksha Yojana scheme performance at Kolar and found that Skilled Birth Attendants (SBA) trained NRHM staff nurses are available round the clock in the studied PHCs' to deliver obstetric care services. Nearly 4% of villages under the studied health centres did not have provision of ASHA. Only one third of the studied PHCs', medical officer and headquarters stationed ANM were residing in the headquarters for 24X7. Utilization of institutional delivery services was more frequent in PHC situated in a place convenient to be accessed by the communities.

Only one fifth of the studied JSY beneficiaries received cash incentive under the scheme for bearing the expenses incurred in and around the time of delivery and only 17.1% of those who received incentive utilized the cash as intended by scheme. More than 96% of the JSY beneficiaries were accompanied by ASHA for ANC visits and for institutional delivery and also has made postnatal visits. Only 19% of the JSY beneficiaries had utilized the 108 ambulance services under NRHM to reach the place of delivery. Around 60% of women who delivered in health centres breastfed the newborn within half an hour of delivery and two third of the mothers gave prelacteal feeds for their child. Only 25% of the studied JSY beneficiaries had received good quality obstetric care in the studied primary health care facilities.

Provision and availability of services in the studied PHC's for delivering JSY services at Kolar

In this evaluation study undertaken to assess JSY scheme at Kolar found that all the studied PHCs' were functioning round the clock and NRHM appointed SBA trained staff nurses were available to deliver obstetric care. Only 58.8% of the Primary Health Centres in Mulbagal taluk of Kolar District has facilities to provide obstetric care services 24X7.[74]All these 24X7 PHCs' have functioning NRHM staff nurses to provide obstetric care services throughout the day. Only one of the three PHCs' evaluated for facilities to provide JSY services was found to have an ANM residing in the headquarters and also delivering obstetric services. Ideally, under the primary health care delivery system, an ANM has to reside in the subcentre and provide health care services as and when required including obstetric care services.[75] Ensuring continuous availability of services like obstetric care in health centres will increase the utilization of the essential components of primary health care. This could explain why the number of deliveries performed at Tayalur health centre was consistently more compared to the remaining studied centres. It is interesting to observe that the ANM of Tayalur PHC was residing in the headquarters consistently for more than a decade and had become popular and acceptable to the community.

Only one (33.3%) of the studied PHC had accommodation facility for the doctor. In the rest of the Primary Health Centres' studied the accommodation was not usable as it was not maintained and required repair. Similar finding was observed in DLHS-4 survey conducted at Kolar in 2012-13 which recorded that only 21.9% of the PHCs in Kolar district had residential quarters for medical officers.[6] Even then, the health centre of Devarayasamudra which provided accommodation for the

doctor could not achieve the required number of institutional deliveries to be conducted in the PHC. Even though the services of NRHM staff nurse and doctors are available 24X7 at Devarayasamudra PHC, to provide obstetric care services, the accessibility to this health centre is not convenient. Availability in terms of service location of the PHC, transport facilities, means of transport available, availability of qualified health worker, strong referral system, information on health care services/providers, health awareness, skilled staff personnel including trust on the health care personnel improves acceptability. Among the four dimensions of accessibility of health care services, availability in terms of health workers, drugs, equipment, demand for services and geographic accessibility in terms of service location, household location are also included. The timely use of services according to need is defined as accessibility (Peters et al 2008).[76] Connectivity to road enables to use MCH services of distant facility.[77] Ensor and cooper in 2004 have quoted few barriers for accessibility namely, lack of information on health care, health care providers and transport .[78] Both Devarayasamudra and Avani primary health centres are accessible through an inter-village route whereas Tayalur PHC is situated on inter-state highway. There is better motor able access and availability of hired vehicles and public transport to approach Tayalur PHC for institutional delivery care. Hence more women could access Tayalur PHC even though there was no doctor available all the time in comparison to the other studied PHCs'.

Assessment of the performance of activities of JSY scheme at Kolar

In the present study, most of them had registered (>95%) with the PHC within three months of pregnancy. The JSY scheme recommends registration under the scheme within three months of pregnancy. It is interesting to find that the JSY registration rates among the beneficiary women of Kolar is higher than reported in other parts of the country.[35-39] Sharma R, in an evaluation study conducted to assess the implementation status of JSY in few selected districts of Rajasthan in the year 2008 found that 72% of the 200 studied pregnant women who were JSY beneficiaries were registered within 3 months of pregnancy.[35]The present study findings are on par with an evaluation study conducted by Vikas Kumar and coauthors in an assessment of the impact of JSY on maternal health services in rural areas of Agra district, Delhi in the year 2010.They found out that the antenatal registrations were found to be increased to 95.60% from 61.60% in JSY period. There were 25.5% increase in the early antenatal registration during JSY period.[39] The findings in the present study indicates that there is better involvement of ASHA in the delivery of JSY services at Kolar. Almost all the villages had ASHA except for two where they had resigned from the services recently.

In the current evaluation study of JSY scheme conducted at Kolar, 97% of the JSY beneficiaries who visited the Primary health Centres for antenatal care were accompanied by the concerned ASHA. Similarly, almost 97% of the mothers were accompanied by ASHA to the health centres for conduct of delivery and more than 95% of the mothers in post natal period were paid visits by ASHA and provided with necessary health care services. The involvement of ASHA in the present study in the process of delivering services under JSY scheme is much higher than other studies undertaken in other parts of the country. [20,21,79] The mission

of the National Rural Health Mission was to strengthen the existing health care delivery system.[30] ASHA is considered under this mission to play a pivotal role to improve the utilization of available primary health care services by the members of the community.[33] This evaluation study shows that ASHA is fulfilling her role in health care delivery. However, this study made no attempt to assess the involvement of ASHA in obstetric care services of women who were registered under JSY. It is to be noted that an ASHA receives incentive for accompanying women registered under JYS scheme for antenatal care check-ups and institutional delivery at Health institutions and not for others.[34]However, from the year 2013 onwards, JSY coverage has been extended to any type of pregnancy including women who had more than two live births.[66] This indicates that giving incentive to ASHA has increased utilization of institutional obstetric services and is achieving the desired objective of reducing MMR and IMR.

The study found that only 21% of the JSY beneficiaries who delivered in the evaluated health centres received cash benefit within the stipulated time. As per the JSY scheme, a poor woman who delivers in the health centre should receive a fixed incentive amount before she is discharged from the health centres after delivery. This incentive is to take care of the expenses incurred for her and her newborn child in and around delivery. This observation of poor disbursement practices suggests that the process of cash giving incentive to the beneficiary mother has lacunae. During this evaluation study on JSY in health centres, it was observed that there was a delay in transfer of JSY funds to the health centres from the higher offices. Similar finding was observed in a study done by Mahawar P and co-authors which was carried out to assess JSY in terms of its perception, utilization and administrative and financial

aspects in Indore District of Madhya Pradesh based on the responses by 265 beneficiaries and medical officers of 5 health centers from November 2008- October 2009. This study found only around 25% of beneficiaries had received cash under JSY just after delivery.[41] The concurrent evaluation of JSY under NRHM in Karnataka in 2009 noted that around 86% of the JSY beneficiaries had received cash benefit out of which only around 5% had received it soon after delivery.[9] However, in the present study, all the mothers had received the incentive after a delay and had come to the Primary Health Centre/Sub-Centres to collect the JSY incentive. It was observed that the incentive was also received by mothers when they had visited the PHC/SC for immunizing the child at six weeks/ during post natal visits.

It was surprising to find that only few delivered mothers utilized the cash benefit as it was intended under the scheme. Most of these women spent the money to purchase clothes, ornaments for the child or for expenses for the ceremony following the child birth. Few women said that their husband took the cash and spent it and few others said they had used it to purchase the groceries. Such unintended use of the JSY incentive that was found in this evaluation study could be attributed to the delayed disbursement of the cash and poor communication about the JSY scheme to the mothers by the health care personnel.

Around 93% of the studied JSY beneficiaries were literate. As per 2011 census, the overall literacy rate in the country is 74% and of Karnataka is 65.5%.[53] The literacy rate of females in Karnataka and Kolar is 68.13% and 66.56% respectively.[73] Around 78.2% of the husbands' studied JSY beneficiaries had an education at primary or higher level. As per census report (2011), the literacy rate of males in the country is 82.14% and the literacy rate of males in Karnataka is 82.85%

.The rural literacy rate of males in Karnataka and Kolar is 77.92% and 81.94% respectively.[73]

Assessment of the output achieved by JSY scheme:

The completeness of information in Thayi card was found lacking in most of the cards. Very few Thayi cards had mention of the date of visit by ANM to the houses of the mother. Hence, the information on number of antenatal visits, postnatal visits of the mother was assessed by using interview questionnaire. All the mothers had at least one antenatal care visit made to the PHC. However 67% of mothers had received the recommended minimum of three visits or more than three antenatal visits to the PHC. This indicates that there is no consistent community based health care services delivered by the PHC team. This also reflects on the quality of obstetric care services as the services to be provided to pregnant mothers will be incomplete. For e.g.; education of the mother during pregnancy and identification of high risk pregnancy. A study done by Paul Sharma and co-authors on utilization of JSY services in the of rural and urban slum areas of Dehradun of Uttar Pradesh in the year 2008-09.Of the 227 studied married women who delivered in government hospitals 29.2% of the women received 3 or more antenatal care visits. The present evaluation of antenatal care in Kolar reports higher percentage of 3 or more than 3 antenatal visits. [36]

It was observed in this evaluation study that the mother informed they had less number of antenatal visits whereas the ASHA claimed that more number of mothers underwent three or more antenatal visits. This may be a reflection of poor or weak monitoring of the PHC services by their supervisors namely ANMs', Lady Health visitors (LHVs') and Medical officers.

Not all the mothers stayed in the delivered health centres for the stipulated 48hrs as recommended under NRHM program. Inspite of being institutional deliveries, only around 60% of the mothers' breastfed their newborn child within the recommended half an hour of the birth. Similar observation of only 59% of the delivered mothers in rural areas staying in the health institutions for 48 hrs after delivery was recorded in the DLHS-4 survey conducted in 2012-2013 in Kolar.[6] Alarmingly, around 66% of these mothers indulged in giving prelacteal feeds to the newborn child. Such situation may indicate the lack of involvement of the PHC health care personnel in the delivery of essential health promotive services. It also indicates the poor monitoring by their supervisors. Similar observation was seen in a study done by Jain A and co-authors in the year 2012 conducted to find the association between institutional delivery and health care practices related to infant and child care in the year 2012 at Bellary and Dakshina Kannada districts of Karnataka they found that institutional deliveries did not in any way help in doing away with practices related to delayed breastfeeding and supplementary feeding as well as pre-lacteal feeds.[80]

Limitations of the study

Interview questionnaire applied to the mothers who were registered under JSY need recall of events of many months during the last pregnancy, delivery and post natal period, which may be subjected to recall bias. The structure and facilities to provide the JSY services was assessed with few parameters. Not all the parameters were assessed in the present study since it itself is an elaborative exercise. Hence the evaluation of facilities and process may not be complete in the study.

SUMMARY AND CONCLUSION

The evaluation of JSY under NRHM in Mulbagal Taluk of Kolar district assessed JSY scheme in terms of structure and facilities to deliver JSY services, performance of JSY services and output achieved by JSY scheme.

This assessment reports a high rate of receiving services under the JSY scheme. But most of the JSY beneficiaries received poor quality of maternal health care. Poor breast feeding practices following immediately after delivery in PHC institutions are indicative of improper antenatal care, unsupervised post natal care and poorly motivated health care workers. The undue delay in disbursement of intended monetary benefit of the scheme lead to improper utilization of the JSY cash benefits by the mothers. ASHA was instrumental in performing the JSY activities of ensuring antenatal care at the health care institutions, ensuring institutional delivery and providing post natal care home visits.

NRHM aims at improving the accessibility and availability of health care services. Relatively poor accessibility to the PHC centres will reduce the utilization of the available obstetric care services. This may overburden the geographically conveniently placed health centre facilities. Thus, the availability and accessibility of antenatal, Intra natal and postnatal services in the PHC institutions rooted through JSY scheme under NRHM needs to be improved to enhance the performance of JSY scheme and to deliver good quality obstetric care services in PHCs of Kolar.

This study concludes that the services under the JSY scheme in the studied health centres of Kolar are being provided to a large extent but are either incomplete or delayed. It is clearly evident that there is lack of adequate monitoring of the services rendered by the health care workers including ASHA by their immediate supervisory staff. Relatively difficult accessibility to health centres is an important factor for underperformance of 24X7 Primary Health Centre institutions.

BIBLIOGRAPHY

1. Special bulletin on maternal mortality in India 2010-12. Sample Registration Survey. New Delhi. Office of Registrar General;2013.Available from www.censusindia.gov.in/vital..../SRS...../MMR_Bulletin-2010-12 pdf
2. United Nations, Millennium Development Goals website: [http://www.un.org/millenniumgoals/].
3. Park K. Health Planning and management In: Park's Text Book of Preventive and Social Medicine, 22 ed. Jabalpur: M/s Banarsidas Bhanot Publishers; 2013. p. 816-7.
4. National Rural Health Mission (2005-2012): mission documents and monograph 1-6. Ministry of health and family welfare, nirman bhawan, New Delhi. 2005 also available at http://www.mohfw.nic.in/nrhm.html.
5. Park K. Health Programmes in India. In: Park's Text Book of Preventive and Social Medicine, 22 ed. Jabalpur: M/s Banarsidas Bhanot Publishers; 2013. p. 415-8.
6. International Institute for Population Sciences. District Level Household and Facility Survey-4 fact Sheet Kolar,India. Ministry of Health and Family Welfare. 2012-13.
7. Ministry of Health and Family Welfare: Janani Suraksha Yojana. Guidelines for implementation: Government of India. (Cited on 2011 Nov 1st) available at URL:http://mohfm.nic.in/nrhm/rch guidelines. JSY guidelines 09-06.pdf.

8. Concurrent Assessment of Janani Suraksha Yojana(JSY) Scheme in selected states of India, UNFPA.2008. Available from: mohfw.nic.in/NRHM/Documents/JSY_Study_UNFPA.pdf. [Assessed on Apr3,2012]Available from: http://india.unfpa.org/drive/JSYConcurrentAssessment.pdf.
9. Ministry of Health & Family Welfare, Government of India: Concurrent evaluation of NRHM-2009.IIPS, Mumbai. Available from: http://www.mohfw.nic.in/nrhm.
10. Concurrent Evaluation of NRHM (2009) -Key Findings Chandigarh, 2009;9. Available from: http://nrhmmis.nic.in/ui/reports/CER1Reports/Chandigarh.pdf.
11. Report on study on JSY in Jharkhand supported by the Information Resource and Advocacy Centre (IRAC),Ranchi.Available from:https://www.socialtext.net.
12. Assessment of Janani SurakshaYojana in Rajasthan by CORT of Vadodara;48. Available from: http://www.cortindia.com/RP/RP-2007-0302.pdf.
13. Assessment of ASHA and Janani SurakshaYojana in Orissa. UNFPA, New Delhi. 2007. Available from: www.cortindia/RP%5CRP_2007-0303.pdf [Assessed on Apr 3,2012]
14. Assessment of ASHA and Janani SurakshaYojna in Rajasthan, UNFPA; New Delhi; 2007. Available from: www.cortindia.com/RP/RP-2007-0302.pdf [Assessed on Apr 3,2012]
15. Rapid Appraisal of NRHM Implementation, Sponsored by Ministry ofHealth and Family Welfare, Govt. of India, Institute of EconomicMid-term Appraisal of 11th Five Years Plan, Planning

Commission of India(Planning commission website) Common Review Mission Reports- 2007. 2008.

16. Lim SS, Dandona L, Hoisington JA, James SL, Hogan MC, Gakidou E. India's Janani SurakshaYojana, a conditional cash transfer programmeto increase births in health facilities: an impact evaluation. *The Lancet* 2010 Jun 4; 375:2009–23.
17. Concurrent Assessment of JSY Scheme in selected states of India, 2008, (available at NRHM website: http://mohfw.nic.in/NRHM.htm)
18. Nirupam B , Sachs D. Jeffrey and Dholakia H. Ravindra , "Improving access, service delivery and efficiency of the public health system in rural India" Midterm evaluation of the National Rural Health Mission.
19. CGSD Working Paper No. 37 October 2009 "Primary evaluation of service delivery under the National Rural Health Mission (NRHM): Findings from a study in Andhra Pradesh, Uttar Pradesh, Bihar and Rajasthan"
20. Srabanti M, "A Study on Effectiveness of NRHM in Terms of Reach and Social Marketing Initiatives in Rural India", European Journal of Scientific Research ISSN 1450-216X Vol.42 No.4 (2010), pp.587-603
21. "An Evaluation of the ASHA programme in eight states, which way forward?" National Health Systems Resource Centre, 2010 "Programme Evaluation of the JSY", National Health Systems Resource Centre ,2010
22. Rapid Appraisal of NRHM Implementation, Sponsored by Ministry of Health and Family Welfare, Govt. of India, Institute of Economic Mid-term Appraisal of 11th Five Years Plan,

Planning Commission of India(Planning commission website) Common Review Mission Reports- 2009

23. Kumar R, Singh MM, Kaur M. Impact of health Centre availability on utilization of maternity care and pregnancy outcome in a rural area of Haryana, J Indian Med Assoc, 1997:95(8), p. 448-50. Available from: www.ncbi.nlm.nih.gov/m/pubmed/9492451/
24. Koenig M.A, M.E. Khan. Improving Quality of Care in India's Family Welfare Programme: The Challenge Ahead. New York: The Population Council;1999.
25. Rao P.S, Richard J. Socio-economic and demographic correlates of medical care and health practices, J BiosocSci, 1984;16(3),p.343-55. Available from:www.ncbi.nlm.nih.gov/m/pubmed/6470017/
26. Rohde J, Viswanathan H. The Rural Private Practitioner. Health millions, Oxford University Press. 1994;2(1):13-6. Available from: www.ncbi.nlm.nih.gov/m/pubmed/12288589/
27. Shelton J D, S S Davis. Some priorities in maximizing access to and quality of contraceptive services, AdvContracept, 1996;12(3):233-7 Available from: www.ncbi.nlm.nih.gov/m/pubmed/8910665/
28. Levine RE, Cross HE, Chhabra S, Viswanathan H. Quality of health and family planning services in rural Uttar Pradesh: the client's views, Demography India, 1992;21(2);p.247-65. Available from: www.ncbi.nlm.nih.gov/m/pubmed/PMC 2888363/
29. Personal communication with RCHO, Kolar on 13-8-2012.

30. National Rural Health Mission, Ministry of health and family welfare, nirman bhawan, New Delhi. Also available from: www. http://nrhm.gov.in/
31. Park K. Health Programmes in India.In: Park's Text Book of Preventive and Social Medicine, 22 ed. Jabalpur: M/s Banarsidas Bhanot Publishers; 2013. p. 412-5.
32. Kapil U, Choudhury P. National rural health mission, will it make a difference. Indian pediatric 2005;42:783-6.
33. Ministry of Health and Family Welfare: Janani SurakshaYojana. Frequently asked questions: Government of India. Available at http://mohfw.nic.in/WriteReadData/l892s/file28-99526408.pdf
34. Ministry of Health & Family Welfare, Government of India: Janani Suraksha Yojana. Available from: nrhm.gov.in/nrhm.../rmnch.../janani-suraksha yojana/background.html
35. Sharma R. Janani SurakshaYojana: A study of the implementation status in selected districts of Rajasthan. Maternal Child Health J 2008 Oct;11(14):15-35.
36. Sharma P, Semwal S J, Kishore S. A Comparative study of utilization of Janani SurakshaYojana (Maternity Benefit Scheme) in rural areas and urban slums. Indian J Community Health 2011;23(1):1-2.
37. Khan M.E, Kumar A. Health status of women in India;Evidence from national health survey.2010 August; vol 6:1-21.
38. Janani Suraksha Yojana (JSY) – an exploratory study. Final report. Karnataka State Health System Resource Centre Bangalore in collaboration with Jagruti, Dharwad;April 2012. Availablefrom:

www.academia.edu/.../Janani_Suraksha_Yojana_JSY_Karnataka_an_exp..

39. KumarV,Kaushal SK,Mishra SK,Gupta SC.Assessment of the impact of JSY on maternal health services in rural areas of Agra District.Indian J Community Health (serial online) 2012;24(2):118-23.Available at:www.iapsmupuk.org/journal/index.php/IJCH/article/view/120pdf.
40. Singh VS. A Study of awareness of Janani SurakshaYojana (JSY) among ANC registered women in a primary health centre of tribal area.Available from: URL/wp-content/uploads/2014/06/12-MRIMSJHS_2013_26.pdf
41. Mahawar P, Anand S, Dixit S, Bhagwat AK, Sakalle S, Yesikar V. Evaluation of Different Aspects of Janani SurakshaYojna in Indore District, Madhya Pradesh. Natl J Community Med 2013;4(3):512-15.
42. Muthurayappa R.Functioning of Janani SurakshaYojanain Hassan District of Karnataka. The Indian Journal of Social work 2010;71(2):167-180.
43. Gupta SK, Pal DK.Assessment of JananiSurakshaYojana (JSY) in Jabalpur, Madhya Pradesh: knowledge, attitude and utilization pattern of beneficiaries: a descriptive study. International J of Current Biological and Medical Science 2011;1(2):06 – 11.
44. Sharma AK. National rural health mission: Time to take stock. Indian J Community Med 2009;34:175-82.
45. Thanasi K, Seemanth HR. The operational mechanism, utilization, non-utilization, awareness and perception of mothers on Janani SurakshaYojana in south Orissa. East Afr Med J 2009 May;28(11):64-76.

46. Panja TK, Mukhopadhyay DK, Sinha N, Saren AB, Sinhababu A, Biswas AB. Are institutional deliveries promoted by Janani SurakshaYojana in a district of West Bengal, India? Indian J Public Health 2012;56:69-72.
47. Gupta SKet al .Impact of Janani SurakshaYojana on Institutional Delivery Rate and maternal mortality and morbidity:An observational study in India 2012;30(4):464-471.PMCID:PMC3763618.Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC3763618/
48. Guin G, SahuB,ShashiK,Kavishwar A.J ObstetGynaecol India 2012;62(3):307-11 doi:10.1007/s13224-012-0221-1.Available from:www.ncbi.nlm.nih.gov/pmc/articles/PMC3444551/
49. Gupta R K. Institutional and non institutional deliveries in slum areas of Delhi 2005;24:147-52.
50. Lim SS,DandonaL,Hoisington JA,James SL,Hogan MC,Gakidou E.India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities:an impact evaluation.The Lancet 2010;375(9730);2009-23.Available from:doi:10.1016/SO140-6736(10)60744-1
51. Bhattacherjee S.Maternal health care services utilization in tea gardens of Darjeeling, India.Journal of basic and clinical reproductive sciences;2013;2(2):77-84.DOI:10.4103/2278-960X.118645.Available from:www.researchgate.net/…./258212427_Maternal health services.
52. Makwana NR, Shah VR, Yadav S.An evaluation of skill and knowledge in delivery of reproductive and child health services by female health workers in Jamnagar District and corporation area, Gujarat State,India.Int J Health Allied Sci (Serial online)

2012 cited 2014 June 2);1:79-84.Available from:http://www.ijhas.in/text.asp?2012/1/2/79/101688.

53. Malik JS,Kalhan M,Punia A,Sachdeva S,Behera BK.Utilization of health services under Janani SurakshaYojana in rural Haryana.Int.J Med Public Health (serial online) 2013(cited 2014 June 10);3:176-9.Available from:http://www.ijmedph.org/text.asp?2013/3/3/176/118977.
54. Shah PP, Modi DK, Shah SP, Desai SA. Effect of maternity schemes on place of delivery in a tribal block of Gujarat. Indian J Community Med 2013;38:118-20.
55. Sarita PT, Tuominen R. Use of health care services in two rural communities in Tanzania, Community Dentistry and Oral Epidemiology,1993;21(3), p.133-45. Available from www.ncbi.nlm.nih.gov/m/pubmed/8348785/
56. Randive B, Sebastian MS, Costa AD,Lindholm L. Inequalities in institutional delivery uptake and maternal mortality reduction in the context of cash incentive program, Janani SurakshaYojana: Results from nine states in India. Social Science & Medicine 2014;1(23) ;1-6
57. Sudeep K. Preference of women for a home delivery and utilization of antenatal and postnatal health facilities. Maternal Child health J 2008 ;11(5):125-45.
58. Mangal S, Ladha N. Evaluation of safe motherhood practices in relation to Janani SurakshaYojna, IJRRMS 2012;2(3):57-9. Available from: www.ijrrms.com/pdf/2012/jul.../02.pdf
59. Lanjewar S, Chaudhary S, Kudbe S, Bhatkule P. Evaluation of Janani SurakshaYojana(JSY) and Universal immunization programme (UIP) in two eastern districts of Maharashtra. International J scientific Research2013;2(8):97-9.

60. Ved R, Sundararaman T, Gupta G, Rana G. Program evaluation of the Janani SurakshaYojna. BMC Proc. 2012;6(Suppl 5):O15. Published online Sep 28, 2012. doi: 10.1186/1753-6561-6-S5-O15
61. Teenashu M, Venkateshwar AR. Implementation process of JSY in Orissa. East Afr Med J 2008 Jun;89(45):56-66.
62. Stephen S L. Lalitdandona. India's Janani SurakshaYojana. A conditional cash transfer programme to increase births in health facilities; an impact evaluation. June 2010;vol 375:2009-23.
63. Vaishali AS, Shekar T. Utilization of JSY among beneficiaries in Orissa. East Afr Med J 2009 Jan;78(18):564-86.
64. Sharma MP, Soni SC, Bhattacharya M. An assessment of institutional deliveries under JSY in Jaipur District. Rajasthan. Indian J Public Health 2009 Jul-Sep;53(3):177-82.
65. Vikram K,Sharma AK,Kannan AT.Beneficiary level factors influencing Janani SurakshaYojana utilization in urban slum population of trans-Yamuna area of Delhi.Indian J Med res 2013;138(3):340-6.Available at:www.ncbi.nlm.nih.gov/m/pubmed//24135178/
66. JSY Communication from Deputy Commissioner (RCH/JSY). Government of India, Ministry of Health & Family Welfare (JSY Section) NirmanBhawan, New Delhi, No. Z.14018/1/2012-JSY Dated: 13.05.2013
67. JSY Communication from Joint secretary (RCH). Government of India, Ministry of Health & Family Welfare (JSY Section), Nirman Bhawan, New Delhi. No. Z.14018/1/2012-JSY,Dated: 13.05.2013
68. International Institute of Population Sciences and ORC,Macro National family Health Survey -3. International Institute of

Population Sciences, Mumbai. Available from: http://www.iipsindia.org/nfhs3.html. [last accessed on 2013 Jul 5].-20%

69. Concurrent evaluation-II JSY,State institute of health and family welfare,Jaipur,2008.
70. Evaluation of National Rural Health mission (NRHM) in Meghalaya, Directorate of programme implementation and evaluation,2010.
71. Evaluation theory and evaluation practice in the context of National rural Health Mission (NRHM),2009
72. Kolar district.Available at www.kolar.nic.in/
73. Provisional Population Totals, Census of India 2011; Cities having population 1 lakh and above" (pdf). Office of the Registrar General & Census Commissioner, India. Retrieved 27 March 2012.
74. Personal communication with Taluk Health officer Mulbagal Taluk, Kolar District on 19-3-2013
75. Park K. Health care of the community.In: Park's Text Book of Preventive and Social Medicine, 22 ed. Jabalpur: M/s Banarsidas Bhanot Publishers; 2013. p. 848-50.
76. Peters DH et al. Poverty and access to health care in developing countries. Annals of the New York Academy of Sciences 2008; 1136: 161–71.
77. O'Donnell. Access to health care in developing countries: breaking down demand side barriers. Cadernos de Sau´dePu´blica 2007; 23:2820–34.
78. Ensor T, Cooper S. Overcoming barriers to health service access:influencing the demand side. Health Policy Planning 2004;19: 69–79.

79. Singh MK, Singh J, Ahmad N, Kumari R, Khanna A. Factors influencing utilization of ASHA services Under NRHM in relation to maternal health in rural Lucknow. Indian J Community Med. 2010;35:414-9.
80. Jain A, Baliga BS, Rao S, Shankar MV, Srikanth BK. Does institutional delivery help in improving infant and child health practices and health promotion parameters? A study from Bellary, Karnataka.BMCProc 2012;6:022.doi:10.1186/1753-6561-6-S5-O22.Available from: www.ncbi.nil.nih.gov/pmc/article/PMC3467543/

Annexure-I-PROFORMA

Facility/Coverage	PHC Devarayasamudra	PHC Avani	PHC Tayalur
Population covered by PHCs'			
No. of sub-centres			
No.of subcentres with building			
Proportion of sub-centre with ANM posted			
No. of doctors sanctioned: No. of doctors available			
Availability of doctors in Headquarters for 24 hrs.			
Availability of ANM in Headquarters for 24 hrs.			
PHC with accommodation for MO			
No. of villages without ASHA			
Accessibility to the PHC to seek Primary Health Care Situation of the PHC Distance from NH-4 to PHC Distance to the nearest FRU (Mulbagal CHC) Distance to the District Hospital from PHC			
Andra Pradesh Border area Road Quality Transport facility Public Hired/Private			
Availability of health personnel to conduct deliveries Medical officer-24X7 Skilled birth attendance (SBA) trained NRHM staff nurse-24X7 Headquarter stationed ANM Trained Dai			

ANNEXURE-2 QUESTIONNAIRE ADMINISTERED FOR JSY BENEFICIARIES

PART-I SOCIO-DEMOGRAPHIC PROFILE OF THE JSY BENEFICIARY

Date of Interview: House Hold No

Respondent Name JSY Beneficiaries name: Relationship of the respondent to the delivered mother:

1. Name of the head of the household:

2. Address: Door no: Street: Village:

3. Religion: 1.Hindu 2.Muslim 3.Christian 4.Others (specify)

4. Caste: specify

5. Household composition:

Sl. No	Name of HH member	Relation to Head of HH	Age	Sex	Education (completed)	Marital Status (married/Divorced/separated/Widow)	Occupation	Monthly income
01								
02								
03								
04								
05								
06								

6. TYPE OF FAMILY (TICK):

1.Nuclear 2. Joint 3. Extended 4.Others

7. A.Do you have BPL Card?

Y	N

1.Cultivation	2.Live stock	3.Sericulture	4.Agriculture Wage Labour	5.Non –Agriculture Wage Labour
6.Independent Work	7.Petty Shop	8. Salary	9.Artisan	10.Other (Specify)

B. Principal source of income:

8. AGRICULTURE INFORMATION IN THE LAST ONE YEAR (relevant for the households who cultivate agricultural land)

1	Land (Acres)	
2	Crops grown	
3	Quantity in Local Units	
4	Value (RS)	

9. HOUSING a. Type of Residence:

Own	Rented

b. Assets (TICK)

1. Bicycle	2.Two Wheeler	3.Car /Jeep	4.Bullock Cart	5. Tractor	6.TV
7.Washing Machine	8.VCD/DVD	9.Fan	10. Computer	11.Fridge	12.Telephone/Mobile
13. Sewing Machine	14. Radio	15. Others (Specify)			

C. No. of Livestock Owned: (Tick)

1. Draft Animals	2.Milch Animals	3. Goats/Sheep	4. Poultry	5. Others (Specify)

d. Type of House (Tick) 1. Puce 2. Semi Pucca 3. Kuccha

e. House (Tick) 1 Independent 2. Attached

F. No. of Living Rooms ……. Rooms

g. Floor Area Space in the House ……. Sq. feet

h. Storage of drinking Water

1. Vessel without tap	2. Vessel with tap	3. Others (Specify)

i. Toilet (Tick) 1. Latrine 2. No Latrine 3. Toilet present but not in use

j. Drinking water source (Tick)

1. Hand Pump	2. Piped Water Inside house	3. Community Piped Water	4. Open Well

k. Lighting (Tick) 1. Adequate 2. Inadequate

l. Ventilation (Tick) 1. Adequate 2. Inadequate

1. Closed drainage	2. Open drainage	3. No drainage	4. Soakage pit	5. Others (specify)

m. Sullage disposal (Tick)

n. Refuse disposal (Tick)

1.Domestic dump	2. Outside house (community)	3.Others (specify)

O. Domestic Animal Shelter (Tick)

1.Seperate shelter	2.Inside the house	3. Others

p. Surrounding the house

Clean	Dirty

(Tick)

q. Kitchen garden (Tick)

Y	N

10. SOCIO-ECONOMIC INFORMATION

Occupation of head of family-

Agricultural land owned (in acres) - Cultivable …… Non-cultivable…….

Part II-INFORMATION TO BE COLLECTED FROM THE THAYI CARD/MCTS

Name of the Mother: Age: Education: Occupation: Caste: Sub-caste: Obstetric score: Para: Abortion: Death:	Husband's Name: Age: Education: Occupation: Income: BPL/APL Phone number:

1) When was the Last Menstrual Period?

2) When was the last pregnancy registered?

Within First three months	Second three months	Last three months	didn't register as pregnant

3) Where was the pregnancy registered?

Primary Health Centre	Community Health Centre/taluk hospital	Sub-Centre	others (specify)

4) Who registered the last Pregnancy?

ANM (field nurse)	ASHA	Anganwaadi Worker	Doctor	any others (specify)

5) When was the mother card issued?

Within First three months	Second three months	Last three months	Not registered at all

6) Was the mother labelled as High Risk Pregnancy?

Y	N	DK

7) How many TT injections were given during last pregnancy?

One Date	Two Date

8) Investigations done/no

Y	N

9) If yes, what investigations were done?

10) When was the last delivery conducted?

11) What time did the mother deliver?

12) Where was the last delivery conducted?

Home	Primary Health Centre	Sub Centre	Community HealthCentre	Private hospital	District hospital	Others(specify)

13) Who conducted the last delivery?

Hb %	HIV	Hbs Ag	VDRL	Blood grouping and Rh typing	Blood sugar:FBS/PPBS/GRBS/Glycosylated Hb/OGTT	Thyroid profile	Urine sugar/albumin/microscopy

Untrained Dhai	Trained dhai	ANM	Nurse	Doctor	Anybody else(Specify)

14) What was the mode of Delivery?

Spontaneous	Induced	Caesarian section

15) Was JSY given during last pregnancy?

Y	N

16) In what form was JSY given to the mother?

Cash	Cheque

17) When was JSY issued to the mother and how much?

Y	N

18) Was Madilu Kit given to the mother?

19) Was BCG vaccine given to the baby?	Y / N
20) Was zero polio vaccine given to the baby?	Y / N
21) Was birth dose hepatitis B given to the baby?	Y / N
22) When was Madilu kit issued to you?	Y / N

PART-III

STRUCTURED INTERVIEW OF THE JSY BENEFICIARY/IF NOT AVAILABLE HER MOTHER

1 .Sex of the youngest living child? M / F

2. How many live children do you have?

3. Number of Antenatal visits done during your last pregnancy?

No visits	1 visit	2 visits	3 visits	4 visits	more than 4 visits

4. Was the Iron and folic acid tablets given to you during your last pregnancy? Y / N

5. If yes how many Iron and folic acid tablets did the health worker has given to you?

30	60	100	don't remember

6. How many iron and folic acid tablets did you take?

30	60	100	don't remember

7. Did you miss any Iron and folic acid tablets? Y / N

8. How many times did the health worker visit you at your home after the delivery?

(a)Not given (b) 1 visit (c) 2 visits (d) 3 visits (d) 4 visits

9. How did you reach the institution?

Own vehicle	Government vehicle	Private vehicle	any other: _____

10. At what stage did you reach the institution?

On the EDD before onset of labor pains	On the EDD after the onset of labor pains	Well into labor, close to delivery	Any other: _____

11. Did you get any advice for institutional delivery during last pregnancy?

Y	N

12. If you have delivered at institution, did you get advice for breastfeeding?

Y	N

13. When was the initiation of breast feeding done after delivery?

14. Did you give any pre-lacteal feeds to the new born?

Y	N

15. If yes, what was given?

Sugar water	Honey	any other (specify) _____

16. Did the health worker (ANM / LHV / MHW) visit your house in last 3 months?

Y	N

If yes When? Date of visit –

17. How frequently will they visit to your house? Usually

18. Did Health worker examined you? (During ANC and PNC)

19. Are you aware of Janani Suraksha Yojana Scheme?

Y	N

20. If yes, from where did you get information on JSY?

Doctor	ANM	TV /Radio	ASHA worker	others specify_____

21. Has the health worker talk to you on JSY at any time?

Y	N

22. Do you know when will it be given?

Before delivery	After delivery	No idea

23. Was JSY given to you?

Y	N

24. In what form was JSY given to you?

Cash	Cheque

25. When was JSY issued to you?

26. If you have received it what did you use it for

27. Are you aware about ASHA worker?

Y	N

28. If yes did she accompanied you to the hospital for delivery?

Y	N

29. Are you aware about 24x7 government facility for delivery?

Y	N

30. Did you have had any complications during or after the delivery?

Y	N

31. If yes, what was the complication?

32. Did your baby have had any complications using or after the delivery?

Y	N

33. If yes, what was the complication?

34. Are you aware about accredited private hospitals for delivery?

Y	N

35. Did you use anybody's influence to get JSY?

Y	N

36. If yes, whose influence did you use?

PART-IV

ASHA worker involvement in JSY Programme

(Details to be collected from ASHA Worker voucher)

1. Has the ASHA worker accompanied the mother to the hospital for ANC check-up?

Y	N

2. Has the ASHA Worker accompanied the mother for institutional delivery?

Y	N

3. Has the ASHA Worker given Post-natal visits?

Y	N

4. Has ASHA Worker got incentive for her work?

Y	N

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1. ¤ªÀÄä aPÀÌªÀÄUÀÄ«£À °AUÀ AiÀiÁªÀÅzÀÄ?

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3) ¤ÃªÀÅ PÀ¼ÉzÀ UÀ¨sÁðªÀ¸ÉÜAiÀÄ°è JµÀÄÖ ¨Áj vÀ¥Á¸ÀuÉUÉ M¼ÀUÁVgÀÄ«j?

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6) ¤ÃªÀÅ JµÀÄÖ PÀ©âuÁA±À ºÁUÀÆ ¥sÉÇÃ°Pï CA±ÀªÀÅ¼Àî ªÀiÁvÉæUÀ¼À£ÀÄß ¸ÉÃ«¹gÀÄ«j?

30	60	100	£É£À¦®è

7) ¤ÃªÀÅ AiÀiÁªÀvÁÛzÀgÀÆ PÀ©âuÁA±À ºÁUÀÆ ¥sÉÇÃ°Pï CA±ÀªÀÅ¼Àî ªÀiÁvÉæUÀ¼À£ÀÄß ¸ÉÃ«¸ÀÄªÀÅzÀ£ÀÄß ªÀÄgÉwgÀÄ«gÁ?

ºËzÀÄ	E®è

8) ¤ÃªÀÅ ºÉjUÉAiÀiÁV ªÀÄ£ÉUÉ vÉgÀ½zÀ ªÉÄÃ¯É JµÀÄÖ ¨Áj DgÉÆÃUÀå PÁAiÀÄðPÀvÉðAiÀÄÄ ¤ªÀÄä£ÀÄß ¨sÉÃn ªÀiÁrgÀÄªÀgÀÄ?

MªÉÄäAiÀÄÆ E®è	1	2	3	4

9) ¤ÃªÀÅ ºÉjUÉUÁV D¸ÀàvÉæAiÀÄ£ÀÄß ºÉÃUÉ vÀ®Ä¦¢j?

¸ÀéAvÀªÁºÀ£À	¸ÀPÁðjªÁºÀ£À	SÁ¸ÀV ªÁºÀ£À

10) ºÉjUÉAiÀÄ AiÀiÁªÀ ºÀAvÀzÀ°è ¤ÃªÀÅ D¸ÀàvÉæAiÀÄ£ÀÄß vÀ®Ä¦¢j?

ºÉjUÉ £ÉÆÃªÀÅ ±ÀÄgÀÄªÁzÀ	ºÉjUÉ £ÉÆÃªÀÅ ªÉÄÃ¯É ºÉjUÉ	£ÉÆÃªÀÅ ±ÀÄgÀÄªÁV ºÉjUÉUÉ vÀÄA¨Á ºÀwÛgÀ«gÀÄªÁUÀ	EvÀgÉ

11) D¸ÀàvÉæAiÀÄ°è ºÉjUÉ ªÀiÁr¹PÉÆ¼ÀÄîªÀAvÉ vÀªÀÄUÉ AiÀiÁgÁzÀgÀÆ ¸À®ºÉ ¤ÃrgÀÄªÀgÉ?

ºËzÀÄ	E®è

12) ¤ÃªÀÅ D¸ÀàvÉæAiÀÄ¯ÉèAiÉÄÃ ºÉjUÉ ªÀiÁr¹PÉÆArgÀÄªÀÅzÀÄ ºËzÉAzÁzÀgÉ. ªÀÄUÀÄ«UÉ JzÉºÁ®£ÀÄß GtÂ¹ªÀÅzÀgÀ §UÉUÉ vÀªÀÄUÉ w½ºÉÃ¼À¯ÁVvÉÛÃ?

ºËzÀÄ	E®è

13) ªÀÄUÀÄ ºÀÄnÖ JµÀÄÖ CªÀ¢üAiÀÄ £ÀAvÀgÀ ªÀÄUÀÄ«UÉ vÁ¬ÄAiÀÄ JzÉºÁ®£ÀÄß GtÂ¸À¯Á¬ÄvÀÄ?

14) ¤ÃªÀÅ vÁ¬ÄAiÀÄ JzÉºÁ®£ÀÄß®èzÉÃ E£ÉßÃ£ÁßzÀgÀÆ ªÀÄUÀÄ d¤¹zÁUÀ ¤ÃrgÀÄ«gÁ?

ºËzÀÄ	E®è

15) 14£ÉÃ ¥Àæ±ÉßUÉ GvÀÛgÀ ºËzÉAzÁzÀgÉ K£À£ÀÄß ªÀÄUÀÄ«UÉ PÉÆnÖgÀÄ«gÁ?

¸ÀPÀÌgÉ	eÉÃ£ÀÄ vÀÄ¥Àà	EvÀgÉ

16) PÀ¼ÉzÀ ªÀÄÆgÀÄ wAUÀ¼ÀÄUÀ¼À°è DgÉÆÃUÀå PÁAiÀÄðPÀvÀðgÀÄ ¤ªÀÄä ªÀÄ£ÉUÉ ¨sÉÃn ¤ÃrgÀÄªÀgÉÃ?

ºËzÀÄ	E®è

17) JµÀÄÖ ¢£ÀPÉÆÌAzÀÄ ¨Áj DgÉÆÃUÀå PÁAiÀÄðPÀvÀðgÀÄ ¤ªÀÄä ªÀÄ£ÉUÉ ¨sÉÃn ¤ÃqÀÄvÁÛgÉ?

18) ¨sÉÃn ¤ÃrzÀ ¸ÀªÀÄAiÀÄzÀ°è DgÉÆÃUÀå PÁAiÀÄðPÀvÀðgÀÄ vÀªÀÄä£ÀÄßvÀ¥Á¸ÀuÉUÉ M¼À¥Àr¹gÀÄªÀgÉÃ?

ºËzÀÄ	E®è

19) ¤ªÀÄUÉ d£À¤ ¸ÀÄgÀPÁë PÁAiÀÄðPÀæªÀÄzÀ §UÉÎ w½¢zÉAiÉÄÃ?

ºËzÀÄ	E®è

20) 19£ÉÃ ¥Àæ±ÉßUÉ ¤ªÀÄä GvÀÛgÀªÀÅ ºËzÉAzÁzÀgÉ, AiÀiÁgÀ ªÀÄÆ®PÀ vÀªÀÄUÉ d£À¤ ¸ÀÄgÀPÁë PÁAiÀÄðPÀæªÀÄzÀ §UÉUÉ ªÀiÁ»w zÉÆgÉ¬ÄvÀÄ?

ªÉÊzÀåg ÀÄ	ªÀÄ»¼Á DgÉÆÃUÀå PÁAiÀÄðPÀ	zÀÆgÀzÀ±Àð£À/gÉÃrAi ÉÆÃ	D±Á PÁAiÀÄðPÀ vÉð	EvÀgÀg ÀÄ

21) DgÉÆÃUÀå PÁAiÀÄðPÀvÀðgÀÄ AiÀiÁªÀvÁÛzÀgÀÆ vÀªÀÄäqÀ£É d£À¤ ¸ÀÄgÀPÁë PÁAiÀÄðPÀæªÀÄzÀ §UÉÎ ªÀiÁvÁrgÀÄªÀgÉÃ?

ºËzÀÄ	E®è

22) eÉ J¸ï ªÉÊ AiÀiÁªÁUÉ PÉÆqÀÄvÁÛgÉ JA§ÄzÀgÀ §UÉUÉ vÀªÀÄUÉ ªÀiÁ»w EzÉAiÉÄÃ?

ºÉjUÉUÉ ªÀÄä£À	ºÉjUÉAiÀÄ £À¤vÀgÀ	UÉÆwÛ®è

23) ¤ªÀÄUÉ eÉ J¸ï ªÉÊ ¤ÃrgÀÄªÀgÉÃ?

ºËzÀÄ	E®è

24) 23£ÉÃ ¥Àæ±ÉßUÉ ¤ªÀÄä GvÀÛgÀªÀÅ ºËzÉAzÁzÀgÉ eÉ J¸ï ªÉÊAiÀÄ£ÀÄß AiÀiÁªÀ gÀÆ¥ÀzÀ°è vÀªÀÄUÉ ¤ÃqÀ¯ÁVvÀÄÛ?

ºÀtzÀ gÀÆ¥ÀzÀ°è	ZÉPï gÀÆ¥ÀzÀ°è

25) eÉ J¸ï ªÉÊAiÀÄ£ÀÄß AiÀiÁªÁUÀ vÀªÀÄUÉ ¤ÃqÀ¯Á¬ÄvÀÄ?

26) ¤ÃªÀÅ eÉ J¸ï ªÉÊ ºÀtªÀ£ÀÄß K£ÀPÉÌ G¥ÀAiÉÆÃV¹gÀÄ«j?

27) D±ÁPÁAiÀÄðPÀvÀðgÀ §UÉUÉ vÀªÀÄUÉ ªÀiÁ»w EzÉAiÉÄÃ?

ºËzÀÄ	E®è

28) D±ÁPÁAiÀÄðPÀvÀðgÀÄ vÀªÀÄä£ÀÄß ºÉjUÉUÁV D¸ÀàvÉæUÉ PÀgÉzÀÄPÉÆAqÀÄ ºÉÆÃzÀgÉÃ?

ºËzÀÄ	E®è

29) ¸ÀPÁðj D¸ÀàvÉæUÀ¼ÀÄ ¢£ÀzÀ 24 UÀAmÉ, ªÁgÀzÀ K¼ÀÆ ¢£ÀUÀ¼ÀÆ vÉgÉ¢gÀÄªÀÅzÀgÀ §UÉUÉ vÀªÀÄUÉ ªÀiÁ»w EzÉAiÉÄÃ?

ºËzÀÄ	E®è

30) ºÉjUÉ ¸ÀªÀÄAiÀÄzÀ°è vÀªÀÄUÉÃ£ÁzÀgÀÆ vÉÆAzÀgÉAiÀiÁ¬ÄvÉÃ?

ºËzÀÄ	E®è

31) 30£ÉÃ ¥Àæ±ÉßUÉ GvÀÛgÀªÀÅ ºËzÉAzÁzÀgÉ K£ÀÄ vÉÆAzÀgÉAiÀiÁ¬ÄvÀÄ?

32) ºÉjUÉAiÀÄ ¸ÀªÀÄAiÀÄzÀ°è vÀªÀÄä ªÀÄUÀÄ«UÉ K£ÁzÀgÀÆ vÉÆAzÀgÉAiÀiÁ¬ÄvÀÄ?

ºËzÀÄ	E®è

33) 31£ÉÃ ¥Àæ±ÉßUÉ GvÀÛgÀªÀÅ ºËzÉAzÁzÀgÉ K£ÀÄ vÉÆAzÀgÉAiÀiÁ¬ÄvÀÄ?

34) ¤ªÀÄUÉ AiÀiÁªÀ SÁ¸ÀV D¸ÀàvÉæAiÀÄ°è ºÉjUÉ ªÀiÁr¹PÉÆAqÀgÉ eÉ J¸ï ªÉÊ ¹UÀÄvÀÛzÉ JA§ÄzÀgÀ §UÉUÉ ªÀiÁ»w EzÉAiÉÄÃ?

ºËzÀÄ	E®è

35) ¤ÃªÀÅ eÉ J¸ï ªÉÊAiÀÄ£ÀÄß vÉUÉzÀÄ PÉÆ¼Àî®Ä AiÀiÁgÀzÁÝzÀgÀÆ ²¥sÁgÀ¸À£ÀÄß G¥ÀAiÉÆÃV¸À¨ÉÃPÁ¬ÄvÉÃ?

ºËzÀÄ	E®è

36) 35 £ÉÃ ¥Àæ±ÉßUÉ ¤ªÀÄä GvÀÛgÀªÀÅ ºËzÉAzÁzÀgÉ AiÀiÁgÀ ²¥sÀgÁ¸À£ÀÄß Œ¤ÃªÀÅ G¥ÀAiÉÆÃV¹PÉÆArgÀÄ«j?

ANNEXURE- III

¸ÀªÀÄäw ¥ÀvÀæ

F PÉ¼ÀUÉ ¸À» ªÀiÁrgÀÄªÀ £Á£ÀÄ d£À¤ ¸ÀÄgÀPÁë AiÉÆÃd£É F ¸ÀA±ÉÆÃzsÀ£ÉAiÀÄ°è ¨sÁUÀªÀ»¸À®Ä ¸ÀªÀÄäw ¤ÃqÀÄwÛzÉÝÃ£É. ªÀiÁ»w ¥ÀvÀæzÀ°è PÉÃ½gÀÄªÀ J¯Áè ªÀiÁ»wUÀ¼À£ÀÄß ¤ÃqÀ®Ä £À£Àß M¦àUÉ¬ÄgÀÄvÀÛzÉ.

F ¸ÀA±ÉÆÃzsÀ£ÉAiÀÄ §UÉÎ £À£ÀUÉ CxÀðªÁUÀÄªÀAvÉ ºÉÃ½PÉAiÀÄ ªÀÄÆ®PÀ ºÁUÀÆ §gÀªÀtÂUÉAiÀÄ ªÀÄÆ®PÀ w½¸À¯ÁVzÉ. F ¸ÀA±ÉÆÃzsÀ£É¬ÄAzÀ AiÀiÁªÀÅzÉÃ ¸ÀªÀÄAiÀÄzÀ°è ºÉÆgÀUÀÄ½AiÀÄÄªÀ CªÀPÁ±ÀªÀÅ £À£ÀVgÀÄvÀÛzÉ. F ¸ÀA±ÉÆÃzsÀ£ÉAiÀÄ°è £Á£ÀÄ £À£Àß ¸Àé EZÉÒ¬ÄAzÀ ¨sÁUÀªÀ»¸ÀÄwÛzÉÝÃ£É.

ºÉ¸ÀgÀÄ ªÀÄvÀÄÛ ¸À»

¸ÁQëUÀ¼ÀÄ:-

1.

2.

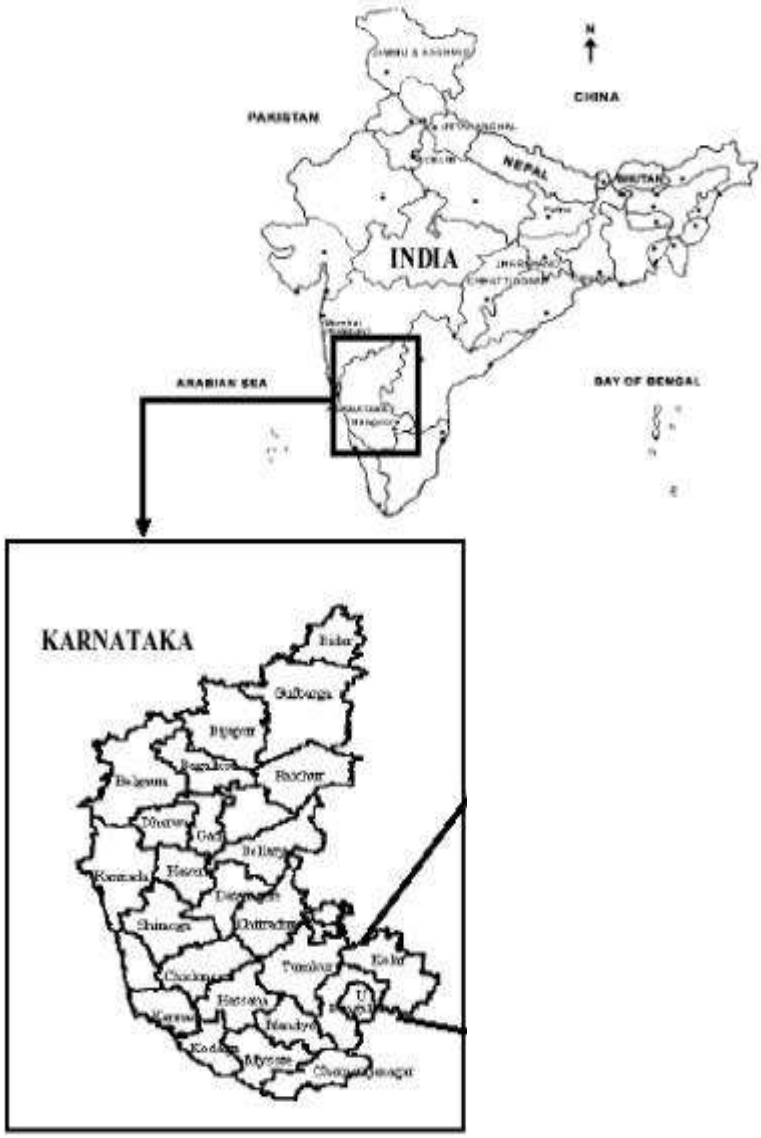
ANNEXURE- IV GANTTS CHART

	Nov-12	Dec 12 To Feb-13	Mar To April13	May to July-13	August To sep-13	Oct to Nov-13	Dec-13 to Jan-14	Feb to March-14	April to May 14	June to oct 14
Synopsis										
Proforma and questionnaire Preparation										
Proforma Validation and pilot study										
Base line data collection from PHCs'										
Structure and facility of PHCs' assessment using proforma										
House to house survey for administering interview questionnaire – Tayalur PHC										
House to house survey for administering interview questionnaire – D.samudra PHC										
House to house survey for administering interview questionnaire – Avani PHC										
Data analysis										
Dissertation writing										

The interview component of the questionnaire assisted by ANM and ASHA

Annerure- V

Map showing Karnataka state and Kolar district in Karnataka



Annexure-VI-Map of Kolar district showing Public Health Facilities

Annexure-VII

Map showing Primary Health Centres' in Mulbagal Taluk showing PHC's studied

MASTER CHART

PHC area Nam	Household no.	No.of ANC Visit	IFA Taken	TT injections	48 HRS OF HOS	Motivation for	Post-natal visit	Post-natal visit	Initiation of Br	Pre-lacteal fee	birth dose Imm	ASHA worker t	Has the ASHA a	when was the	when JSY given	Did you use an	any advice rec	What did you u	Total Score	Religion	Caste	Age	Education	Occupation	Para	Education of h	BPL card	Sex of the younges	How many live ch	principal source of income
Thyloor	1	2	3	1	0	0	1	0	1	0	1	1	1	2	2	1	1	0	17	2	3	2	2	Lab	2	2	1	1	1	5
Thyloor	2	1	1	1	0	0	1	0	1	0	1	1	1	2	2	1	1	0	14	2	3	2	2	Lab	2	2	1	1	2	8
Thyloor	3	1	1	1	0	0	1	0	1	0	1	1	1	2	2	1	1	0	14	2	3	2	2	Lab	2	2	1	1	2	5
Thyloor	4	1	3	1	0	0	1	0	1	0	1	1	1	2	2	1	1	0	16	2	3	2	2	Lab	2	2	1	2	2	7
Thyloor	5	2	0	1	0	0	1	0	1	0	1	1	1	2	1	1	1	0	13	2	3	2	2	Lab	2	2	1	1	1	5
Thyloor	6	1	1	1	0	1	1	1	1	1	1	1	1	2	2	1	1	0	17	2	3	2	2	Lab	2	2	1	2	2	5
Thyloor	7	1	2	1	0	0	1	0	2	0	1	1	1	2	2	1	1	0	16	2	3	2	2	Lab	2	2	1	1	2	5
Thyloor	8	1	0	1	0	1	1	1	1	0	1	1	1	2	2	1	1	0	15	2	3	2	2	Lab	1	2	1	2	2	5
Thyloor	9	1	0	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	14	1	1	2	1	HW	2	1	1	1	1	5
Thyloor	10	1	0	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	14	1	1	2	1	HW	2	1	1	1	2	5
Thyloor	11	0	0	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	15	1	1	1	2	Lab	2	2	1	2	2	5
Thyloor	12	2	3	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	20	2	3	2	2	Lab	1	2	1	2	2	5
Thyloor	13	0	0	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	15	2	3	2	2	Lab	1	2	1	1	2	5
Thyloor	14	1	0	1	1	0	1	0	2	0	1	1	1	2	2	1	1	0	15	2	3	2	2	Lab	1	2	1	2	1	5
Thyloor	15	0	0	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	13	1	1	2	1	HW	1	1	1	2	2	5
Thyloor	16	1	0	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	14	1	1	2	1	HW	1	1	1	2	2	5
Thyloor	17	0	3	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	17	1	1	2	1	Lab	1	1	1	1	1	5
Thyloor	18	2	0	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	15	2	3	2	2	Lab	1	2	1	2	1	5
Thyloor	19	1	0	1	1	0	1	0	2	0	1	1	1	2	2	1	1	1	16	1	1	2	1	Lab	2	1	1	2	2	5
Thyloor	20	1	1	1	1	0	1	1	2	1	1	2	1	2	2	1	1	1	20	1	2	2	2	HW	1	1	1	2	1	5
Thyloor	21	0	3	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	20	1	2	2	2	HW	2	1	1	2	1	5
Thyloor	22	0	1	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	16	1	2	2	2	HW	2	1	1	2	1	5
Thyloor	23	0	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	16	2	3	2	2	Lab	2	2	2	2	1	5
Thyloor	24	0	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	19	1	2	2	2	Lab	2	2	1	2	1	5
Thyloor	25	0	0	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	17	1	3	2	2	HW	1	1	1	1	2	5
Thyloor	26	1	2	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	2	1	1	1	5
Thyloor	27	0	2	1	1	0	1	1	2	1	1	1	1	2	1	1	1	0	17	1	3	2	2	Lab	2	2	1	2	1	5
Thyloor	28	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	3	2	2	HW	2	1	1	2	2	5
Thyloor	29	2	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	20	1	3	2	2	HW	1	1	1	2	1	5
Thyloor	30	2	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	20	2	3	2	2	Lab	2	2	1	1	1	4
Thyloor	31	2	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	22	2	3	2	2	Lab	2	2	2	2	2	4
Thyloor	32	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	1	20	2	3	2	2	Lab	2	2	1	2	1	5
Thyloor	33	1	3	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	2	2	1	1	1	5
Thylooor	34	1	0	1	1	0	1	0	2	0	1	1	1	2	2	1	1	1	16	1	3	2	2	HW	1	1	1	2	2	5
Thyloor	35	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	18	1	3	2	2	Lab	1	2	1	2	2	5
Thyloor	36	0	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	1	17	1	3	2	2	Lab	1	2	1	1	1	5
Thyloor	37	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	16	1	3	2	2	Lab	1	2	1	2	1	5
Thyloor	38	1	0	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	17	1	3	2	2	Lab	1	2	1	2	1	5
Thyloor	39	1	2	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	18	1	3	2	2	HW	2	1	1	2	2	5
Thyloor	40	0	2	1	1	0	1	1	1	1	1	2	1	2	2	1	1	0	18	1	3	2	2	HW	1	1	1	2	2	5
Thyloor	41	2	0	1	1	0	1	0	2	0	1	1	1	2	2	1	0	0	15	1	3	2	2	Lab	2	2	1	2	2	5
Thyloor	42	1	0	1	1	0	1	0	2	0	1	1	1	2	2	1	1	0	15	1	1	2	1	Lab	1	1	1	2	2	5
Thyloor	43	1	0	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	1	2	1	2	1	5
Thyloor	44	0	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	18	1	2	2	2	HW	1	1	1	2	1	5
Thyloor	45	1	3	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	19	1	3	2	2	Lab	2	2	1	2	1	5
Thyloor	46	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	3	2	2	HW	1	1	1	1	2	5
Thyloor	47	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	3	2	2	Lab	2	2	1	1	2	4
Thyloor	48	2	3	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	22	2	3	2	2	Lab	2	2	1	2	2	10
Thyloor	49	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	1	20	1	2	2	2	HW	2	1	1	1	2	4
Thyloor	50	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	1	20	1	2	2	2	Lab	2	2	1	2	1	5
Thyloor	51	2	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	22	1	3	2	2	Lab	2	2	1	2	2	8
Thyloor	52	2	2	1	0	1	1	1	2	1	1	1	1	2	2	1	1	1	21	1	3	2	2	HW	1	1	1	2	2	5
Thyloor	53	1	2	1	0	1	1	1	2	1	1	1	1	2	2	1	1	1	20	1	3	2	2	Lab	2	2	1	1	2	7
Thyloor	54	2	3	1	1	0	1	1	2	0	1	1	1	2	1	1	1	0	19	1	3	2	2	Lab	2	2	1	1	2	5
Thyloor	55	2	2	1	0	1	1	1	2	0	1	1	1	2	2	1	1	1	20	1	3	2	2	HW	2	1	1	1	1	5
Thyloor	56	0	1	1	0	0	1	0	2	0	1	1	1	2	2	1	1	0	14	1	3	2	2	Lab	1	2	1	1	2	5
Thyloor	57	0	3	1	0	1	1	1	2	0	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	2	1	1	1	5
Thyloor	58	2	2	1	0	1	1	1	2	1	1	1	1	2	2	1	1	0	20	1	2	2	2	HW	2	1	1	1	2	5
Thyloor	59	2	2	1	0	1	1	1	2	1	1	1	1	2	2	1	1	0	20	2	3	2	2	Lab	2	2	1	1	2	5
Thyloor	60	1	3	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	18	1	2	2	2	Lab	2	2	1	1	2	5
Thyloor	61	1	3	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	19	1	1	2	1	Lab	1	1	1	2	1	5
Thyloor	62	0	3	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	3	2	2	HW	1	1	1	1	1	5
Thyloor	63	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	16	1	3	2	2	Lab	1	2	1	1	2	5
Thyloor	64	2	3	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	20	1	2	2	2	HW	1	1	1	1	2	5
Thyloor	65	0	1	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	2	2	2	Lab	1	2	1	1	1	5
Thyloor	66	2	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	18	2	3	2	2	Lab	2	2	1	1	2	5
Thyloor	67	0	2	1	1	0	1	1	2	1	1	2	1	2	2	1	1	0	19	1	2	2	2	HW	1	1	1	2	1	5
Thyloor	68	1	1	1	1	0	1	1	2	1	1	2	1	2	2	1	1	0	19	1	2	2	2	Lab	2	2	1	1	2	5
Thyloor	69	0	0	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	17	1	2	2	2	HW	1	1	1	2	1	5
Thyloor	70	1	2	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	18	1	2	2	2	Lab	2	2	1	1	1	5
Thyloor	71	0	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	18	1	3	2	2	HW	2	1	1	1	1	5
Thyloor	72	0	1	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	19	1	3	2	2	Lab	2	2	2	2	2	5
DRS	73	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	1	2	2	HW	2	1	1	2	1	5
DRS	74	2	3	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	20	1	1	2	2	HW	1	1	1	1	2	5
DRS	75	1	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	17	1	3	2	2	Lab	2	2	1	2	2	5
DRS	76	2	3	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	19	1	1	2	2	HW	2	1	1	1	1	5
DRS	77	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	2	2	2	Lab	2	2	2	1	1	5

DRS	78	1	1	1	1	1	1	1	2	0	1	1	1	2	2	1	1	1	20	1	3	2	2	Lab	1	2	1	1	1	5
DRS	79	1	3	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	19	1	2	2	2	Lab	2	2	1	1	1	5
DRS	80	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	2	2	2	Lab	2	2	1	1	1	5
DRS	81	2	0	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	17	1	1	2	2	HW	2	1	1	2	1	5
DRS	82	2	1	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	1	2	2	HW	2	1	1	2	2	5
DRS	83	1	0	1	1	0	1	1	2	0	1	1	1	2	2	1	1	1	17	2	3	2	2	Lab	1	2	1	2	1	5
DRS	84	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	15	2	3	2	2	Lab	1	2	1	2	1	8
DRS	85	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	2	3	2	2	Lab	1	2	1	1	2	5
DRS	86	1	3	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	18	2	3	2	2	Lab	1	2	1	2	1	7
DRS	87	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	17	2	3	2	2	Lab	2	2	1	2	2	5
DRS	88	1	3	1	1	0	1	1	1	0	1	1	1	2	2	1	0	0	17	2	3	2	2	Lab	1	2	1	1	1	5
DRS	89	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	16	2	3	2	2	Lab	1	2	1	2	1	5
DRS	90	2	0	1	1	0	1	0	1	0	1	1	1	2	2	1	0	0	14	2	3	2	2	Lab	2	2	1	1	2	5
DRS	91	2	3	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	20	1	1	2	2	HW	2	1	1	2	1	5
DRS	92	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	1	1	2	2	HW	1	1	1	1	2	5
DRS	93	1	0	1	1	0	1	0	1	1	1	1	1	2	2	1	1	0	15	1	1	2	2	Lab	2	1	1	1	2	5
DRS	94	2	0	1	1	0	1	1	2	1	1	1	1	2	2	1	1	1	19	2	3	2	2	Lab	2	2	1	1	2	5
DRS	95	2	2	1	1	0	1	1	1	0	1	1	1	2	2	1	0	0	17	2	3	2	2	Lab	2	2	1	1	2	5
DRS	96	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	2	3	2	2	Lab	2	2	1	1	2	5
DRS	97	2	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	18	1	1	2	2	Lab	2	1	1	2	2	5
DRS	98	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	19	1	1	2	2	Lab	2	1	1	2	2	5
DRS	99	1	2	1	1	0	1	1	1	0	1	1	1	2	2	1	0	0	16	1	1	2	2	Lab	1	1	1	2	2	5
DRS	100	0	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	19	1	2	2	2	Lab	1	2	1	2	1	5
DRS	101	1	2	1	0	0	1	1	2	1	1	1	1	2	2	1	1	0	18	1	1	2	2	Lab	2	2	1	2	2	4
DRS	102	1	3	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	2	2	2	HW	2	1	1	1	2	5
DRS	103	1	0	1	1	0	1	0	2	1	1	1	1	2	2	1	1	0	16	1	2	2	2	HW	1	1	1	1	2	8
DRS	104	1	3	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	2	2	2	HW	2	1	1	1	1	5
DRS	105	1	0	1	1	0	1	0	2	1	1	1	1	2	1	1	1	0	15	1	2	2	2	Lab	2	2	1	1	2	7
DRS	106	0	1	1	1	1	1	1	1	0	1	1	1	2	1	1	1	0	15	1	1	2	2	Lab	2	2	1	3	1	5
DRS	107	2	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	18	1	1	2	2	Lab	2	2	1	1	1	5
DRS	108	2	0	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	17	1	1	2	2	HW	2	1	1	2	2	5
DRS	109	1	0	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	15	1	1	2	2	HW	2	1	1	1	1	5
DRS	110	2	2	1	1	0	1	1	2	1	1	1	1	2	2	1	1	1	21	1	3	2	2	Lab	1	2	1	2	1	5
DRS	111	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	2	1	2	Lab	1	2	1	1	2	5
DRS	112	1	0	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	2	1	2	2	5
DRS	113	1	0	1	1	0	1	0	2	1	1	1	1	2	2	1	1	0	16	1	2	2	2	Lab	2	2	1	2	1	5
DRS	114	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	1	2	2	HW	2	1	1	1	2	5
DRS	115	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	19	1	1	2	2	HW	2	1	1	1	1	5
DRS	116	0	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	16	1	1	2	2	HW	2	1	1	2	2	5
DRS	117	1	1	1	1	0	1	1	1	0	1	1	1	2	2	1	0	0	15	1	1	2	2	Lab	2	2	1	2	2	5
DRS	118	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	1	1	1	2	Lab	1	2	1	2	2	5
DRS	119	0	2	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	16	1	1	2	2	Lab	2	2	1	2	2	5
DRS	122	1	1	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	16	1	1	1	1	HW	1	2	1	2	1	5
DRS	125	2	3	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	21	1	1	1	2	Lab	2	2	1	2	1	5
DRS	126	1	0	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	14	1	3	2	2	Lab	2	2	1	1	2	5
DRS	127	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	16	1	2	2	2	Lab	2	2	1	2	1	8
DRS	128	2	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	21	1	3	1	2	Lab	2	2	1	1	1	5
DRS	129	1	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	1	2	1	2	1	7
DRS	130	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	2	2	2	HW	2	1	1	1	2	5
DRS	131	1	0	1	1	0	1	0	2	1	1	1	1	2	2	1	1	0	16	1	1	1	1	HW	2	2	1	2	2	5
DRS	132	1	0	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	14	1	1	1	2	Lab	1	2	1	1	2	5
DRS	133	2	0	1	0	0	2	1	2	1	1	2	2	2	2	1	0	0	19	1	3	2	2	Lab	2	2	1	1	1	5
DRS	134	0	0	1	1	0	2	1	1	0	1	2	2	2	2	1	0	1	17	1	2	2	2	HW	2	1	1	2	2	8
DRS	135	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	2	1	2	2	5
DRS	136	1	2	1	1	0	1	1	2	0	1	1	1	2	1	1	1	0	17	1	3	2	2	Lab	2	2	1	2	1	7
DRS	137	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	1	21	1	2	2	2	HW	2	1	1	2	1	5
DRS	138	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	3	2	2	Lab	2	2	1	2	1	5
DRS	139	1	0	1	1	0	0	0	1	1	1	0	0	1	2	1	1	0	11	1	3	2	2	Lab	1	2	1	2	2	5
Avani	140	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	1	2	1	2	2	5
Avani	141	2	0	1	1	0	1	0	2	1	1	1	1	1	2	1	1	0	16	1	3	2	2	Lab	2	2	1	1	2	5
DRS	142	1	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	2	1	1	1	1	5
Avani	143	1	0	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	17	1	1	1	2	Lab	2	2	1	2	2	5
Avani	144	2	0	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	17	1	1	1	1	Lab	2	2	1	1	2	5
DRS	145	2	3	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	19	1	3	1	2	Lab	2	2	1	1	1	5
DRS	146	2	3	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	20	1	2	2	2	Lab	2	2	1	2	2	5
DRS	147	2	2	1	1	0	1	1	1	1	1	1	1	2	2	1	1	1	20	1	3	2	2	Lab	1	1	1	1	1	5
DRS	148	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	1	21	1	3	2	2	Lab	2	1	1	2	2	5
DRS	149	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	1	21	1	3	2	2	Lab	1	1	1	1	1	5
DRS	150	2	2	1	1	0	1	1	2	1	1	1	1	2	2	1	1	1	21	1	2	2	2	Lab	2	2	1	2	1	5
DRS	151	2	2	1	1	0	1	1	2	1	1	1	1	2	2	1	1	1	21	1	3	2	2	Lab	1	1	1	1	1	5
DRS	152	2	2	1	1	1	1	1	2	0	1	1	1	2	2	0	1	1	20	1	2	2	2	Lab	2	2	1	2	2	5
DRS	153	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	1	20	1	3	2	2	Lab	2	1	1	2	2	5
DRS	154	2	2	1	1	0	1	1	1	1	1	1	1	2	2	1	1	1	20	1	2	2	2	Lab	1	2	1	2	2	5
DRS	155	2	2	1	1	0	1	1	2	1	1	1	1	2	2	1	1	1	21	1	3	2	2	Lab	2	1	1	1	1	5
DRS	156	2	2	1	1	0	1	1	2	1	1	1	1	2	2	1	1	1	21	1	1	1	1	HW	2	2	1	2	2	5
DRS	157	2	0	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	17	1	3	2	2	Lab	1	1	1	1	2	5
Avani	158	1	2	1	0	1	1	1	2	0	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	1	1	2	2	5
Avani	159	1	0	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	18	1	1	1	1	HW	2	2	1	1	2	5
Avani	160	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	3	2	2	Lab	2	1	1	2	1	5

DRS	161	1	3	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	19	1	1	1	2	HW	2	2	1	2	1	5
Avani	162	2	0	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	16	1	3	2	2	Lab	2	1	1	2	2	5
Avani	163	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	2	1	2	Lab	2	2	1	2	2	8
Avani	164	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	16	1	3	2	2	Lab	2	1	1	2	2	5
Avani	165	2	0	1	1	0	1	0	2	1	1	1	1	2	2	1	1	0	17	1	3	2	2	Lab	1	1	1	1	1	7
Avani	166	1	2	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	19	1	2	2	2	Lab	2	2	1	1	2	5
Avani	167	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	15	1	3	2	2	Lab	1	1	1	2	1	5
Avani	168	1	3	1	0	1	1	1	2	0	1	1	1	2	2	1	1	0	19	1	2	2	2	Lab	2	2	1	1	1	8
Avani	169	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	2	1	2	2	5
Avani	170	2	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	21	1	3	2	2	Lab	1	2	1	1	1	7
Avani	171	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	2	2	2	Lab	2	2	1	2	1	5
Avani	172	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	2	1	1	1	5
Avani	173	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	1	2	1	2	Lab	1	2	1	2	1	8
Avani	174	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	15	1	3	2	2	Lab	2	2	1	2	2	5
Avani	175	1	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	2	2	1	2	2	7
Avani	176	1	3	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	2	2	2	Lab	1	2	1	2	1	5
Avani	177	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	18	1	3	2	2	Lab	2	2	1	1	2	5
Avani	178	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	19	1	2	2	2	Lab	2	2	1	2	2	8
Avani	179	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	2	2	1	1	2	5
Avani	180	2	3	1	1	0	1	1	2	1	1	1	1	2	2	1	0	0	20	1	3	1	2	Lab	1	2	1	2	2	7
Avani	181	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	2	2	2	Lab	1	2	1	2	2	5
Avani	182	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	3	2	2	Lab	1	2	1	2	1	5
Avani	183	1	0	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	17	1	2	2	2	Lab	2	2	1	2	1	8
Avani	184	1	3	1	1	0	1	1	2	1	1	2	1	2	2	1	1	0	21	1	3	2	2	Lab	1	2	1	2	1	5
Avani	185	1	3	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	19	1	3	2	2	Lab	1	2	1	1	2	7
Avani	186	1	3	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	20	1	2	2	2	Lab	1	2	1	2	1	5
Avani	187	1	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	20	1	1	1	2	Lab	1	2	1	2	2	5
Avani	188	0	0	1	1	0	1	1	1	1	1	1	1	2	2	1	0	0	14	2	3	2	2	Lab	1	2	1	2	2	5
Avani	189	1	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	20	1	1	1	2	HW	1	1	1	1	1	5
Avani	190	2	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	21	1	2	2	2	Lab	2	2	1	1	2	5
Avani	191	1	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	20	1	1	1	2	HW	1	1	1	2	1	5
Avani	192	2	3	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	20	1	1	1	2	HW	1	1	1	2	2	5
Avani	193	1	3	1	1	0	1	1	1	1	1	1	1	2	2	1	1	0	19	1	1	1	2	HW	1	1	1	2	2	5
Avani	194	2	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	21	2	3	1	2	Lab	1	2	1	1	1	5
Avani	195	1	3	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	18	1	1	1	2	HW	1	1	1	2	1	5
Avani	196	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	2	2	2	Lab	1	2	1	1	1	5
Avani	197	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	1	1	2	HW	1	1	1	1	1	5
Avani	198	0	0	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	16	1	1	1	2	Lab	1	2	1	1	2	5
Avani	199	1	1	1	1	0	1	1	2	0	1	1	1	2	2	1	0	0	16	1	1	1	2	HW	1	1	1	2	1	5
Avani	200	1	0	1	1	0	1	1	2	0	1	1	1	2	2	1	0	0	15	1	1	1	2	HW	1	1	1	1	1	5
Avani	201	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	16	1	2	2	2	Lab	2	2	1	2	2	5
Avani	202	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	2	2	2	Lab	1	1	1	1	2	5
Avani	203	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	16	1	1	1	2	Lab	2	2	1	2	2	5
Avani	204	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	17	1	2	2	2	Lab	2	2	1	2	1	5
Avani	205	1	2	1	1	0	0	1	1	0	1	0	0	2	1	1	1	0	13	2	3	2	2	Lab	2	2	1	1	1	5
Avani	206	1	0	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	17	1	2	2	2	HW	2	1	1	1	1	5
Avani	207	1	3	1	1	0	1	1	2	1	1	1	1	2	2	1	1	0	20	1	1	1	2	HW	2	1	1	1	2	5
Avani	208	1	1	1	1	0	1	1	1	1	1	1	1	2	2	1	1	1	19	2	3	2	2	Lab	1	2	1	2	2	5
Avani	209	2	2	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	19	1	1	1	2	Emp	2	1	1	2	2	5
Avani	210	1	1	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	17	1	2	2	2	HW	2	1	1	1	2	5
Avani	211	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	1	1	2	HW	1	1	1	2	1	5
Avani	212	2	1	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	17	1	1	1	2	Emp	2	1	1	2	2	5
Thyloor	213	1	3	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	1	2	2	Lab	2	2	1	2	2	5
Thyloor	214	1	0	1	1	0	1	0	2	0	1	1	1	2	2	1	1	0	15	1	1	2	1	Lab	2	2	1	1	2	5
Thyloor	215	1	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	18	1	1	2	2	Lab	2	2	1	1	1	5
Thyloor	216	1	0	1	1	0	1	0	1	0	1	1	1	2	1	1	1	0	13	1	2	1	2	HW	1	2	1	1	1	5
Thyloor	217	1	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	19	1	2	2	2	HW	2	1	1	1	1	5
Thyloor	218	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	19	1	1	1	2	HW	2	2	1	2	2	5
Thyloor	219	1	3	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	18	1	2	2	2	HW	2	1	1	1	2	5
Thyloor	220	1	0	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	16	1	2	2	2	Lab	1	2	1	2	2	5
Thyloor	221	2	0	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	18	1	1	2	2	Lab	2	2	1	1	2	5
Thyloor	222	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	1	20	1	2	2	2	Lab	2	2	1	2	1	5
Thyloor	223	2	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	1	22	1	1	2	2	Lab	2	2	1	2	1	5
Thyloor	224	1	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	17	1	1	2	2	Lab	1	2	1	1	2	5
Thyloor	225	1	2	1	1	0	1	1	1	1	1	1	1	1	2	1	1	0	17	1	2	2	2	HW	2	1	1	2	2	5
Thyloor	226	2	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	18	1	1	2	2	Lab	1	2	1	1	1	5
Thyloor	227	1	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	1	2	1	2	1	5
Thyloor	228	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	19	1	3	2	2	Lab	1	2	1	1	1	5
Thyloor	229	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	0	19	1	1	1	2	Lab	1	2	1	2	1	5
Thyloor	230	2	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	21	1	3	2	2	HW	1	1	1	1	2	5
Thyloor	231	1	0	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	17	1	3	2	2	HW	2	1	1	2	1	5
Thyloor	232	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	19	1	2	2	2	HW	1	1	1	1	2	5
Thyloor	233	2	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	21	1	1	2	2	Lab	2	2	1	2	1	5
Thyloor	234	2	2	1	1	0	1	1	2	0	1	1	1	2	2	1	1	1	20	1	1	2	2	Lab	1	2	1	2	2	5
Thyloor	235	1	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	20	1	1	2	2	Lab	2	2	1	1	2	5
Thyloor	236	1	1	1	1	0	1	1	1	1	1	1	1	1	2	1	1	1	18	1	1	2	2	Lab	2	2	1	2	1	5
Thyloor	237	2	1	1	1	0	1	1	1	0	1	1	1	2	2	1	1	1	19	1	1	2	2	Lab	2	2	1	2	2	5
Thyloor	238	2	2	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	19	1	1	2	2	Lab	2	2	1	1	1	5
Thyloor	239	1	2	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	19	1	1	2	2	Lab	2	2	1	1	2	5

Thyloor	240	1	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	17	1	1	2	2	Lab	2	2	1	2	1	5
Thyloor	241	1	2	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	16	1	1	2	2	Lab	1	2	1	2	1	5
Thyloor	242	1	3	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	20	1	1	2	2	Lab	2	2	1	2	1	5
Thyloor	243	1	3	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	18	1	1	2	2	Lab	1	2	1	2	1	5
Thyloor	244	1	2	1	1	0	1	1	1	1	1	1	1	1	2	1	1	0	17	1	1	2	2	Lab	1	2	1	1	2	5
Thyloor	245	2	3	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	22	1	1	2	2	Lab	1	2	1	2	2	5
Thyloor	246	1	2	1	1	0	0	1	1	1	1	0	0	1	1	1	1	0	13	1	1	2	2	Lab	1	2	1	2	1	5
Thyloor	247	1	2	1	1	0	1	1	1	0	1	1	1	2	2	1	1	0	17	1	1	2	2	Lab	1	2	1	2	1	5
Thyloor	248	1	3	1	1	1	1	1	1	0	1	1	1	2	2	1	1	0	19	1	1	2	2	Lab	1	2	1	1	2	5
Thyloor	249	1	3	1	1	1	1	1	2	0	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	1	2	1	2	2	5
Thyloor	250	1	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	19	1	3	2	2	Lab	1	2	1	2	1	5
Thyloor	251	2	2	1	1	0	1	1	1	0	1	1	1	2	1	1	1	0	17	1	1	2	2	Lab	2	2	1	2	1	5
Thyloor	252	1	2	1	1	0	1	1	1	1	1	1	1	1	2	1	1	0	17	1	1	2	2	HW	2	1	1	2	1	5
Thyloor	253	1	2	1	1	1	1	1	1	1	1	1	1	2	2	1	1	0	19	1	3	2	2	Lab	2	2	1	1	1	5
Thyloor	254	2	0	1	1	0	1	0	1	0	1	1	1	2	2	1	0	0	14	1	1	2	2	HW	1	1	1	2	2	5
Thyloor	255	1	0	1	1	1	1	1	2	0	1	1	1	2	2	1	0	0	16	1	3	2	2	HW	1	1	1	1	1	5
Thyloor	256	1	2	1	1	0	1	1	2	1	1	1	1	2	1	1	1	0	18	1	3	2	2	Lab	1	2	1	2	1	5
Thyloor	257	1	2	1	1	0	1	0	1	0	1	1	1	2	2	1	1	0	16	1	1	2	2	HW	2	1	1	1	1	5
Thyloor	258	1	2	1	1	1	1	1	2	1	1	1	1	2	2	1	1	0	20	1	3	2	2	Lab	1	2	1	1	1	5
Thyloor	259	0	0	1	0	1	1	1	1	0	0	1	1	2	2	1	0	0	12	1	1	2	2	HW	1	2	1	1	1	5
Thyloor	260	1	0	1	0	1	1	1	1	0	1	1	1	2	2	1	0	0	14	1	1	2	2	HW	1	2	1	1	1	5
Thyloor	261	1	0	1	0	1	1	1	1	0	1	1	1	2	2	1	0	0	14	1	1	2	2	HW	2	2	1	1	2	5
Thyloor	262	1	3	1	0	1	1	1	1	0	1	1	1	2	2	1	0	0	17	1	2	2	2	Lab	1	2	2	1	2	5
Thyloor	263	1	0	1	0	1	1	1	1	0	1	1	1	2	2	1	0	0	14	1	2	2	2	HW	1	2	1	1	1	5
Thyloor	264	0	0	1	0	1	1	1	1	0	1	1	1	2	2	1	0	0	13	1	2	2	2	HW	2	2	1	1	2	5
Thyloor	265	1	0	1	0	1	1	1	1	0	0	1	1	2	2	0	0	0	12	1	1	2	2	HW	1	2	1	1	2	5
Thyloor	266	1	0	1	0	1	1	1	1	0	0	1	1	2	2	0	0	0	12	1	1	2	2	HW	1	2	1	1	2	5
Thyloor	267	0	3	1	0	1	1	1	1	0	0	1	1	2	2	1	1	0	16	1	1	2	2	Lab	1	2	1	1	1	5
Thyloor	268	0	0	1	0	1	1	1	1	0	0	1	1	2	2	1	0	0	12	1	2	2	2	HW	2	2	1	1	2	5
Thyloor	269	1	0	1	0	1	1	1	1	0	1	1	1	2	2	1	0	1	15	1	1	2	2	HW	1	2	1	1	2	5
Thyloor	270	0	1	1	0	1	1	1	1	0	1	1	1	2	2	1	0	1	18	1	1	2	2	HW	1	2	1	1	2	5
Thyloor	271	0	3	1	1	1	1	1	1	0	1	1	1	2	2	1	0	0	17	2	1	2	2	HW	1	2	1	1	2	5
Thyloor	272	0	3	1	0	1	1	1	1	0	0	1	1	2	2	0	0	0	14	2	1	2	2	HW	1	2	1	1	1	5
Thyloor	273	1	3	1	0	1	1	1	1	0	1	1	1	2	2	1	0	0	17	2	1	2	2	HW	1	2	1	1	2	5
Thyloor	274	0	2	1	0	1	1	1	1	0	0	1	1	2	2	0	0	1	14	2	1	2	2	HW	2	2	1	1	1	5
Thyloor	275	2	2	1	1	1	1	1	1	1	0	1	1	2	2	1	0	1	19	2	1	2	2	Lab	1	2	2	1	2	5
Thyloor	276	0	2	1	1	1	1	1	1	0	1	1	1	2	2	1	0	1	17	2	1	2	2	HW	1	2	1	1	1	5
Thyloor	277	0	2	1	0	1	1	1	1	0	0	1	1	2	2	1	0	1	15	2	1	2	2	Lab	1	2	1	1	2	5
Thyloor	278	0	2	1	0	1	1	1	1	0	0	1	1	2	2	1	0	1	15	2	1	2	2	Lab	2	2	1	1	1	5
Thyloor	279	1	2	1	0	1	1	1	1	0	0	1	1	2	2	1	0	1	16	2	1	2	2	HW	1	2	2	1	2	5
Thyloor	280	1	2	1	0	1	1	1	1	0	0	1	1	2	2	1	0	1	16	2	1	2	2	Lab	2	2	2	1	2	5