

**A STUDY FOR ASSESSING BIRTH PREPAREDNESS AND COMPLICATION  
READINESS INTERVENTION IN REWA DISTRICT OF MADHYA PRADESH**



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DEPARTMENT OF COMMUNITY MEDICINE,  
*S.S. MEDICAL COLLEGE, REWA, M.P.*



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READINESS INTERVENTION IN REWA DISTRICT OF MADHYA PRADESH**

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## **CONTENTS**

**Preface**

**Acknowledgement**

**Abbreviations**

**List of Tables**

**List of Graphs**

**Executive Summary**

**Chapter 1 Introduction**

**Chapter 2 Methodology**

**Chapter 3 Findings and Discussion**

**Chapter 4 Conclusion and Recommendations**

**References**

## PREFACE

The National Rural Health Mission (NRHM) was launched by the Government of India on 12<sup>th</sup> April 2005 to carry out necessary architectural correction in the basic health care delivery system, with a plan of action that includes a commitment to increase public expenditure on health. The Mission envisages an additionality of 30 per cent over existing annual budgetary outlays every year to fulfil the mandate to raise the outlays for public health from 0.9% of GDP to 2-3% of GDP. Under the Mission, multifarious activities have been initiated to strengthen the rural health care delivery system for the improvement of health of the rural population.

NRHM implementation framework does not envisage significant engagement of medical colleges in delivery of Mission interventions. The role of the medical colleges in RCH-II is largely limited to conduction of clinical skill based trainings. In the absence of any systematic engagement of medical colleges, faculty members of departments are clueless about the evidence-based technical strategies being pursued in the implementation of various National Health Programmes. There is a huge potential available in medical colleges of the country for undertaking innovations, facilitating programme interventions and conducting health systems research, which largely remains untapped.

The Rapid Assessment of Health Interventions (RAHI), a collaborative activity with the United Nations Population Fund (UNFPA), is a unique initiative taken under the wider umbrella of the Public Health Education and Research Consortium (PHERC) of the National Institute of Health and Family Welfare (NIHFW) for developing partnerships with different organisations working in the field of health and family welfare. The objective of the project is to accelerate NRHM delivery in identified states by organising timely, quality and appropriate inputs through rapid assessments/reviews to address priority implementation problems. During the first phase of the RAHI project, the UNFPA supported 12 health systems research projects in five low-performing states viz. Madhya Pradesh, Jharkhand, Chhattisgarh, Uttar Pradesh, and Orissa. During the second phase, another 12 health systems research projects from 6 low-performing states viz. Uttar Pradesh, Uttarakhand, Madhya Pradesh, Jharkhand, Bihar and Rajasthan were taken up.

The rationale for supporting such rapid assessments stems from the discussions during the periodic Joint Review Missions and Common Review Missions. An impressive number of innovations have been supported by the states to improve access and enhance service quality. Many innovations are currently underway in the states and districts to deliver health care services in an effective manner. The state and district programme managers wish to know how well these innovations are performing so that in case of gaps corrective

measures can be taken to achieve the stated objectives. There has been an increasing recognition for incremental improvements in the programme delivery by undertaking quick and rapid health systems research and engineering the feedback into the processes. As an institutional response to such demand an attempt has been made to develop a network of institutions and strengthen their capacities on rapid appraisal methodologies for generating programme-relevant information at local and regional levels.

The rapid appraisal of some of the interventions taken up in the second phase of RAHI - project covered the issues of contribution of indigenous systems of medicine in operationalisation of 24x7 services, interface of ASHAs with the community and service providers, logistics and supply management system of drugs at different levels, functioning of mobile medical units, birth preparedness and complication readiness as a tools to reduce MMR, quality assessment of institutional deliveries, performance-based incentives to ASHA Sahyogini, referral transport systems, functioning of programme management units, functioning of RKS, utilisation of untied funds at various levels and utilisation and client satisfaction of RCH service. The present report entitled “A Study For Assessing Birth Preparedness and Complication Readiness Intervention in Rewa District of Madhya Pradesh” by the Department of Community Medicine, S.S. Medical College, Rewa, M.P was finalized by NIHFWS in consultation with UNFPA.

The findings and recommendations of these studies will trigger of a series of follow-up measures by programme managers in the state. We strongly feel availability of such a resource to the programme managers will provide necessary evidence-based inputs enabling them to make any mid-course corrections and also scaling up. An added benefit will be incorporation of information about newer programmatic interventions in the medical curriculum.

Dr. Dinesh Agarwal  
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Last but not the least, credit goes to our respondents who spent their time and responded to the rather lengthy questionnaires with tremendous patience and without any expectation from us. I would like to thank everyone who was involved in the project and made it a success.

**Prof. S.S. Kushwah**

## ABBPEVIATIONS

ANC	Ante Natal Care
ANM	Auxiliary Nurse Midwife
APH	Ante Partum Haemorrhage
ASHA	Accredited Social Health Activist
AWW	Anganwadi Worker
BMO	Block Medical Officer
BP	Birth Preparedness
CMHO	Chief Medical and Health Officer
CHC	Community Health Centre
CR	Complication Readiness
DH	District Hospital
FGD	Focus Group Discussion
FRU	First Referral Unit
GMH	Gandhi Memorial Hospital
HCP	Health Care Provider
HW(F)	Health Worker Female
IDI	In-Depth Interview
IFA	Iron Folic Acid
IMR	Infant Mortality Rate
IPHS	Indian Public Health Standards
JSY	Janani Suraksha Yojana
MMR	Maternal Mortality Ratio
M/O	Medical Officer
NFHS	National Family Health Survey
NRHM	National Rural Health Mission
OT	Operation Theatre
PHC	Primary Health Centre
PHS	Peripheral Health Staff
PIH	Pregnancy Induced Hypertension
PNC	Post Natal Care
PPH	Post Partum Haemorrhage
RD	Recently Delivered
RKS	Rogi Kalyan Samiti
SBA	Skill Birth Attendant
SHC	Sub Health Centre
SES	Socio-Economic Status
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid

## EXECUTIVE SUMMARY

### Introduction

Maternal mortality is a substantial burden in developing countries. Improving maternal mortality has received recognition at the global level as evidenced by the inclusion of reducing maternal mortality in the Millennium Development Goals. Since it is not possible to predict which women will experience life-threatening obstetric complications that lead to maternal mortality, receiving care from a skilled provider (doctor, nurse or midwife) during childbirth has been identified as the single most important intervention in safe motherhood.

Birth preparedness and complication readiness (BP/CR) is a strategy to promote the timely use of skilled maternal and neonatal care, especially during childbirth, based on the theory that preparing for childbirth and being ready for complications reduces delays in obtaining this care.

Birth preparedness and complication readiness include many elements, including: (a) knowledge of danger signs; (b) plan for where to give birth; (c) plan for a skilled birth attendant; (d) plan for transportation; (e) a birth companion; and (f) identification of compatible blood donors in case of emergency. MMR and IMR of Rewa district are still high in comparison of national and other districts of state 778/100,000 and 83/1000 live births. NIHF with Department of Community Medicine, S.S. Medical College, Rewa initiated study to know the status of birth preparedness and complication readiness at the level of community and institute in Rewa district.

### General Objective

To study the status of birth preparedness interventions in Rewa district of MP .

### Specific Objectives

1. To identify the availability of resources (Manpower, equipments, money and logistics) for BP at institutions of Rewa District ;
2. To assess the level of knowledge and skill of health providers for BP ;
3. To assess the awareness and practices of BP of pregnant mothers and their families in respect of place of delivery, decisions in time and arrangements of transport etc;
4. To find out practices and initiation of exclusive BPeast-feeding
5. To assess the status of birth preparedness and complication readiness of health facility.

Thirty cluster sampling technique was adopted to survey the study area. Sample size was calculated according to the birth rate and TFR of Rewa district. Information collected regarding socio-demographic profile, knowledge about key danger signs, birth preparedness and complication readiness, experience during last delivery. Seven indicators was developed and BP/CR Index was derived by them during data collection, if we came across case of infant and maternal death verbal autopsy was conducted for the same. In-depth interview was

conducted with women who have had complications during pregnancy, child birth and postpartum period. They availed services of health facility and survived. Health facilities (all 9 CHCs) were surveyed for BP and CR. Skilled birth attendants were assessed for knowledge and skills. Three focus group discussions were carried out (mothers, mother-in-law and close relatives and ANM).

### **Key Findings**

BP/CR at health facility level

Manpower

Lack of adequate no. of specialist poses a great hindrance in delivering of EMOC. Non-availability of anaesthetist in all the CHCs and only 3 CHCs had Ob -Gynae specialist.

Logistics

None of the CHC had blood storage facilities and an aesthetic kits.

Services

CHC was not providing CEMOC services (C/S facility, blood transfusion, anaesthetic kit)

### **Knowledge and Skill Assessment of Health Care Provider**

Study revealed that Gap exists between knowledge and skills of health care providers. Less than 50% of HCPs are competent in diagnosing and management of complications. HCPs have adequate knowledge of ante natal care but they are not able to implement in real situation. Birth preparedness at community level.

### **BP Index**

BP index in the study population was found to be lower (47.5%). BP/CR index was significantly high in above poverty line families, higher educational level and in-service and business group. BP/CR were significantly lower in population experiencing morbidity and mortality (39.7%).

### **BP Indicators**

Knowledge of danger signs (18.6%), knowledge of transportation services (18.6%), 1st trimester registration (24.1%) and population saved money (44.2%) was found to be lower.

### **Recommendations**

Policy level make sure that vacant post of specialist should be immediately filled at CHC level. Inadequacy of equipments (anaesthetic kits), drugs, and blood storage facilities should be filled up urgently to make OT fully operational.

## **Health Care Providers**

Repeated practical reorientation training (at least once in a year) should be undertaken in standard procedures for diagnosis and management of complications to fill up the existing gap.

Repeated capacity building workshops should be organized for ANM to enhance their capabilities for improving the efficiency of ante-natal services.

Community level.

There is a need to include the family members in intense IEC activities. Intense IEC activities should be undertaken for awareness of danger signs and earliest possible ante-natal check-up. Husbands should be encouraged to accompany wives during ante-natal visits.

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Maternal mortality is a substantial burden in developing countries (1). Improving maternal mortality has received recognition at the global level as evidenced by the inclusion of reducing maternal mortality in the Millennium Development Goals (2). The figures state that every five minutes one woman somewhere in India dies from pregnancy related complications amounting to 1 lakh maternal deaths and 10 lakhs newborn deaths each year (3). To address high level of MMR RCH II programme is launched on 1<sup>st</sup> April 2005. Its innovative approaches was implemented with objective to improve access to skilled care and emergency obs. care, despite this Rewa district of MP shows substantially high level of MMR and IMR. Various international experiences in maternal mortality reduction programme shows that every pregnant woman is at risk for life threatening complication and that safe delivery and access to EMoC are essential (4 and 5).

In this context, birth preparedness is a comprehensive strategy to improve the use of skill providers at birth, the key intervention to decrease maternal mortality (6). Birth preparedness is a strategy to promote the timely use of skilled maternal and neonatal care, especially during childbirth, based on the theory that preparing for childbirth reduces delays in obtaining this care. A birth plan/emergency preparedness plan include identification of following elements: knowledge of danger signs; the desired place of birth; the preferred birth attendant; the location of the closest appropriate care facility; funds for birth-related and emergency expenses; a birth companion; support in looking after the home and children while the woman is away; transport to a health facility for the birth; transport in the case of an obstetric emergency; and identification of compatible blood donors in case of emergency.

BP also reduces delays in receiving appropriate care. It calls on providers and facilities to be prepared to attend births and ready to treat complications (CR). To have birth preparedness and complication readiness at the provider level, nurses, midwives, and doctors must have the knowledge and skills necessary to treat or stabilize and refer women with complications, and they must employ sound normal birth practices that reduce the likelihood of preventable complications. Facilities should have necessary logistics to provide basic and comprehensive emergency obstetric services.

### 1.2 Rationale and Justifications of the Study

MMR of M.P. is 379/100,000 live birth and IMR is 76/1000 live birth, the MMR and IMR of Rewa district are considerably higher as compared to national and other districts of state. To find out the scope of birth preparedness interventions there is a need to study the status of birth preparedness and complication readiness among study population and health facility. The findings of this study will be used by planners and administrators to amend the strategy and take corrective measure to improve the programme.

### 1.3 Research Questions

- What is status of BP/CR in the district.
- What is the level of knowledge and practices of birth preparedness by pregnant women and their family members?
- What is the level of knowledge and skill of health providers of early detection of complications among pregnant women?
- What are the factors responsible to affect the BP/CR?

### 1.4 Objectives

#### General Objective

To study the status of birth preparedness and complication readiness intervention in Rewa district of MP.

#### Specific Objectives

1. To identify the availability of resources (Manpower, equipments and logistics) for BP/CR at institutions of Rewa District.
2. To assess the level of knowledge and skill of health providers for B P/CR.
3. To assess the awareness and practices of BP of pregnant mothers and their families in respect of place of delivery, decisions in time and arrangements of transport etc.
4. To find out practices and initiation of BPeast-feeding.
5. To assess the status of birth preparedness and complication readiness of health facility.

### Review of Literature

#### What is Birth Preparedness and Complication Readiness?

Women and newborns need timely access to skilled care during pregnancy, childbirth, and the post-partum/newborn period. Too often, however, their access to care is impeded by delays — delays in deciding to seek care, delays in reaching care, and delays in receiving care. <sup>1</sup> These delays have many causes, including logistic and financial concerns, unsupportive policies, and gaps in services, as well as inadequate community and family awareness and knowledge about maternal and newborn health issues. For example:

⊕ **Delays in deciding to seek care** may be caused by failure to recognize signs of complications, failure to perceive the severity of illness, cost considerations, previous negative experiences with the health care system, and transportation difficulties.

⊕ **Delays in reaching care** may be created by the distance from a woman's home to a facility or provider, the condition of roads, and a lack of emergency transportation.

⊕ **Delays in receiving care** may result from unprofessional attitudes of providers, shortages of supplies and basic equipment, a lack of health care personnel, and poor skills of health care providers. The causes of these delays are common and predictable. However, in order to address

them, women and families and the communities, providers, and facilities that surround them— must be prepared in advance and ready for rapid emergency action.

**Birth Preparedness and Complication Readiness (BP/CR)** is the process of planning for normal birth and anticipating the actions needed in case of an emergency. Responsibility for BP/CR must be shared among all safe motherhood stakeholders—policy makers, facility managers, providers, communities, families, and women—because a coordinated effort is needed to reduce the delays that contribute to maternal and newborn deaths. Each stakeholder has an important role to play—from creating appropriate policies to strengthening facilities and providers to implementing effective community systems to adopting informed practices at home.

Together, stakeholders can plan for the care that women and newborns need during pregnancy, childbirth, and the post-partum/newborn period, prepare to take action in emergencies, and build an enabling environment for maternal and newborn survival.

### **About the BP/CR Matrix**

The **Birth Preparedness and Complication Readiness Matrix** delineates the roles of policy makers, facility managers, providers, communities, families, and women in ensuring that women and newborns receive appropriate, effective and timely care. It outlines plans and actions that can be implemented by each group of stakeholders to build an enabling environment for normal and emergency care.

The BP/CR Matrix can be used in a variety of ways to introduce and reinforce the concept of BP/CR, to demonstrate and support shared responsibility and accountability for safe motherhood, and to plan appropriate safe motherhood interventions and activities. Using the matrix, advocacy groups can facilitate a process that helps stakeholders see how they influence barriers and solutions to seeking, reaching, and receiving care. Programme planners can use the matrix to mobilize the necessary human and fiscal resources to adequately respond to stated needs and priorities. And health care providers can use the matrix as a reference to reinforce facility preparedness and to more fully understand their role and the skills required to deliver care throughout pregnancy, labour and childbirth, and the post-partum/newborn period.

### **The BP/CR Matrix can be used to: Facilitate Dialogue among Safe Motherhood Partners and Stakeholders**

The concept of BP/CR can be integrated into community mobilization and clinical workshops related to safe motherhood to improve communication and buy-in among stakeholders. Facilitating dialogue encourages everyone to see their part in finding solutions to the challenges inherent in implementing safe motherhood interventions. Through discussion, the BP/CR Matrix can be used to help stakeholders identify behaviours that must change at each stakeholder level. Participatory exercises using the BP/CR Matrix can be designed to:

- ⊕ introduce and discuss the BP/CR concept and actions;
- ⊕ encourage shared solutions to life-threatening delays; and
- ⊕ increase awareness of shared responsibility and the need for strategic partnerships.

## CHAPTER 2

### METHODOLOGY

#### 2.1: Study Design

This was a cross-sectional descriptive study to find out birth preparedness and complication readiness among community and as well as health facilities of Rewa district of Madhya Pradesh.

#### 2.2: Study Area

Study area was Rewa district rural population those who live in villages and away from the district health facilities.

#### 2.3: Study Population

In this study pregnant women and recently delivered mothers were included and government health facilities were selected to study to know that how much population health facilities are ready for birth preparedness and to deal with the complications. Mothers who had delivered before one year of date of interview and pregnant women who were in second and third trimester of pregnancy. Health care providers such as medical officers, staff nurses and ANMs were included in the study.

#### 2.4 Sample size

Sample size was calculated by birth rate of 34/1000 population and TFR = 4.2 of Rewa district. Thus sample size of 2010 eligible mothers (67 mothers per cluster x 30 cluster) were calculated. However 2022 respondents were interviewed. In order to complete required no. of sample size per cluster (67) adjoining villages in some clusters were also surveyed. Selection of health care providers, it was proposed that from each of the 9 CHC one MO and one peripheral health staff were selected randomly. We selected total 20 HCP that is 9 medical officers incharge and 11 peripheral health staff from the following CHCs.

S.no	Name of C.H.C. in Rewa District
1.	Gangev
2.	Rewa/Govindgarh
3	Hanumana
4	Jawa
5	Mauganj
6	Naigarhi
7	Raipur Karchurian
8	Sirmour
9	Teothar

## 2.5: Sampling Technique

Standard 30 cluster sampling technique was used for selected population.

## 2.6: Study variables

Independent variable were age, educational status, BPL/ APL status, occupation, caste, parity. Dependent variables were birth preparedness and complication readiness index.

## 2.7: Study Tools and Techniques

Semi-structured in-depth instruments for data collection has been developed. The instrument has been pre-tested and suitable modification has been made. Data were collected on a pre-tested questionnaire developed in Department of PSM keeping in view the situational analysis of study area. This was discussed among all the faculty members, community members and faculty of NIHFV during introductory meeting and after pilot phase testing with adding all important suggestions required. For collection of data staff involved in the research was provided two days of training on research guidelines, tools and research issues.

The following technique was undertaken for data collection :

### Quantitative and Qualitative Data

Interview	Interview of pregnant and recently delivered mothers.
Verbal autopsy	Instrument for investigation of infant death.
Verbal autopsy	Instrument for investigation of maternal death.
Survey	Facility assessment survey.
IDI and observation	Knowledge and skill assessment of health care providers.
IDI	Mothers who survived of complications (during pregnancy, childbirth and post partum).
FGD	Health care providers, eligible mothers and their relatives .

In each centre the information were collected on the pre -designed proforma as per norms of IPHS. The Indian Public Health Standards are being set-up for CHCs so as to provide a yardstick to measure the services being provided there. Every CHC has to provide the following services relevant to safe motherhood interventions which can be known as the *assured services*:

- 24-hour delivery services including normal and assisted deliveries .
- Essential and emergency obstetric care including surgical interventions like caesarean sections and other medical interventions .
- Full range of family planning services including Lap aroscopic services.
- Safe abortion services.
- Newborn care.
- Routine and emergency care of sick children .
- Blood storage facility.

- Essential laboratory services.
- Referral (transport) services.
- In addition, it is mandatory for every CHC to have the **Charter of Patient Rights** prominently displayed at the entrance and social auditing by constitution of **Rogi Kalyan Samitis**.

To find out BP in eligible population following activities were done:

1. Interview of eligible mothers: Birth preparedness and complication readiness was measured using a series of questions including Knowledge about danger signs, planning for transport, place, SBA and financial management and outcome.
2. IDI of mothers who survived of complications: 9 mothers were interviewed. They availed services of health facility and survived.
3. Verbal autopsy for infant and maternal death during data collection, wherever infant and maternal death was encountered, verbal autopsy was conducted for the same. Instrument included both narrative history and structured questionnaire related to death, relative of deceased were asked about the preceding condition of deceased that led to death.
4. Focus Group Discussion: 2 focused group discussions were carried out (mothers, mother in-law and close relatives).

To find out CR at health care provider and facility level following activities were done:

1. IDI and observation of MO I/C and PHS: HCPs were interviewed to find out knowledge regarding management of normal pregnancy and how to manage obstetric complications. The same were observed by investigators while conducting deliveries for skill assessment.
2. Facility assessment survey of all the 9 CHCs for verification of facilities for birth preparedness and complications readiness at facilities was done. Visit to OPD, OT, labour room and general inspection of the facility was done. At the same time findings were verified by reviewing records, visit to store and gathering key information from MO I/C
3. Focused Group Discussion: One focused group discussion was carried out in health care providers (ANM).

Ethical Issues: The project structure was examined and cleared by ethical committee of the institution review board of NIHFV -IRB for ethical considerations.

Monitoring: 25% of the information was re-scrutinized by Principal Investigator and Co PI. In order to ensure the quality of the data the Principal Investigator (P.I)/Co P.I conducted the FGDs at the village level and in-depth interview of HCP. Consultants from NIHFV monitored the training, field activities, data analysis and report writing from time to time.

## **2.8: Data Analysis and Statistics**

Data were analyzed by using SPSS 11 software. Based upon the findings a total of seven indicators were developed to assess the status of BP. These indicators were simply a percentage of women who have/possess specific characteristics. Denominator included all women interviewed. Each indicator was given equal weightage. The final score (BP and CR Index) is

simply the means of the percentages for each individual indicator. A total score of 100 was given to BP/CR index. Index of BP/CR is a composite measure of all the above indicators and it gives the overall picture of birth preparedness.

Following indicators were derived from instrument.

<b>S. No.</b>	<b>Indicator</b>
1.	% of the women who knew about > 8 danger signs of pregnancy.
2.	% of the women who knew about transportation services provided by government in Janani Express Yojana.
3.	% of the women who knew about financial assistance provided in Janani Suraksha Yojana.
4.	% of the women availed of ANC in 1 <sup>st</sup> trimester by skilled provider.
5.	% of the women who identified skilled birth attendant for delivery.
6.	% of the women who identified mode of transportation.
7.	% of the women who are saving money/saved money to pay for expenses.
BP and CR index	Mean= Indicator 7

Statistical test of significance: Normal test was applied to find out significant difference between index in different groups.

## CHAPTER 3

### FINDINGS AND DISCUSSION

#### 3.1 Facility Assessment for Birth Preparedness and Complication Readiness

To have BP and CR Level at Facility, Facilities must have the necessary staff, supplies, equipment, and infrastructure to serve women with normal births and complications. The present Facility Assessment Survey has been carried out in 9 CHC of Rewa district to identify the availability of resources (Manpower, equipments, and logistics) for B P/CR at institutions.

**Table 1: Availability of Manpower in CHC**

<b>Manpower</b>	<b>Available in CHC (N=9)</b>
Specialist	
General Surgeon	1
Physician	1
Obst-Gynaecologist	3
Paediatrics	1
Anaesthetist	0
MO I/C	9
Nursing Staff	
ANM-Midwife	9
Staff Nurse	8

**Table 2: Availability of Equipments in CHC**

<b>Equipments</b>	<b>Available in CHC (N=9)</b>
Normal Delivery Kit	9
Vacuum Extractor and Forcep (Assisted Delivery)	2
Newborn Resuscitation Equipment	2
Equipments for Evacuation of Uterus (D and C)	2
Manual Vacuum Aspirator	0
Blood Transfusion Kit	0
Anaesthesia Kit	1

**Table 3: Availability of Vaccines and Drugs in CHC**

<b>Vaccines</b>	<b>Available in CHC (N=9)</b>
a. BCG	6
b. OPV	6
c. DPT	6
d. TT	8
e. Measles	6
Iron Folic Acid Tablets	9
Sulphadoxine- Pyremethamine	9

**Table 4: Availability of Services in CHC**

<b>Services</b>	<b>Available in CHC (N=9)</b>
Availability of skilled Staff to Provide 24x7 Services	9
<b>Basic EOC</b>	2
Normal Delivery	9
Assisted Delivery	6
Newborn Resuscitation	2
Oxytocin	7
Magnesium Sulphate	9
Intravenous Antibiotics	9
Family Planning Services	9
Safe Abortion Services	2
<b>Comprehensive EOC</b>	0
Caesarian-Section	0
Blood Transfusion Services	0
Anaesthetic Services	0
Referral Transport	9
Citizen's Charter	9
Rogi Kalyan Samiti	9

Note: LTT is conducted only in camps.

Basic Essential Obstetric Care (EOC) facilities must meet standards to be able to provide the six following services: administer parenteral antibiotics, administer parenteral uterotonics, administer parenteral anticonvulsants, perform manual removal of the placenta, and perform removal of retained products of conception after incomplete abortion. Comprehensive EOC facilities must meet these same basic standards and, in addition, must be able to provide blood transfusion, anaesthesia, and surgical interventions such as cesarean section (WHO 2000b).

EMOC are not being provided such as emergency obstetric services, Safe abortion facility and caesarian Facility. 100% of CHCs have facility of New born care, essential laboratory services, referral transport service and also have adequate working space, Board/Name plates to guide the clients and facility for sterilizing instruments. In 30% of the CHCs obstetrician/gynaecologist doctor are present but caesarian facility is not available in any of the CHCs. This is due to non -availability of Anaesthetics, and so one anaesthetics should be recruited for each CHC or the present clinical staff should be trained. Clinical manpower is deficient in all the CHCs and should be filled up as soon as possible. Support manpower is sufficient in all CHCs.

One of the striking finding was that nearly 20% of the CHCs doesn't have oxytocin, 66% CHC doesn't have sufficient vaccine as per national immunization schedule. I/V antibiotics were available in all the 9 CHCs. Blood storage and blood transfusion facility is available in one of the CHC. Similarly equipments for neonatal resuscitation and an aesthesia were functional only in two and one CHC each. citizen charter is maintained in all the CHCs and Rogi Kalyan Samiti has been constituted in all the 9 CHCs and is being working properly.

Thus in the whole facility assessment survey we found that all the CHCs can handle normal delivery but when it comes to handling of complicated cases they only refer the patient to tertiary care level.

### 3.2: Knowledge and Skills of Health Care Provider

When asked about antenatal services rendered by them in most of the HCPs (4+) said that they 1<sup>st</sup> register the pregnancy, then ask their obstetric history, look for an aemia, take weight, give them TT injection and IFA tablet and check position of baby. Very few (<1+) said they will also take BP of mother regularly. Nearly half of them render dietary advice. Some (1+) advice them to come to hospital for safe delivery. Most of the HCPs (4+) had knowledge about danger signs of pregnancy, labor and post partum. Knowledge of high risk pregnancy and their referral was found to be good in most of them (4+). Most of the workers said that they advice for exclusive Breast-feeding after birth. Majority of the worker (3+) has adequate knowledge of Janani Suraksha Yojana and they convey it to pregnant women. Only some HCPs (1+) advice about pre-arrangement of money and transport for delivery. Almost all (5+) were dissatisfied with working condition and non-responsibility of male worker. They said that cover 10 villages each and had to carry lot of weight.

The level of knowledge of medical officers and ANM was assessed with the help of structured schedule for in-depth interviews incorporating various components of birth preparedness and complication readiness. A total of 20 health care providers were interviewed out of which 11 were MOI/C and 9 were staff nurse. 19 out of 20 respondents had >10 years of service experience. Overall score of 70% was considered as sufficient knowledge. Skill assessment is done by observing them while conducting deliveries. Questionnaire incorporated various steps of conducting normal deliveries, diagnosis and management of complications. Overall score of 80% was considered as possessing sufficient skill.

**Table 5 : Knowledge and Skill Assessment of Health Care Providers**

	MOI/C (n=11)	Nursing staff (n=09)
<b>Knowledge</b>		
Childbirth	9	6
BCU	2	0
Diagnose Complication	7	5
Management of Complications	5	2
<b>Skill Assessment</b>		
Childbirth	7	5
BCU	0	0
Diagnose Complication	5	3
Management of Complications	3	0

Study revealed gap exists between knowledge and skills of health care providers. This indicates need for repeated practical training in standard procedures of diagnosing and management of complication. Charts and educational messages should be displayed in labor room. Study revealed poor knowledge and practices regarding safe injection and sterilization. Special reorientation training can be planned for this only.

### 3.3: Background Characteristics of Pregnant Mothers

Table 6 shows, a total of the 2022 married women were interviewed, of which 632 were pregnant and 3190 were recently delivered mothers. Mean age of mothers were  $24.08 \pm 3.872$  years. Majority of the women belonged to age group of 19-34 years. Half of the women were illiterate (49.9%). Most of the women were housewife (64.9%) followed by labourers (30.9%). Almost half of the (48.4%) women belonged to BPL families. Mean age at marriage was 17.21, SD = 1.925, Range = 8-25 and Mean age at first pregnancy was 19.4, SD = 2.048, Range = 14-35

**Table 6 : Distribution of Study Mothers by Background Characteristics**

Characteristics	Recently Delivered		Pregnant Women		Total	
	No.	%	No.	%	No.	%
<b>Age group</b>						
<19 years	24	1.8	31	4.9	55	2.7
19-24 years	769	55.3	405	64.1	1174	58.1
25-34 years	556	40.0	184	29.1	740	36.6
35-44 years	41	2.9	12	1.9	53	2.6
<b>Education</b>						
Illiterate	721	51.9	289	45.7	1010	49.9
>5th	534	38.4	283	44.8	817	40.4
>10th	135	9.7	60	9.5	195	9.6
<b>Parity</b>						
0-1	396	28.5	349	55.2	745	36.8
2-4	815	58.6	253	40.0	1068	52.8
>4	179	12.9	30	4.8	209	10.4
<b>Occupation</b>						
Housewife	877	63.1	435	68.8	1312	64.9
Labourer	459	33.0	165	26.1	624	30.9
Others*	54	3.9	32	5.1	86	4.2
<b>BPL/APL Status</b>						
BPL	655	47.1	324	51.2	979	48.4
APL	735	52.9	308	48.8	1043	51.6
Total	1390	68.7	632	31.3	2022	100

\*Farmer, service, student, business

### 3.4 Birth Preparedness in Eligible Population

Table 7 shows that BP and CR is considered by WHO and other agencies to be a useful and practical intervention in improving maternal health. Overall BP and CR index was found to be 47.5%. Index does not differ significantly with different age group and between pregnant and recently delivered mothers (p value=.344, significance level >1.96). However as evident from Table 2, BP index increases as level of education increases. Highly significant difference was observed in illiterate and >primary education. (p value=.000). Index was significantly higher in women educated more than high school. (p value=.003). BP and CR was found to be

significantly higher in women belonged to APL families (p value=.003). No significant difference was observed in index of housewives and labourers. However significant difference was observed in between index of housewives/labourers and others (farmers, service, student and business) {p value=.014}.

Knowledge of the danger signs of obstetric complications is the essential first step in the appropriate and timely referral to essential obstetric care. Study revealed that poor level of knowledge about key danger signs among mothers (18.6%). Similar findings were revealed by FGD. Very few of the mothers and relatives knew about key danger signs. Though knowledge increases with education, socio-economic status, and occupation. But only subtle change is observed. Similar findings are observed about transportation services provided by the community (18.6%). A good level of knowledge exists about financial assistance among mothers (78.1%). Same findings were revealed during FGD. Certain ANC interventions (for example, prevention, detection, and treatment of anaemia, detection of hypertension, treatment of eclampsia, and infection prevention) can reduce the likelihood of poor maternal outcomes [13]. Present study revealed poor utilization of ANC in 1<sup>st</sup> trimester. However, emerging evidence suggests that ANC is more effective when received earlier in the pregnancy.

**Table 7 : Distribution of Indicator and Index by Background Characteristics**

<b>Background characteristics</b>	<b>1*.</b>	<b>2*.</b>	<b>3*.</b>	<b>4*.</b>	<b>5*.</b>	<b>6*.</b>	<b>7*.</b>	<b>BP CR Index</b>
Recently Delivered n=1390 (%)	290 (20.9)	275 (19.8)	1079 (77.6)	354 (25.5)	935 (67.3)	1075 (77.3)	635 (45.7)	47.7
Pregnant Women n=63 (%)	87 (13.8)	102 (16.1)	501 (79.3)	134 (21.2)	481 (76.1)	517 (81.8)	259 (41.0)	47.0
<b>Age group</b>								
<25 yrs n=1229 (%)	233 (19.0)	212 (17.2)	963 (78.3)	318 (25.9)	891 (72.5)	966 (78.6)	529 (43.0)	47.8
>25 yrs n=793 (%)	144 (18.2)	165 (20.8)	617 (77.8)	170 (21.4)	525 (66.2)	626 (78.9)	365 (46.0)	47.0
<b>Education</b>								
Illiterate n=1010 (%)	114 (11.3)	165 (16.3)	745 (73.8)	44 (4.4)	647 (64.1)	748 (74.1)	338 (33.5)	39.6
>5 <sup>th</sup> n=817	195 (23.9)	164 (20.1)	665 (81.2)	309 (37.8)	610 (74.7)	669 (81.9)	443 (54.2)	53.4
>10 <sup>th</sup> n=195 (%)	68 (34.9)	48 (24.6)	170 (87.2)	135 (69.2)	159 (81.5)	175 (89.7)	113 (58.0)	63.6
<b>Occupation</b>								
Housewife N=1312 (%)	258 (19.7)	228 (17.4)	1021 (77.8)	386 (29.4)	888 (67.7)	1015 (77.4)	571 (43.5)	47.5
Labourers N=624 (%)	97 (15.5)	126 (20.2)	488 (78.2)	68 (10.9)	453 (72.6)	501 (80.3)	267 (42.8)	45.8
<b>Others N=86(%)</b>	22 (25.6)	23 (26.7)	71 (82.5)	34 (39.5)	75 (87.2)	76 (88.4)	56 (65.1)	59.3
BPL N=979 (%)	125 (12.8)	211 (21.5)	734 (75.0)	156 (15.9)	650 (66.4)	755 (77.1)	372 (38.0)	43.8
APL	252	166	846	332	766	837	522	50.9

N=1043(%)	(24.2)	(15.9)	(81.1)	(31.8)	(73.4)	(80.2)	(50.0)	
<b>Parity</b>								
0-1 n=745(%)	155 (20.8)	135 (18.1)	601 (80.7)	226 (30.3)	553 (74.2)	621 (83.4)	362 (48.6)	50.9
2-4 n=1068(%)	199 (18.6)	190 (17.8)	833 (78.0)	246 (23.0)	738 (69.1)	823 (77.1)	455 (42.6)	46.6
>4(%) n=209(%)	23 (11.0)	52 (24.9)	146 (69.9)	16 (7.6)	125 (59.8)	148 (70.8)	77 (36.8)	40.1
<b>Total n=2022(%)</b>	<b>377 (18.6)</b>	<b>377 (18.6)</b>	<b>1580 (78.1)</b>	<b>488 (24.1)</b>	<b>1416 (70.0)</b>	<b>1592 (78.7)</b>	<b>894 (44.2)</b>	<b>47.5</b>

S.No.	Indicator
1.	% of the women who knew about > 8 danger signs of pregnancy .
2.	% of the women who knew about transportation services provided by government in Janani Express Yojana.
3.	% of the women who knew about financial assistance provided in Janani Suraksha Yojana.
4.	% of the women availed ANC in 1 <sup>st</sup> trimester by skilled provider .
5.	% of the women who identified skilled birth attendant for delivery .
6.	% of the women who identified mode of transportation .
7.	% of the women who are saving money/saved money to pay for expenses.
BP and CR index	Mean= Indicator 7

Majority of the women had planned for skilled provider and transport but less than half (44.2%) of the mothers planned for saving money. Planning for

**Table 8: Planning for Birth Preparedness (n=2022)**

S. No.		No.	%
<b>A)</b>	<b>Place of Delivery</b>		
1	PHC	485	24.0
2	CHC	840	41.5
3	DH	22	1.1
4	GMH	244	12.1
5	Private	65	3.2
6	Home	81	4.0
7	Not planned	285	14.1
<b>B)</b>	<b>Skilled Assistance</b>		
1	Doctor	645	31.9
2	Nurse	724	35.8
3	ANM	69	3.4
4	Not done*	584	28.9
<b>C)</b>	<b>Arrangement of Vehicle</b>		
1	Self	116	05.7
2	Private	1361	67.3
3	Community	07	0.3
4	Govt.	108	5.3
5	Not done	430	21.3
<b>D)</b>	<b>Saved Money</b>		
1	Yes	894	44.2
2	Not saved	1128	55.8

E)	Arrangement of Blood Donor		
1	Done	54	02.7
2	Not done	1968	97.3
	Total	2022	100

transportation appears less concrete as majority had planned for private vehicle but more than half of them do not have sufficient savings. When asked about birth preparedness nearly half of the mother-in-laws and relatives were not in favour of making any prior arrangement before delivery.

**Table 9 : Distribution of Recently Delivered Mothers According to Place of Delivery, Outcome, Sex, Mode of Delivery (n=1390)**

S. No.	Place of Delivery	No.	%
1	PHC	310	22.30
2	CHC	500	36.00
3	District Hospital	20	1.40
4	Medical College	172	12.40
5	Private Hospital	64	4.60
6	Home	324	23.30
	<b>Outcome</b>		
1	Stillbirth	05	0.4
2	Alive	1385	99.60
	<b>Sex of Infant</b>		
1	Male	742	53.4
2	Female	648	46.0
	<b>Mode of Delivery</b>		
1	Normal	1342	66.5
2	C. S.	42	03.0
3	Assisted	06	0.4

Sex Ratio at birth 873/1000 males

76.7% institutional delivery was observed in this study. This quite encouraging.

**Table 10 : Advice Rendered by Health Care Provider (Multiple Responses) In Birth Preparedness**

	Doctor (269)*	Nurse (483)*	Midwife (756)*	TBA (226)*	ASHA (56)*
Danger signs	206	290	353	52	13
Where to go	212	352	480	36	23
Place of birth	250	402	654	20	56
Transport	148	150	230	12	40
Finance	156	250	480	46	56
Blood donor	25	5	0	0	0

\*No. of Mothers who had taken advise from HCPs

There is considerable scope for improvement in birth preparedness planning if HCPs especially midwife and TBA get orientation in BP interventions and advise so to mothers. When asked about quality of ante-natal care majority of the respondents (3+) had poor perception regarding services provided by health facilities. They said they get only IFA tablets and TT injections. Similarly mothers also revealed that they get IFA tablets and TT injections during pregnancy by ANM in health days.

### 3.5 Community in Birth Preparedness

**Table 11 : Discussion with Family Members about Interventions in BP**

Discussion with family members	No. (%)
Danger signs	165 (8.2)
Where to give birth	1253 (61.9)
Finance arrangement	574 (28.4)
Arrangement of transport	592 (29.3)
Arrangement of blood donor	54 (2.7)
Accompanying person	554 (27.4)
No discussion with community members	690 (34.1)

Very low proportion of women discuss with family members about birth preparedness plan except place of birth.

**Table 12: Final Decision Regarding Place of Birth**

Husband	622 (44.8%)
Mother-in-law	495 (35.6%)
Health care provider	161 (11.6%)
Mother	22 (1.6%)
Close relatives	43 (3.1%)
Self	47 (3.4%)
<b>Total</b>	<b>1390</b>

**Table 13 : Persons Accompanied to the Health Facility**

Husband	648 (60.8%)
Mother-in-law	606 (56.8%)
Mother	107 (10.0%)
Health care provider	180 (16.9%)
Close relatives	162 (15.2%)
<b>Total</b>	<b>1066</b>

**Table 14 : Planning for Place of Delivery and Actual Place of Delivery**

		place of delivery						Total
		PHC	CHC	DH	MC	PVT	HOME	
PLAN FOR PLACE	PHC	274	6	1	9	2	45	337
	CHC	4	475	0	9	8	57	553
	DH	0	0	10	2	1	1	14
	MC	3	1	1	138	5	13	161
	PVT	1	0	2	1	40	4	48
	HOME	3	4	0	0	0	60	67
	NOT	25	14	6	13	8	144	210
<b>Total</b>		<b>310</b>	<b>500</b>	<b>20</b>	<b>172</b>	<b>64</b>	<b>324</b>	<b>1390</b>

**Table 15: Reasons for Departure from the Planned Place Delivery (n=393)**

Family reason*	63(16.0)
Referral	64(16.3)
Delay in transport	7(1.8)
Not planned	210(53.4)
No trust in health facility	49(12.5)

\*Economic condition, Decision making person's opinion

Husband and in-laws play dominant role in decision-making. This finding can be utilized for targeting men in IEC activities. Significant proportion of mothers hadn't planned for place of delivery.

**Table 16 : Distribution of Study Mothers According TT Vaccination During Pregnancy**

Status	T T			Total
	No TT	One TT	Two TT	
Pregnant	13 (02.1%)	125 (19.8%)	494 (78.2%)	632 (31.3%)
Recently delivered	23 (1.7%)	154 (11.1%)	1213 (87.3%)	1390 (68.7%)
<b>Total</b>	<b>36 (1.8)</b>	<b>279 (13.8%)</b>	<b>1707 (84.4%)</b>	<b>2022 (100%)</b>

**Table 17 : Distribution of Study Mothers According to ANC Visits and Education**

S. No.	ANC Visits	Education of mother		Total
		Illiterate	Literate	
1	One visit	233 (23.1%)	127 (12.5%)	360 (17.8%)
2	Two visits	237 (23.5%)	210 (20.8%)	447 (22.1%)
3	Three visits	355 (35.1%)	550 (54.3%)	905 (44.8%)
4	Four or more visits	20 (02.0%)	78 (07.7%)	98 (04.8%)
5	No visit	165 (16.3%)	47 (04.6%)	212 (10.5%)
	<b>Total</b>	<b>1010 (50.0%)</b>	<b>1012 (50.0)</b>	<b>2022 (100%)</b>

**Table 18 : Reasons for Not Availing ANC Care (n=212)**

Did not no. where to go	22(10.4)
Health facility too far	76(35.8)
Services too expensive	14(6.6)
No one to accompany	68(32.1)
Poor services	32(15.1)
Total	212(100)

**Table 19 : Distribution of Study Mothers According to Consumption of Iron and Folic Acid Tablets**

S. No.	No. of tablets	Number	%
1	< 100	854	42.2
2	100	939	46.4
3	00	229	11.3
<b>Total</b>		<b>2022</b>	<b>100</b>

**Table 20 : Distribution of Study Mothers According to Time of First ANC Visit (n=1810)**

S. No.	Time	No	(%)
1	First trimester	578	31.9
2	Second trimester	1192	65.9
3	Third trimester	40	02.2
Total		1810	100

**Table 21: Initiation of Breast Feeding after Delivery**

< 1 hour	398 (28.6%)
1-4 hours	392 (28.2%)
4 -24 hours	529 (38.1%)
> 24 hours	71 (5.1%)

**Table 22 : Practices Regarding Colostrums**

Colostrums Given	872 (62.7%)
Discard Colostrums	581 (37.3%)

Early initiation of Breast-feeding was found to be lower in the study. When asked about exclusive breast-feeding in FGDs nearly half of the respondents (2+) were in favour of giving Breast milk for 6 months. When asked about colostrums, over half of the mothers (3+) gave 1<sup>st</sup> milk to baby. Similar findings were reported in practices.

### 3.6 Morbidity and Mortality Status in Eligible Population

72 infant deaths were identified. IMR (52 per 1000 live births) is comparable at national level. IMR was found to be higher in scheduled caste (72 per 1000 live birth). IMR was proportionately higher in Muslims than Hindus. 72 infant deaths were identified during survey, out of which more than half (55.6%) of the deaths occurred in early neonatal period. Birth asphyxia and ARI were found to be the most common causes leading to death in early neonatal period. While ARI, pre-maturity and diarrhoea/dysentery were more common causes of death in later part of life. ARI appeared to be most common cause of death in infants. Only 56.9% have got treatment before death out of these 34.7% were satisfied by the treatment. Study revealed that incompetent doctors were the major reason for dissatisfaction. Majority said that they didn't get sufficient time to take child for treatment. 25.9% cases were consulted to quacks and taken home remedy. 1<sup>st</sup> level delay was found to be most common in majority of the cases (44.4%).

12 maternal deaths were identified during survey. This revealed high level of MMR in Rewa district. The main period of death was post partum period (66.6%) and the main cause of death was post partum haemorrhage (33.3%). Majority of the deaths were in the age group of 25-34years. Deaths were higher in illiterates and among housewives and labo urers. The main contributing factor narrated by family members was an aemia and extreme weakness in 5 out of 12 cases. 50% of the deliveries were conducted at home by relatives and TBA. Though 9 out of 12 cases were given the advice for referral at GMH and 8 were followed the advice, 2 of them died on way to hospital, 5 died in hospital and one on way to home after taking referral treatment. Three patients were advised to arrange blood but their relatives could not arranged blood and they died due to lack of resources. 1<sup>st</sup> level delay was found to be most common delay. Seven cases received full ANC. This shows the po or efficiency and quality of ante-natal care.

**Table 22: Causes of Maternal Death**

Sr. No.	Causes	Number	%
1.	Direct Obstetrical		
	Post-partum Haemorrhage	04	33.3%
	Sepsis	02	16.6%
2.	Indirect Obstetrical		
	CCF	02	16.6%
	Hepatitis	01	8.3%
	Malaria	01	8.3%
	Allergy to drug	01	8.3%
3.	Unidentified (Sudden Death)	01	8.3%
	Total	12	100.0

\* Anaemia was observed in 5 cases.

**Table23 : Shows Age-Wise Distribution and Cause of Death in Infant**

			Age at death			Total
			0-7	8-28	>28-1 yr	
<b>Diagnosis</b>	ARI	Count	8	8	5	21
		%	20.0%	66.7%	25.0%	29.2%
	Diarrhoea/ dysentery	Count	1	0	5	6
		%	2.5%	.0%	25.0%	8.3%
	Low birth wt.	Count	3	0	0	3
		%	7.5%	.0%	.0%	4.2%
	Pre-maturity	Count	6	2	0	8
		%	15.0%	16.7%	.0%	11.1%
	Birth asphyxia	Count	11	0	0	11
		%	27.5%	.0%	.0%	15.3%
	Sudden death	Count	3	1	1	5
		%	7.5%	8.3%	5.0%	6.9%
	Meningitis	Count	0	0	3	3
		%	.0%	.0%	15.0%	4.2%
	Cong abnormality	Count	5	0	2	7
		%	12.5%	.0%	10.0%	9.7%
	Malnutrition	Count	0	0	3	3
		%	.0%	.0%	15.0%	4.2%
	Sepsis	Count	0	1	0	1
		%	.0%	8.3%	.0%	1.4%
	Bite (venomous animal)	Count	0	0	1	1
		%	.0%	.0%	5.0%	1.4%
	Don't know	Count	3	0	0	3
		%	7.5%	.0%	.0%	4.2%
<b>Total</b>		Count	40	12	20	72
		%	100.0%	100.0%	100.0%	100.0%

**Morbidity in Newborns:** Out of 1390 deliveries 85 (6.1%) newborn had problems . 72 of these 85 patients seek medical help for problem .

**Table 24 Morbidity in Newborns**

Respiratory	38
LBW/PM	22
Diarrhoea/Dysentery	16
Fever	07
Congenital Anomalies	02
Total	85

**Morbidity in Mothers:** Out of 1390 deliveries 80 (5.6%) mothers had problems 6w eeks after delivery.

**Table 25: Morbidity in Mothers**

Pain	9 (11.2)
Fever	33 (41.3)
Post-partum bleeding	8 (10.0)
Convulsions	9 (11.2)
Perineal tear	12 (15.0)
Post-partum psychosis	2 (2.5)
Not specified	7 (8.7)

Out of 2022 mothers 97 (4.8%) had complications during pregnancy

Fever	22 (22.7)
Malaria	47 (48.4)
Convulsions, Blurred vision	5 (5.2)
High BP, swelling	9 (9.3)
Bleeding per vaginum	9 (9.3)
Not specified	5 (5.2)

**Table 26 : Reasons for not Availing Health Services (n=42)**

Economic reason	15 (35.7)
Not perceived as serious problem	12 (28.6)
Family reason*	6 (1.4)
Health facility too far	9 (2.1)

No one to accompany, decision-making person's opinion

### 3.7 Birth Preparedness Index in Population Had Morbidity and Mortality

Total 290 mothers and newborn have had experienced health problem and mortality during pregnancy and 6 weeks after delivery.

**Table 27 : Birth Preparedness Index in Population had Morbidity and Mortality**

Health status	1*.	2*.	3*.	4*.	5*.	6*.	7*.	BP CR Index
Population have had complications (290)	9.1	14.2	75.1	5.5	59.5	78.3	36.4	39.7
Healthy outcome (1732)	20.9	19.5	77.2	35.5	71.2	80.3	45.0	49.9

<b>S.No.</b>	<b>Indicator</b>
1.	% of the women who knew about > 8 danger signs of pregnancy .
2.	% of the women who knew about transportation services provided by government in Janani Express Yojana .
3.	% of the women who knew about financial assistance provided in Janani Suraksha Yojana.
4.	% of the women availed ANC in 1 <sup>st</sup> trimester by skilled provider .
5.	% of the women who identified skilled birth attendant for delivery .
6.	% of the women who identified mode of transportation .
7.	% of the women who are saving money/saved money to pay for expenses .
BP and CR index	Mean= Indicator 7

## CHAPTER 4

### CONCLUSION AND RECOMMENDATIONS

Lack of specialist manpower in CHCs for the provision of CEMOC services was observed in all the 9 CHCs. Cases with complications were referred to higher centers only. Inadequate supply of vaccines required as per national immunization schedule in 66% of the CHCs short supply of syntocinon in some CHC affected the quality of services. Facility for blood storage and anaesthetic kits was altogether absent in all the CHCs.

Knowledge and competency for diagnosing and management of complications was not up to the set benchmarks in health care providers. Though health care workers had good knowledge of key components of ante natal care, study revealed ante-natal care has been limited to the provision of IFA tablets and TT injections only. There is an urgent need to address these issues in an appropriate manner.

BP Index in the study population was found to be 47.5%. BP/CR index was significantly high in above poverty line families (50.9), higher educational level (63.6) and in-service and business group (59.3). BP/CR was significantly higher in primi-para (50.9) as compared to multipara (40.1) BP/CR was significantly lower in population experiencing morbidity and mortality (39.7%).

BP Indicators: Knowledge of danger signs (18.6%), knowledge of transportation services (18.6%), 1st trimester registration (24.1%) and population saved money (44.2%) was found to be lower.

Transport: Most of the respondents have done planning for transportation (78.7%). But majority of the people arranged private vehicle for emergency. Though all the CHCs have transport facility available (Janani Express Yojana) but most of the respondents were not aware about this (18.6%).

Decision Taking: Men play important and dominant role in making decision that are crucial to women health. Study revealed the fact that husbands and mother -in-laws play major role in deciding the eventual place of birth. It is encouraging to note that a good proportion of husbands accompany women during delivery. This point of contact should be utilized for IEC activities.

#### **Recommendations**

##### ***Policy level***

- Make sure that vacant post of specialist should be immediately filled at the CHC level. In the mean time, MO posted at the CHC should get training in basic anaesthetic procedures. Anaesthetists and Gynae-Ob specialist can be hired on contractual basis. It should be time bounded. Responsibilities should be fixed from higher to lower level.

Inadequacy of equipments (an aesthetic kits), drugs, and blood storage facilities should be filled up urgently to make OT fully operational.

- Monitoring and supervision of JSY need to be strengthened to prevent the discrepancies in payment received.
- Intense IEC campaigns need to be organized for awareness generation of Janani Express Yojana.
- At sub-centre and PHC level locally available vehicle could be identified and hired at contractual basis.

### ***Health care providers***

- Repeated practical reorientation training (at least once in a year) should be undertaken in standard procedures for diagnosis and management of complications to fill up the existing gap.
- Repeated capacity building workshops should be organized for ANM to enhance their capabilities for improving the efficiency of ante-natal services.

### ***Community level***

- There is a need to include the family members in intense IEC activities.
- Intense IEC activities should be undertaken for awareness of danger signs and earliest possible ante-natal check-kup.
- Husbands should be encouraged to accompany wives during ante -natal visits.

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