

Facility Survey of Delivery Points in Satna District, Madhya Pradesh

By

Rupal Shrivastava

*Dissertation submitted for the partial fulfillment of the
MBA Hospital and Health Management*

Academic year, 2015-2017



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TO WHOMSOEVER MAY CONCERN

This is to certify that **Dr Rupal Shrivastava** student of **MBA Health Management** from The IIHMR University, Jaipur has undergone internship training at **National Health Mission**, Madhya Pradesh from **February 6th, 2017 to May 5th, 2017**.

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all his future endeavors.



Dr. Ashok Kaushik
Dean - Academics and Student Affairs
The IIHMR University, Jaipur



Dr. Arindam Das
Associate Professor and Associate Dean Research
The IIHMR University, Jaipur



कार्यालय मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी
जिला सतना म.प्र.



The certificate is awarded to

Dr Rupal Shrivastava

In recognition of having successfully completed her

Dissertation in the department of

District Health Society, Satna

and has successfully completed her study on

“Facility Survey of Delivery Points in Satna District of Madhya Pradesh”

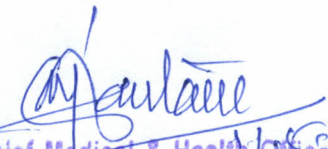
Duration of three months (06th February to 06th May)

Organization:

National Health Mission, Madhya Pradesh

She comes across as a committed, sincere and diligent person who has a strong drive and zeal for learning

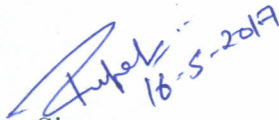
We wish her all the best for future endeavors


मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी
जिला सतना (म.प्र.)
2017

सतना दिनांक.....

CERTIFICATE BY SCHOLAR

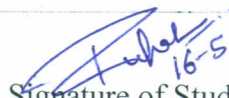
This is to certify that Facility Survey of Delivery Points in Satna District of Madhya Pradesh- A study submitted by Dr. Rupal Shrivastava, Enrollment No. IIHMR-U/01/2015-17/0338 under the supervision of Dr. Arindam Das for award of Postgraduate MBA in Hospital and Health of the University carried out during the period from 6th February 2017 to 5th May 2017 embodies my original work and has not formed the basis for the award of any degree, diploma associateship, fellowship, titles in this or any other Institute or other similar institution of higher learning.


Signature

THE IIMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled '**Facility Survey of Delivery Points in Satna District of Madhya Pradesh**'.


16-5-2017
Signature of Student

ACKNOWLEDGEMENT

*I feel privileged in expressing my kindest gratitude to **Dr. D.N. Gautam (CMHO, Satna, MP)** under whose able guidance and supervision this study was conducted. The keen interest he evinced throughout this period and the graciousness with which he gave his valuable advice was his exclusive acumen.*

*I also feel privileged in expressing my thanks to **Dr. Vijay Aarakh (DHO1, Satna)**, who motivated and guided me at each step, **Mr. Nripesh Singh (DPM, Satna)**, **Ms. Nirmala Thandwal (DPHNO, Satna)**, whose guidance and support was always there for me.*

I would be failing in my duties if I miss to acknowledge and thank all those co-operating people who formed the subject of this study. These include the entire team of CMHO office, Satna, MP. They extended their wholehearted co-operation in different phases of my project.

*I am indebted to my family especially my **father Mr. Jitendra Kumar Shrivastava and mother Mrs. Poonam Shrivastava** who helped me in every possible way during my training.*

In the end I thank all those fellows and colleagues who have helped me in making this project a success and my apologies to anyone whose name I would have inadvertently forgotten to mention here.

(RUPAL SHRIVASTAVA)

PREFACE

Internship Training is an integral part of MBA Hospital and Healthcare Management as part of curriculum of the course students of the 2nd year are required to undergo Internship and get better understanding of Health Care System.

- Overall monitoring and supervision of Maternal and Child Health Programs and Services as well as Resources under Package of Reproductive and Child Health Programme/National Health Mission, District Health Society.
- Provision of Consultant Support to district and peripheral level and grass root level functionaries.
- Monitoring of Maternal and Child Health Resources including Contractual Staff under RCH II/NHM Programme which include relating to posting, transfer, Performance Monitoring, training etc.
- Monitoring of Financial Matters related to expenditure, releasing grant, preparation of budget.
- Supervision and Assign Task to DPMU Staff, Nursing Mentor and establishing proper monitoring System and Provide Feedback Mechanism and Provide feedback for improvement.
- Overall logistic Management related to Maternal and Child Health, DPMU Satna.
- Necessary support to technical department appointed at field level during the field visits.
- Analysis of physical progress report and corrective measures to improve the same regarding maternal and child health component.
- Identification of cause of delay which is unreasonable in achievement of milestones.
 - Regular report and feedback on Programme to MOH.

Abbreviations:

DH: District Hospital

CHC: Community Health Centre

MCH: Maternal and Child Health

NBCC: New Born Care Corner

PHC: Primary Health Centre

FRU: First Referral Unit

SHC: Sub-district Health Centre

SNCU: Special Newborn Care Unit

CEmOC: Comprehensive Emergency Obstetric Care

BEmOC: Basic Emergency Obstetric Care

ANM: Auxillary Nurse Midwife

CMHO: Chief Medical and Health Officer

BMWM: Bio Medical Waste Management

PNC: Post Natal Care

WHO: World Health Organization

MNH: Maternal and Newborn Health

RBSK: Rashtriya Bal Suraksha Karyakram

DP: Delivery Point

Abstract:

Background:

The pregnancy-related morbidity and mortality continues to have a huge impact on the lives of Indian women and their newborn. Around 70 percent of maternal deaths can be prevented by small intervention which required availability and functionality of adequate essential equipments, drugs, skilled human resource, and infrastructure (WHO 2014).

The maternal mortality ratio is the number of women die from any cause related to or aggravated by pregnancy or pregnancy management (excluding incidental or accidental causes) during pregnancy and childbirth or within fourty two days of termination of pregnancy, irrespective of the site of the pregnancy and duration, per 100,000 live births.

Objectives:

The study aims to assess the required equipments, drugs, human resources and infrastructural facilities in labour room of delivery points in Satna district;

- Availability of essential equipments
- Functionality of essential equipments
- Utilization of essential equipments
- Training status of available human resources
- Infrastructure facilities
- Drugs and supplies

Methodology:

A mixed method approach (Qualitative and Quantitative research) was adopted for this study. It was a descriptive cross sectional study using supportive supervision checklist was conducted to assess inputs (infrastructure, equipments, drugs and trained personnel) in the labor rooms of eight CHC of eight blocks out of total 32 delivery points (DH, CHC, PHC and SHC) in Satna district of Madhya Pradesh during 3 months, from February 6th 2017 to April 5th 2017.

Results:

Nearly three fourth of the respondents (73.8%) had knowledge of protocols followed in Labour room but lacked detail and indepth knowledge of the component parts of the partograph, AMTSL, PPH management, Pre-eclampsia management and eclampsia management., knowledge of seven delivery trays set-up, equipment functionality, drugs availability had a significant relationship with its utilization. Little knowledge knowledge of the partograph (50%), lack of retained knowledge on AMTSL, PPH management (60%), availability of non-expired drugs (40%), shortage of staff (51.5%) and the fact that most of them were less motivated towards their work.

Conclusion:

The Maternal and Neonatal deaths can be reduced to a large extent if all the protocols regarding infrastructure, equipment and drugs, trained human resource are followed as per the guidelines and standards. For this, regular monitoring and supervision is required, starting right from the ground level up to the highest administrative level. Only then will the gaps be identified in time, and corrective measures planned and appropriate action taken.

Keywords: Availability, Functionality, Utilization, Protocols, Partograph, Equipments, Labour room Monitoring.

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1) Introduction

The Government of India is committed and focused on reducing maternal and newborn mortality in the country. Substantial efforts have been made to achieve this goal through a number of initiatives, one of them being Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCH-A) strategic approach implementation. Also, India has made significant improvements in the rate of institutional deliveries in the country (owing to initiatives like Janani Suraksha Yojna) with a vision to ensure access to evidence based practices at the time of childbirth. Despite these efforts and increased numbers in institutional deliveries, the goal of achieving desired reduction in maternal and newborn mortality in the country is difficult to be realised in absence of high-quality of intra-partum and immediate postpartum care at institutions.

The National Health Mission has made it widely known that improving quality of care at the time of childbirth and considering mothers and newborn as a dyad for focus of intervention during the said period have the potential to save a majority of maternal and newborn lives. To ensure that the services are available and provided as per the standards, checklists have been prepared, including protocols and practices followed in the labor room, New Born Care Corner (NBCC), Maternity Ward, knowledge, training and practices followed by the staff posted in the respective departments. These checklists are to be used and filled by the monitoring staff, including MCH consultants, Nursing Mentors, RBSK coordinators during their visits of these facilities as their role is to provide supportive supervision to all the staff and departments.

Gap analysis was conducted at the delivery points in Satna which is one of the 17 HPDs (High Priority District) of Madhya Pradesh, to provide information for prioritizing the interventions so as to meet the objectives of reducing maternal and child deaths. This baseline data can be used for setting targets and strategies by the district administration. Specifically, the analysis was aimed at measuring the gaps in resource availability and utilization (infrastructure, equipments, trained human resource, and drugs), strategies for change of behaviour at block level to ensure

utilization, timeliness, continuity and quality implementation of necessary interventions.

This document highlights gap analysis results and provides planners and program managers with sufficient information and evidence to initiate and strengthen district level health planning to address the deficiencies and strengthen the health system.

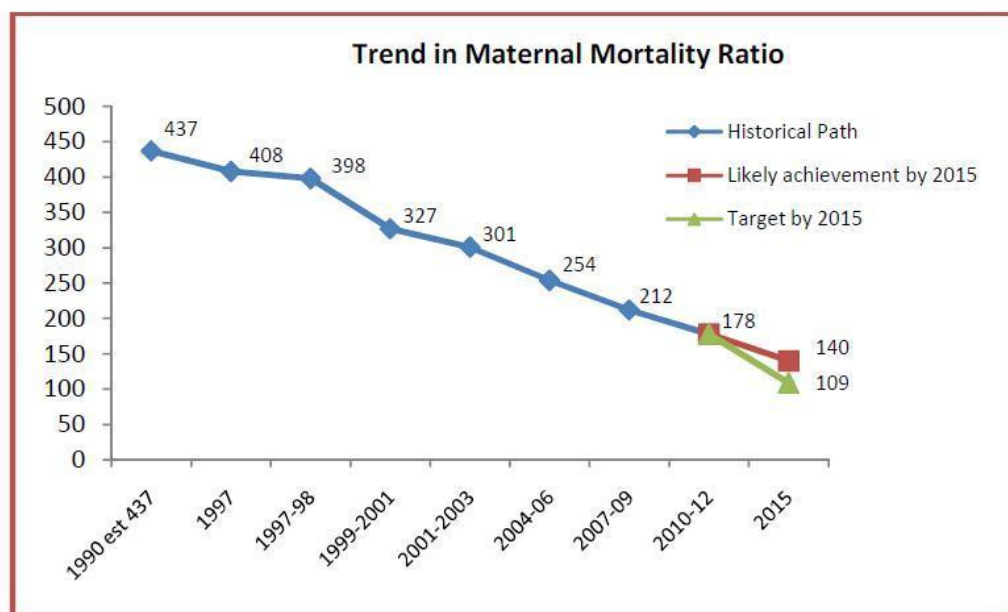
2) Literature Review:

Each year in India, roughly thirty million women experience pregnancy and twenty eight million have a live birth. Of these, an estimated 69,000 maternal mortality and one million newborn deaths occur each year. Besides, millions more women and newborn suffer pregnancy and birth related ill-health. Thus, pregnancy-related morbidity and mortality continues to have a huge impact on the lives of Indian women and their newborn.

The maternal mortality ratio is the number of women who die from any cause related to or aggravated by pregnancy or its management (excluding incidental or accidental causes) during pregnancy and childbirth or within forty two days of termination of pregnancy, irrespective of the duration and site of the pregnancy, per one lakh live births.

2.1 MMR Trend:

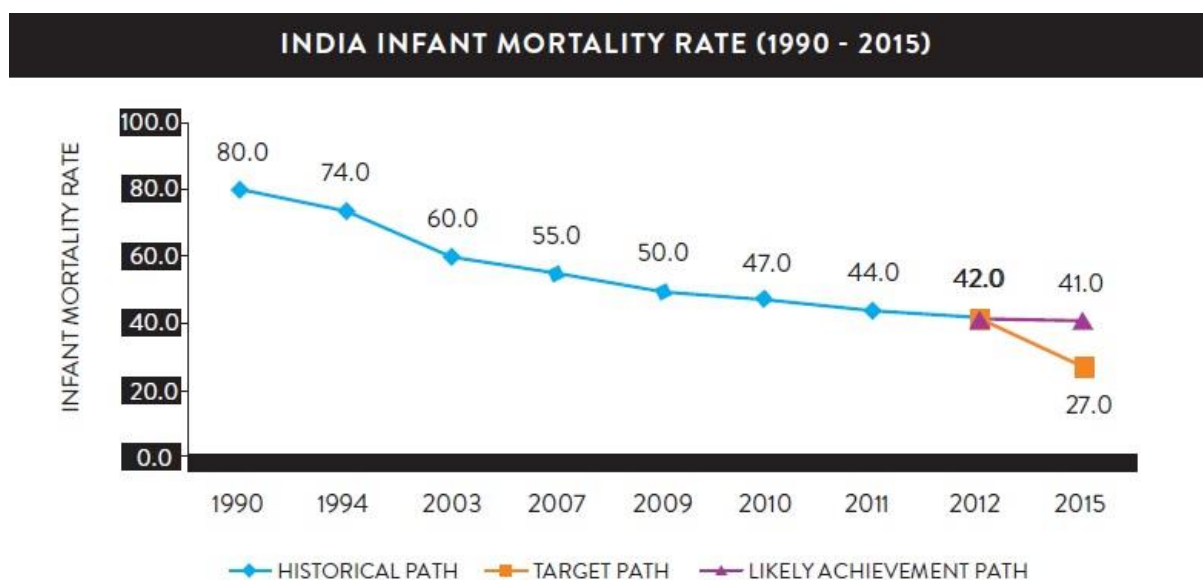
Fig. 1



Source: Sample Registration System, Office of Registrar General of India

2.2 IMR Trend:

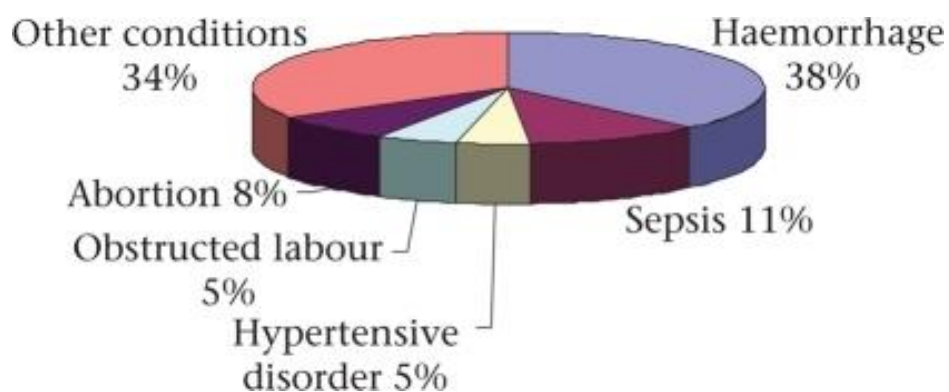
Fig. 2



Source: Office of the Registrar General & Census Commissioner, India

Fig. 3

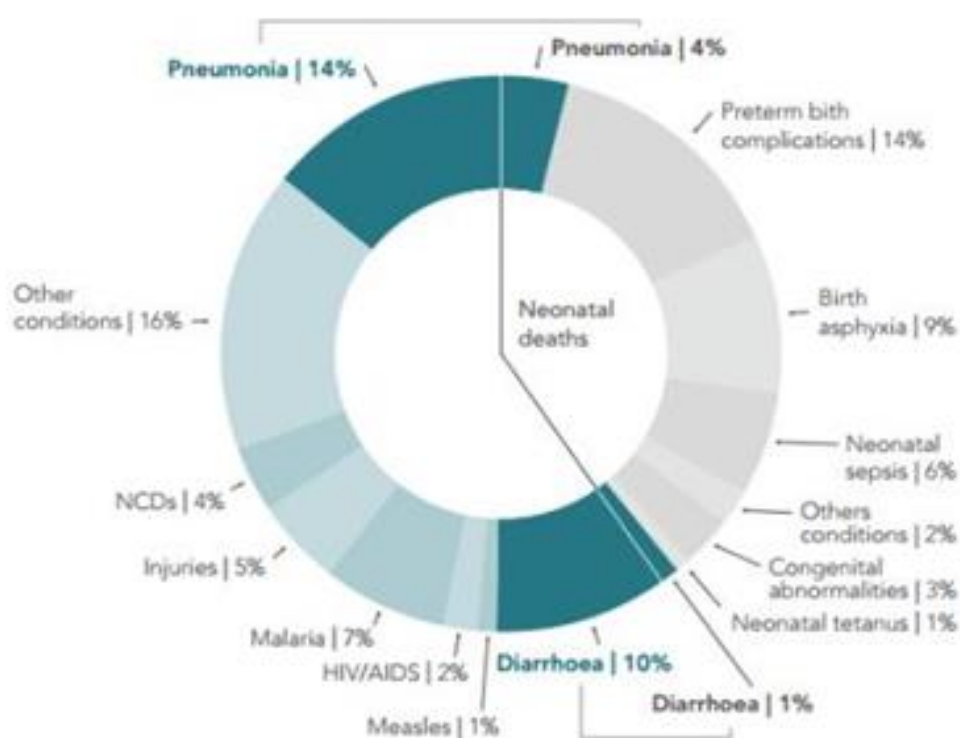
2.3 Causes of Maternal Mortality in India



Source: RGI (1197-2003)

2.4 Causes of Infant Mortality

Fig. 4



Source: WHO

As is evident from the data, majority of the maternal and newborn deaths are occurring either during pregnancy or within 48 hours of delivery. This is the time period when the pregnant women and later both the mother and the newborn are at the health facility. Despite this fact, their deaths are happening which indicates that there is either non-availability of services or non-utilization of the available services.

Public health facilities such as the District Hospital (DH)/Sub-district Hospital (SDH)/Community Health Centre (CHC)/Primary Health Centre (PHC)/Sub-district Health Centre (SHC) are regarded as depending on the levels (1, 2 and 3) of maternal and child health care and service delivery. Among these, some have been categorized as delivery points based on their performance and case load.

2.5 MCH Centres:

Level 3 – (Comprehensive Level-FRU): All FRU-CHC/SDH/DH/referral hospitals/ area hospitals/tertiary hospitals where complications are managed including Caesarean-section and blood transfusion. An FRU shall be equipped also with a Newborn Stabilization Unit (NBSU) at CHC/SDH/others or Special Newborn Care Unit (SNCU) at DH and above levels. A District Hospital has to be a Level 3 institution irrespective of caseload.

Level 2 – (Basic Level): All 24x7 facilities (PHC/Non-FRU CHC/others) which are providing BEmOC services; conducting deliveries and managing the medical complications (not requiring surgery or blood transfusion) and have either a NBCC or NBSU.

Level 1 – All sub-centres and some PHCs which have not yet reached the above level of 24x7 PHC: where deliveries are conducted by a skilled-birth attendant (SBA). An NBCC must be established essentially in all such facilities.

2.6 Delivery points:

Provision of service for delivery in a facility basically serves as an important indicator to assess whether the facility is operational or not operational. The concept of delivery point emerges from this presumption. Among them, designated as L1, L2 and L3 there are some facilities which are conducting deliveries above a minimum benchmark. These facilities are designated as Delivery Points according to Government of India (GoI) mandate; these functional facilities should be strengthened first for providing comprehensive reproductive maternal newborn and child health (RMNCH) services. Benchmarks for each level of facility are based actually on average number of deliveries being conducted per month.

A gap identification and analysis was done at various delivery points in Satna district of Madhya Pradesh in order to prioritize the activities required to fill these gaps and thus improving maternal and newborn health in the long run.

3) Research Question:

The Research Question of the study (as per the checklists in MNH toolkit and *Dakshta Abhiyan*) is:-

Are the following required inputs i.e.

1. Essential equipments are available?
2. Essential equipments are functional?
3. Skilled human resource are available?
4. Infrastructure and drugs are available?

in the labor rooms of CHC (the delivery points) in each respective eight blocks i.e. Kothi, Uchchera, Amarpatan, Nagod, Maiher, Rampur Baghelan, Majhgawan and Ramnagar of district Satna, Madhya Pradesh.

4) Research Objective:

The study aims to assess the required equipments, drugs, human resources and infrastructural facilities in labour room of delivery points in Satna district;

- Availability of essential equipments
- Functionality of essential equipments
- Utilization of essential equipments
- Training status of available human resources
- Infrastructure facilities
- Drugs and supplies

5) Methodology:

The main objective of conducting situation analysis at district level in high priority district Satna of Madhya Pradesh is to understand the gaps in implementation of a set of strategic MCH services, so that a baseline for monitoring the progress of MCH is established, which can also be used for setting targets and strategies by the district administration.

5.1 Type of study:

A mixed method approach (Qualitative and Quantitative research) was adopted for this study. It was a descriptive cross sectional study using supportive supervision checklist was conducted to assess inputs (infrastructure, equipments, drugs and trained personnel) in the labor rooms of eight CHC of eight blocks out of total 32 delivery points (DH, CHC, PHC and SHC) in Satna district of Madhya Pradesh during 3 months, from February 6th 2017 to April 5th 2017.

5.2 Study Area:

Satna is one of the district in seventeen high priority districts in MP and has eight number of blocks having eight CHCs out of total thirty two number of delivery points.

5.3 Sampling Framework:

A comprehensive list of all the 32 delivery points is made separately for all the eight blocks including DH under district Satna.

Convenient sampling is done and each CHC from each respective eight blocks are taken.

Finally survey is conducted at all the selected facilities.

5.4 Data Collection Procedure:

Primary data was collected by observing available staff in labor room, physical verification of availability and functioning of required infrastructure, drugs and equipments in the labor room. Data for the study was collected during the months of February, March and April 2017 by the researcher in Satna district of Madhya Pradesh to assess the current situation of labor rooms at the delivery points.

5.5 Data Collection Tools and Techniques:

Primary data was collected from the institutions with the help of supportive supervision checklist provided in the MNH Toolkit which have been designed for the use by Monitoring Personnel and the Supportive Supervisors which contain the information regarding the RMNCH+A services. The checklist was filled by direct observation or by asking the concerned staff on duty about the listed services or equipment, physical verification of availability and functioning of required infrastructure, drugs and equipments in labour room, remarks were noted and quality aspects were explored by interaction with respondents. To

collect the data of HR availability, their stay at work station and training status was reviewed in records and reports provided by training officer.

Number of institutions covered: (all the CHCs {delivery points} were visited and studied in the study). However DH was also visited and available data is shown in study.

DH: 1 (Satna)

CHCs: (Amarpatan, Rampur Baghelan, Kothi, Maiher, Nagod, Ramnagar, Uchchera, Majhgawan)

5.6 Sample Selection:

Convenience Sampling of the delivery points, selectively CHC from eight respective blocks were taken.

6) General Profile of Satna District:

Satna District is situated in the Vindhyaachal Plateau of MP state. The district is located in between the Vindhyaachal and Satpura hills. The district have boundaries of Banda district of UP state in North, Rewa and Sidhi districts in the East, Panna district in the West and Jabalpur and Umaria districts in the South. The District is located in between 23.58 degree North Latitude to 25.12 degree North Latitude and 80.21 degree East Longitude to 81.23 degree East Longitude. The district is situated about three hundred five metres above the mean sea level. District consist of six Sub divisions, ten Tehsils, four Hundred Thirty Eight Patwar Circle, seven Hundred three Panchayat Samities, One Nagar Nigam, One Nagar Palika, Nine Nagar Panchayat, 703 Gram Panchayats, Eighteen Hundred Sixteen Revenue village and Seven Assembly Area. Having 2178.655 Km (Pukka) all weather road and

2263.535 (Kachcha) seasonal road. Average climate ranges from 05 Degree Celcius to 46 degree Celcius. Annual rainfall is about 1200mm.

Table 1: Demographic Profile – District Satna (MP)

Indicator	State	District
Total Population (census 2011)	72,626,809	2,228,935
Urban Population (census 2011)		474,418
Rural Population (census 2011)		1,754,517
Male Population (census 2011)		1,157,495
Female Population (census 2011)		1,071,440
Crude Birth Rate (AHS- 2012-2013)	24.5	28.2
Crude Death Rate (AHS- 2012-2013)	7.7	10.2
Sex Ratio (census 2011)	931	926
Child Sex Ratio (census 2011)	943	910
Total Literacy Rate (%) (census 2011)	69.32	72.26

Table 2: Major Indicators (AHS- 2012-2013)

SN	Indicator	State	District
1	Maternal Mortality Ratio MMR	227	268(Rewa Division)
2	Neonatal Mortality Rate NMR	42	57
3	Infant Mortality Rate IMR	62	83
4	U5MR	83	121
5	Total Fertility Rate TFR	3.1	3.6

7) Ethical Considerations:

An informed Consent Process was carried out at prior to start of Data Collection. Patient's confidentiality is maintained during the study.

8) Ethical Approval

The study was presented to the ethical committee of IIHMR University, Jaipur.

Quantitative and Qualitative data is collected as a part of this study, using the above mentioned tools.

9) Results and Findings

9.1 Labor Room

9.1.1 Infrastructure :

	Separate Labor Room	7 Trays Available	Functional Kelly's Pad	BMWM	Privacy	16 Protocols	Functional NBCC
Kothi	Yes	Yes	No	Yes	Yes	No	Yes
Maiher	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Amarpatan	Yes	Yes	No	No	Yes	No	Yes
Rampur Baghelan	Yes	No	No	No	No	No	No
Majhgawan	Yes	Yes	No	No	Yes	No	Yes
Uchchera	Yes	Yes	No	No	No	No	No
Ramnagar	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nagod	Yes	Yes	Yes	No	Yes	No	Yes

9.1.2 Practices

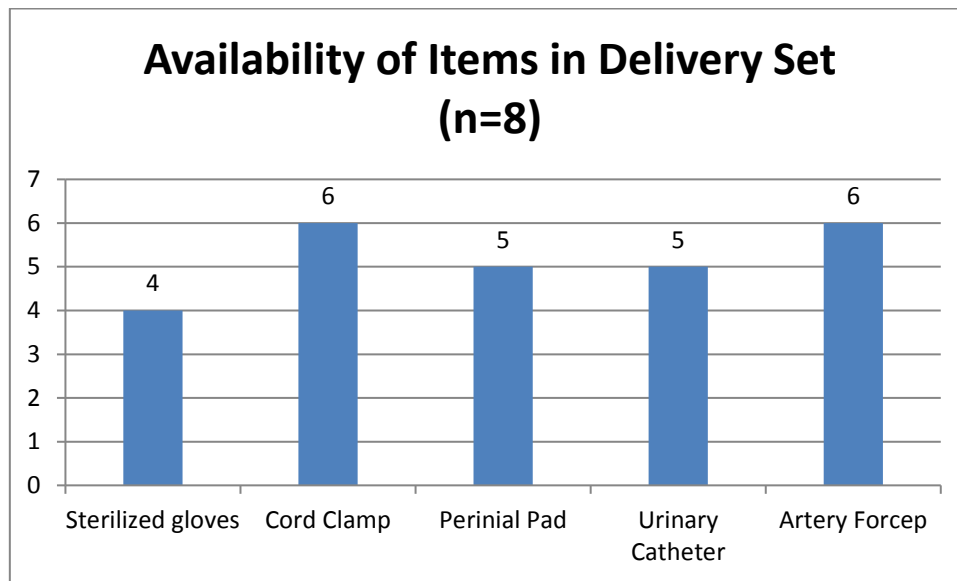
	Partograph	AMTSL	Initiating Early Breast Feeding	Inj. Vit K1	0 Day Immunization
Kothi	No	Yes	Yes	Yes	Yes
Maiher	Yes	Yes	Yes	Yes	Yes
Amarpatan	Yes	Yes	Yes	Yes	Yes
Rampur Baghelan	No	No	Yes	Yes	Yes
Majhgawan	Yes	Yes	Yes	Yes	Yes
Uchchera	Yes	No	Yes	Yes	Yes
Ramnagar	Yes	Yes	Yes	Yes	Yes
Nagod	Yes	Yes	Yes	Yes	Yes

9.1.3 Equipment

	Autoclave	Delivery Kit
Kothi	Yes	Yes
Maiher	Yes	Yes
Amarpatan	Yes	Yes
Rampur Baghelan	No	No
Majhgawan	No	Yes
Uchchera	No	Yes
Ramnagar	Yes	Yes
Nagod	Yes	Yes

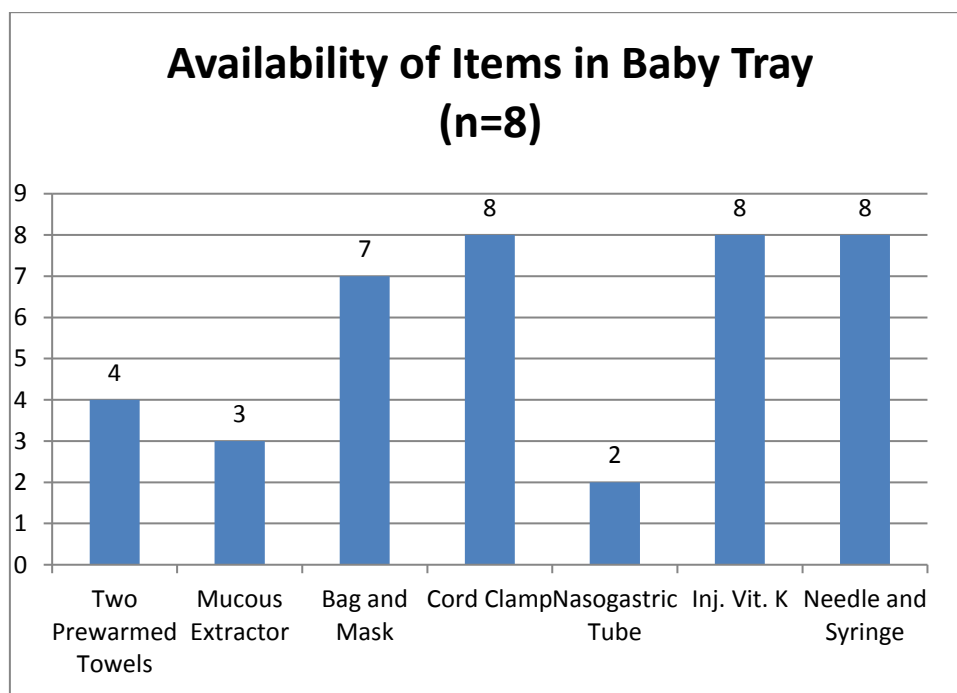
9.1.4 Delivery kit

Fig. 5



9.1.5 Baby Tray

Fig 6



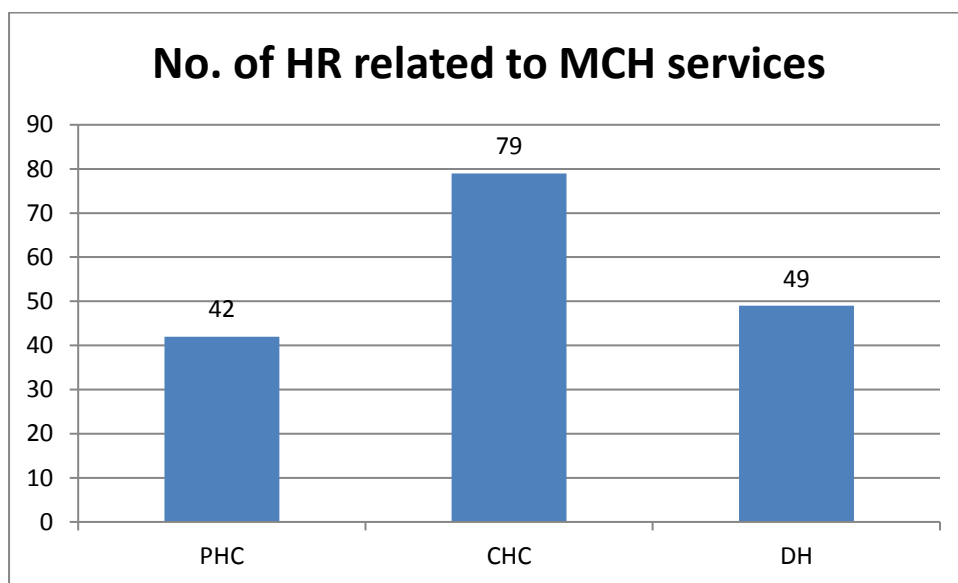
9.1.6 New Born Care Corner

Out of eight functional CHCs only six of them were having functional NBCC.

9.2 Human Resource

Number of Existing HR Related to MCH Services

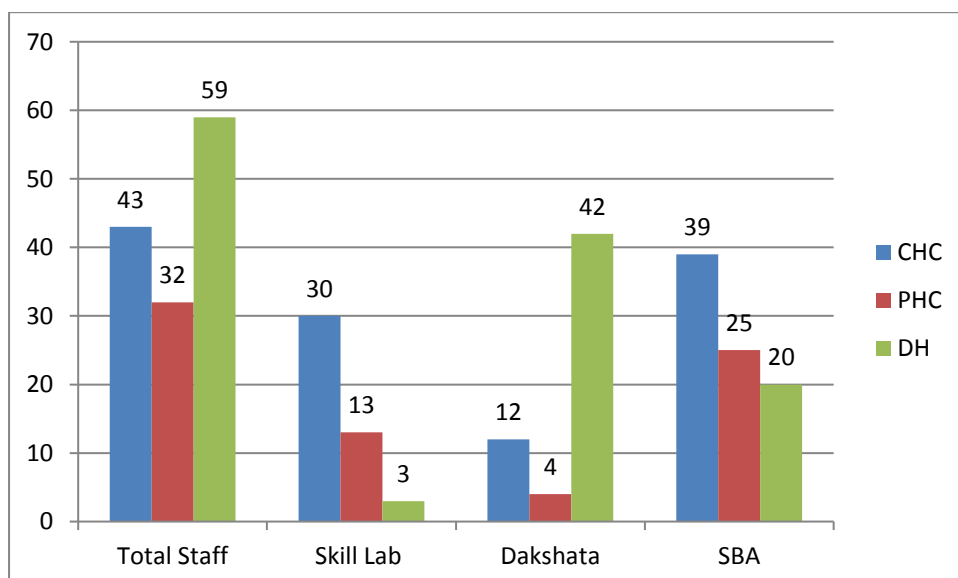
Fig. 7



9.3 Training Status

Fig. 8

Training Status of HR Related to MCH Services:



10) Discussion:

As is seen from the data collected and presented in the form of graphs, the outcome of pregnancy is positive (i.e. safe delivery of a healthy newborn and a healthy mother) when there are all the inputs as per the standard guidelines, including infrastructure, equipment, drugs, trained staff and following of standard procedures.

Filling of the partograph is important to recognize the danger signs, if any, in the pregnant women. Therefore, it is of great importance that all the staff is well trained and experienced in filling the partograph accurately. This would help in timely detection of danger signs and thus timely initiation of corrective measures to be taken.

A functional radiant warmer is necessary, without fail, to ensure the management of any newborn who has either respiratory distress/ birth asphyxia or is of low birth weight. Such newborns need essential newborn care which cannot be provided at the labor table or in the mother's lap. The radiant warmer is necessary to prevent hypothermia in the newborn and also if the newborn requires resuscitation.

For the purpose of new born resuscitation, a functional ambu bag with masks of sizes 0 and 1 should always be available at the radiant warmer. Also, it is imperative that the staff posted in the labor room is trained to use it effectively on the newborn.

The training of the staff posted in the labor room is also of paramount importance, because if the staff is not knowledgeable about the standard protocols and procedures to be followed, mistakes are bound to happen which may turn out to be harmful to the woman and her child.

Sterilization and Bio Medical Waste Management are also of great importance in order to control infection, both to the mother and the newborn. Proper sterilization of all the instruments used during delivery and resuscitation, if required, is mandatory to prevent infection. Also, all the soiled material should be disposed off as per the BMWM protocols, so that it can be sent to the processing effectively.

All the above mentioned points are a part of the checklists which are used during the monitoring and supervision visits to the delivery points. They are, no doubt, of great

importance during and after the delivery so that a positive outcome is got from the woman's pregnancy and in the long run, to reduce Maternal Mortality and Neonatal Mortality.

11) Conclusion:

As is evident from the study, the load of Maternal Deaths and Neonatal Deaths can be reduced to a large extent if all the protocols regarding infrastructure, equipment and drugs, trained Human resource are followed as per the guidelines and standards. Also the procedures which are to be followed in the labor room as well as during PNC are to be as per the standards. All these factors combined, along with a positive supportive supervision and good communication at all levels (block-district-state) in order to converse and fill the gaps, are the key to deliver satisfactory services to pregnant women. Only planning and initiating programs once is not the way to meet the goals or objectives of any programme. For this, regular monitoring and supervision is required, starting right from the ground level up to the highest administrative level. Only then will the gaps be identified in time, and corrective measures planned and appropriate action taken.

Around 70 percent of maternal deaths can be prevented by small intervention which required availability and functionality of adequate essential equipments, drugs, skilled human resource, and infrastructure (WHO 2014).

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