A Study to evaluate Quality of essential and improved Maternal and New born care during institutional deliveries at government facilities in Araria, Bihar.

by

Dr Ruby Gloria Barla

Enroll No. PG/17/48

Under the guidance of

Dr Vinay Tripathi

Assistant Professor

Post Graduate Diploma in Hospital and Health Management

2017-19

International Institute of Health Management Research

New Delhi

"Assessment of Quality of essential Care during childbirth at government facilities in Araria, Bihar"

SUBMITTED BY: DR. RUBY GLORIA BARLA

PGDHM HEALTH STREAM:BATCH 2017-2019

1. Objective is to evaluate the quality of essential and improved MNH (maternal and new born) care during institutional deliveries at government facilities in Araria, Bihar. The observational study was conducted among nine government facilities of Araria, Bihar between February 2019 to April 2019. The study was done in the Labour room of the government facilities in nine blocks of Araria. Data was collected on healthcare services for two major domains maternal and new born under ten headings that is five for maternal and five for new born care. We then aggregated the headings into 44 care practices that is 23 obstetrics and 11 neonatal and check points are given for those practices and scored each practice 2 if fully covering the check points, 1 if partially covering the check points and 0 if no check points have been covered. Most of the practices is having multiple checkpoints and some had only observing the case. Finally, summary scores for obstetrics and neonatal essential care based on 44 clinical care practices were calculated as the percentage of quality of care during childbirth. Sample size of 225 deliveries were taken for clinical observation in nine government facilities of Araria district of Bihar. Overall poor quality of care- essential MNH care during childbirth was found to be lacking across our entire sample of facilities although Sub-divisional hospital and one referral hospital the quality of care was quite better than the other facilities. Reference: Facility Based New Born Care (FBNC) Operational Guide, MOHFW, GOI 2011, National Family Health Survey-4, 2015-16, State Fact Sheet, Bihar, Kangaroo Mother Care & Optimal feeding of low birth weight Infants- Operational Guidelines, MOHFW, GOI, September,2014.

CARE INDIA
Solution for Sustainable Development
14, Patliputra Colony
Patna 800 013, Bihar
Tel +91-612-2274957, 2274389, 2270464
Fax +91-612-2274957
www.careindia.org
CIN : U85100DL2008NPL178133

CERTIFICATE

The certificate is awarded to
Dr Ruby Gloria Barla

In recognition of having successfully completed her
Internship in the department of

Bihar Technical Support Program
and has successfully completed her Project on

ASSESSMENT OF QUALITY OF ESSENTIAL CARE DURING CHILDBIRTH IN FACILITIES OF ARARIA DISTRICT, BIHAR
04th FEB'19- 03rd MAY'19
CARE INDIA, BIHAR

She comes across as a committed, sincere & diligent person who has a strong drive
and
zeal for learning
We wish her all the best for the future endeavors

Deputy Director-Human Resources

PART-1

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr Ruby Gloria Barla** student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of health Management Research, New Delhi has undergone internship training at **CARE India, Bihar** from 4th February 2019 to 15th May 2019.

This 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 fulfilment of the course requirements.

I wish her all success in all her future endeavours.

PK Panda

Dr. Pradeep K Panda
Dean, Academics and Student Affairs
IIHMR, New Delhi

Dr. Vinay Tripathi
Assistant Professor
IIHMR, New Delhi

Certificate of Approval

The following dissertation titled **"Assessment of Quality ofessential careduring childbirth at government facilities in Araria"** at **"CARE India, Bihar"** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expresser or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation.

Name:	Signature:
Dr Madhulekha Bhattacharya	M Bhattya 30/5/19.
Dr. Nitish Dogra	
Dr. Pankaj Taloreja	

Certificate from Dissertation Advisory Committee

This is to certify that **Dr Ruby Gloria Barla,** a graduate student of the **Post Graduate Diploma in Health and Hospital Management** has worked under the guidance and supervision. she is submitting this dissertation titled **"Assessment of Quality of essential care during childbirth in Araria, Bihar"** at **"CARE India, Bihar"** in partial fulfilment of the requirements for the award of the **Post Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr. Vinay Tripathi
Assistant Professor
IIHMR, New Delhi

24/5/19

Mr. Saurav Tiwari
DRU Team Lead, Araria
CARE India, Bihar

INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **"Assessment of Quality of essential Careduring childbirth at government facilities in Araria, Bihar"** and submitted by **DR. RUBY GLORIA BARLA**Enrolment No. **PG/17/048** under the supervision of **Dr. Vinay Tripathi** for award of Post Graduate Diploma in Hospital and Health Management of the institute carried out during the period from **4th February 2019 to 15th May 2019** 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.

Dr. Ruby Gloria Barla
PG/17/048
Health Batch 2017-19
IIHMR, New Delhi

FEEDBACK FORM

Name of the Student : **Dr Ruby Gloria Barla**

Dissertation Organisation : CARE India, Bihar

Area of Dissertation : ***Assessment of Quality of essential care during childbirth in Araria, Bihar***

Attendance : **98%**

Objective Achieved : From the day of joining Ms Rubi has started objective based work. She has prepared a plan of action to get successful and time framed completion of set objectives of organization . Due to proper planning and objective based commitment she has achieved her objective till now with all respect to organisational functioning, profile and work contents.

Deliverables : The major deliverable of organization is respectful maternity care with quality service. Although quality of care is not one day business but till now Ms Rubi has put her 100 % effort towards this objective.

Strengths : she is a committed, sincere and diligent person who has a strong desire for learning and hard working

Suggestions for Improvement: She needs to be more analytical in her approach.

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):

24/9/19

Date: 24/9/19
Place: Araria (Araria)

Signature of the Officer-in-Charge
Organisation Mentor (Dissertation)

Acknowledgement

The success and outcome of this project required a lot of guidance and assistance from many people and I am extremely fortunate to have got this all along the completion of my project work. Whatever I have done is only due to such guidance and assistance and I would not forget to thank them. I owe my profound gratitude and respect to my supervisor Mr. Saurav Tiwari, DRU Team Lead, CARE INDIA, Bihar who took keen interest on my project work and guided me all along, till the completion of our project work by providing all the necessary information for developing a good system. I am extremely grateful to him for providing me such a nice support and guidance though he had busy schedule managing the organization affairs. He helped me academically and emotionally throughout the project duration. Also, his guidance towards me is always a blessing to me. I am again thankful to him for providing me with a great help and support. I would also like to thank Dr. Sanjay Mohapatra, DRU Team Lead, CARE INDIA, Bihar to give his valuable time to guide me for this project and his suggestions have helped me to complete this project.

I heartily thank my internal project guide, Dr Vinay Tripathi, Assistant Professor, IIHMR-New Delhi, for his support and motivation. I am thankful enough to get constant encouragement, support and guidance from all the teaching staffs of IIHMR, New Delhi, who supported me in successfully completing my project work. Also, I would like to extend my sincere regards to all the non-teaching staff of IIHMR, New Delhi for their timely support and help. I would like to express my gratitude towards my parents and friends for their kind co-operation and encouragement which helped me in completion of this project.

Dr. Ruby Gloria Barla

Table of Contents

Abbreviations

MNH-maternal and newborn health

WNB- weak new born

LBW- low birth weight

PPH-post-partum hemorrhage

PIH-pregnancy induced hypertension

ANC-antenatal care

DH-district hospital

SDH-sub-divisional hospital

CHC-community health center

PHC-primary health center

Project report

Assessment of Quality of essential Care during childbirth at government facilities in Araria, Bihar

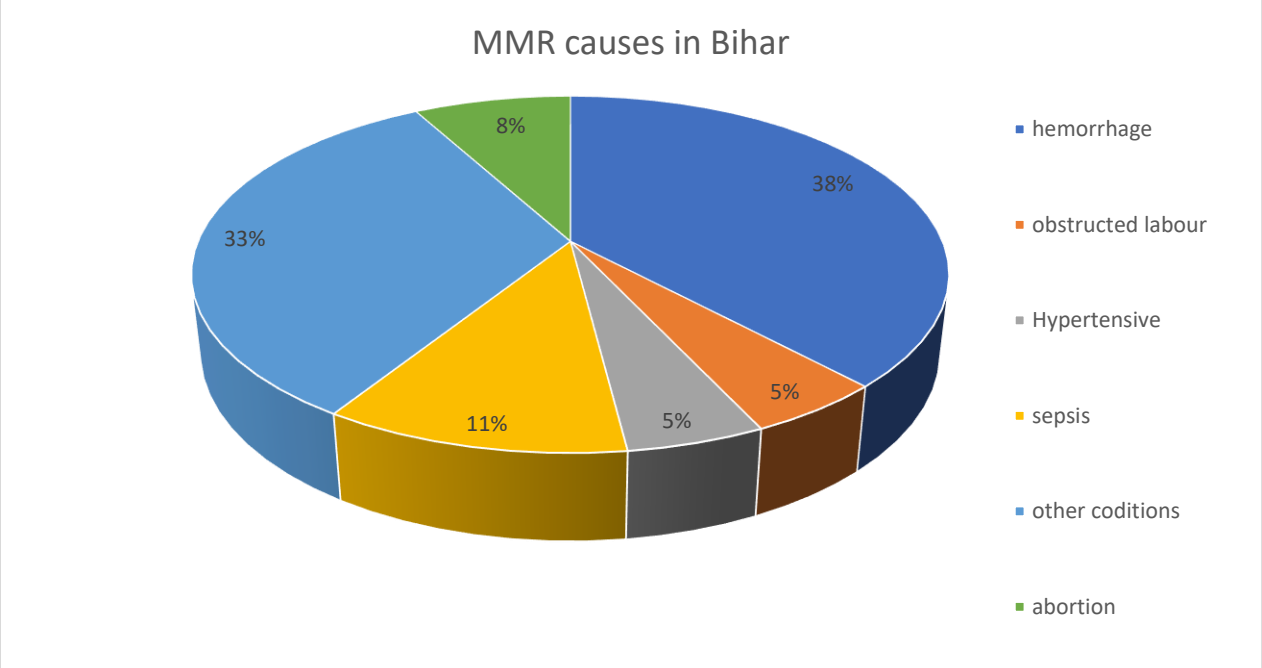
Section 1: Introduction: Rationale, research question and specific objectives

Introduction

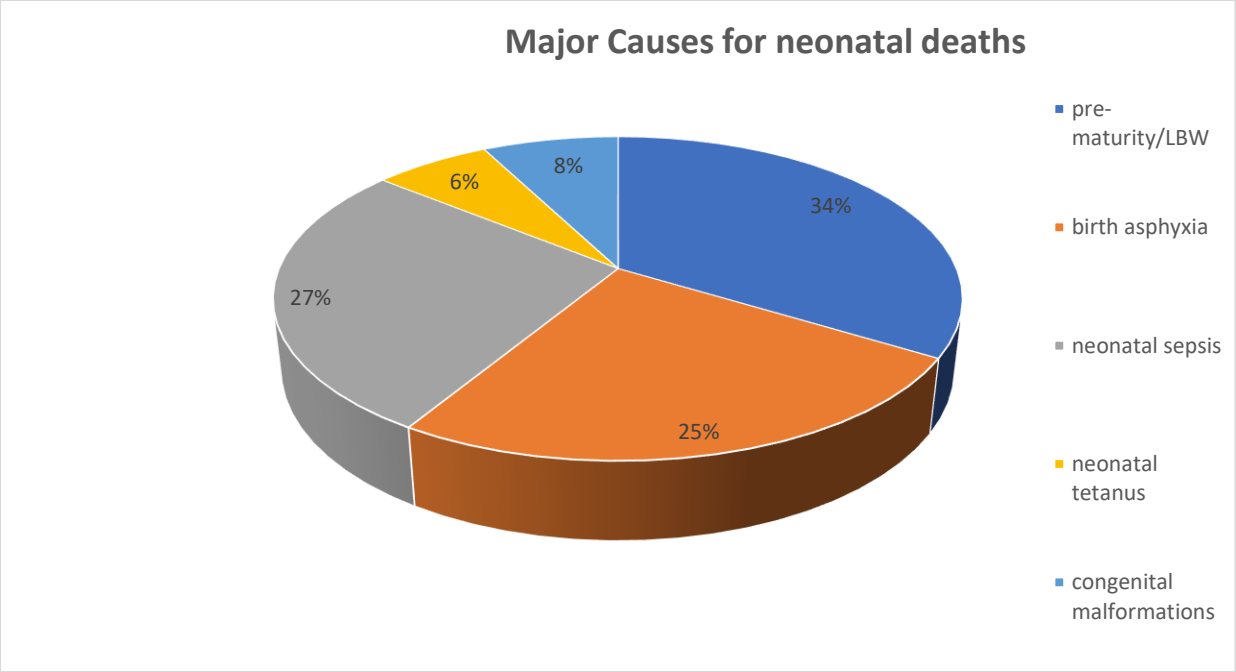
Maternal and neonatal health is a matter of concern because the risk is related with pregnancy in the case of women and growth, and development in the case of infants. The problems are multifactorial which are affecting the health of mother and newborn. The health of mother and child constitutes one of the most serious health problems which is affecting the community in context of Bihar.

Major causes of maternal mortality in Bihar are PPH, Obstructed labour, Sepsis, Hypertensive disorders like PIH (pregnancy induced hypertension), pre-eclampsia/eclampsia, Abortion, and Other causes like-anemia.

Major causes of maternal mortality



15% of total deliveries are likely to develop complications which is difficult to predict and prevent in Bihar. 45,000 maternal deaths per year in India, at least 4800 in Bihar every year.



Neonatal mortality in Bihar has decreased in the last few years to reach 28 per 1000 live births in 2013 which translates to over 80,000 neonatal deaths per year.

Three main immediate causes account for the neonatal mortality: Complications of preterm birth, Birth Asphyxia and Infections (sepsis). Of these, preterm birth is particularly important since preterm babies are also at greater risk than full term babies for death from asphyxia or sepsis. With falling mortality rates, the contribution of preterm births rises proportionately in most countries; and the incidence of preterm birth is also on the rise in most countries. The exact incidence of preterm birth in Bihar is not known; the WHO estimates that 10-15% of all births in India are preterm births. It is widely acknowledged that interventions that reduce the incidence of preterm birth and improve specific care of preterm babies in home and facility settings are essential to bring about substantial reductions in neonatal mortality rates. In the absence of wider access to ultrasound diagnosis of gestational age, and since accurate information related to the last menstrual period is not consistently collected and used, the diagnosis of preterm labour and preterm birth is often missed. Birth weight can be a useful mean to detect low birth weight, since low birth weight is also strongly associated with mortality.

The Government of India recommends that the presence of any one of the following criteria should identify a neonate at high risk of death: Birth before 37 completed weeks of pregnancy, Birth weight less than or equal to 2000 g, and Baby not feeding strongly from Day-1 of birth or poor suckling.

Birth asphyxia is a major cause of newborn death in Bihar. Also, weak new born and low birth weight baby can be identified at the facility at the time of delivery and it gives an opportunity to track those weak new born and providing them special care hence preventing them from new born death. WNB tracking is a major intervention going in Bihar to track weak new born based on three criteria of WNB that is low birth weight baby less than 2000g, poor suckling and gestational period less than 37 weeks. So newborn complication identification at the facility level is very much essential to prevent newborn death.

Quality of care provided during childbirth is a major intervention in Bihar to reduce maternal and new born complication and deaths. Interventions like AMTSL that is active management of third stage of labour, safe birth checklist, early initiation of breastfeeding, kangaroo mother care, and skin to skin contact have been readily practiced in facilities of Bihar. There have been many interventions in Bihar which focuses on what the health delivery system can do to help achieve maternal and child health goals to reduce maternal and newborn complication and deaths. But the most appropriate way to reduce maternal and newborn death is providing care during labour and childbirth at the time of delivery in Government facilities. The time period between the entry of pregnant women to the labour room and her delivery offers a golden opportunity for integrating postpartum care with neonatal care.

It is very important for us to focus on essential care which is been provided during labour/delivery because most of the complication as well as death occurs during this period only. Most of the maternal and new born complications arise at the time of delivery which can be identified and treated at facilities. When a pregnant woman comes to a facility for her delivery offers a great opportunity to identify any maternal complication as well as to prevent maternal death due to that complication. Also, after the delivery if there is any new born complication or WNB (weak new born) it can be addressed during hospital stay and they can be followed up and we can keep a track on these complicated cases.

Literature Review

Main findings from Literature Review:

1. study by Ranjit K and Janmejaya S et al suggested that maternal and newborn health majorly refers to the women's and newborn health during pregnancy, and childbirth. Of these two important components, the state of pregnancy forms the foundation of maternal and new born (MNH) health and strongly effects the outcome of another component that is child birth and labour. Following regular Antenatal Checkup, the care of the mother during the process of childbirth is of major importance from the perspective of maternal and neonatal health which is highly dependent upon the process of childbirth and the preceding care during antenatal period. Compared to home deliveries, deliveries in facilities end up with more success in delivery outcome without or minimal complications.
2. Study by Mathai M et al suggested that Improvement in quality of care will include:- training to improve the knowledge, attitudes and skills of the existing medical staff, ensuring standards of care are implemented by service providers, ensuring the availability of essential supplies and medicines at facilities, performing timely maintenance of infrastructure in health facilities, improving ownership and teamwork to ensure optimal use of resources, improving communication gap, transport and referral systems, and encouraging increased participation of women and their families in quality improvement processes. It is important that all facility should maintain records for every case of delivery. Information on births, deaths, severe complications and key interventions in facilities must be reviewed at regular intervals and used to improve quality of care.

3. Study by Spector JM, Agrawal P, Kodkany B, Lipsitz S, Lashoher A, Dziekan G, Bahl R, Merialdi M, Mathai M, Lemer C, Gawande A et al suggested that Introduction of theSafe Childbirth Checklist program which has been introduced by WHO is markedly improvingquality of essential safety practices by hospital staff which is improving Quality of care.
4. Study by Singh PK, Kumar R, Alagarajan M, Singh L et al suggested that maternal and newborn health remains a major challenge to the public health system globally, especially in developing countries like India. Adolescent mothers are more likely to have delivery complications during childbirth resulting in maternal deaths.Three key indicators in maternal healthcare are: adolescent women receiving full antenatal care, those who had safe delivery in facilities and who got postnatal care after delivery or within 42 days of delivery.
5. Study by Singh A, Kumar A, Pranjali P et al suggested that there are several socioeconomic-demographic factors which are affecting the utilization of maternal healthcare services among adolescent women in India. Promoting the factors like female education, higher age at marriage, targeting vulnerable groups such as poor, illiterate, and high parity women,family planning and grass root level workers could be some importance for making policy level interventions to address the unmet need of maternity services among adolescents' mother.
6. There is divergence and diversity in the burden of poor maternal health across different regions, so it makes difficult to address the burden of maternal and newborn deaths.
7. Study by Campbell OM, Calvert C, Testa A, Strehlow M, Benova L, Keyes E, Donnay F, Macleod D, Gabrysch S, Rong L, Ronsmans C, Sadruddin S, Koblinsky M, Bailey P et al suggested that healthcare providers specially government must ensure quality services to all to address burden of poor maternal health. Conceptualization, systematic measurement and effective tackling of coverage to implement high quality and respectful maternity care is key to ensure safe delivery.

Problem Statement

Complications during Pregnancy, Delivery and Post-delivery Period is a major maternal health problem in Bihar. Women who either do not take ANC or take a partial course of ANC are exposed to the risk of maternal death or complication. In Bihar, most of the women who had still or live births suffers from some complications during pregnancy. In only two districts of Bihar less than fifty five percent of women had pregnancy complications that is Muzaffarpur and Nawada. About eighty one percent of women in Bihar had faced at least one delivery complication. More than half of women in Bihar had post-delivery complications. The major problem during post delivery period is lower abdominal pain followed by high fever, any post-delivery complication and other problems. Fifteen percent of total deliveries are likely to develop complications which is difficult to predict and prevent in Bihar. 45,000 maternal deaths per year in India, at least 4800 in Bihar every year. Major causes of maternal mortality in Bihar are PPH, Obstructed labour, Sepsis, Hypertensive disorders like PIH (pregnancy induced hypertension), pre-eclampsia/eclampsia, Abortion and Other causes like-anemia.

Neonatal mortality in Bihar has decreased in the last few years to reach 28 per 1000 live births in 2013 which translates to over eighty thousand neonatal deaths per year. Three main immediate causes account for the neonatal mortality: Complications of preterm birth, Birth Asphyxia and Infections (sepsis). Birth asphyxia is a major cause of newborn death in Bihar. Also, weak new born and low birth weight baby can be identified at the facility at the time of delivery and it gives an opportunity to track those weak new born and providing them special care hence preventing them from new born death. WNB tracking is a major intervention going in Bihar to track weak new born based on three criteria of WNB that is low birth weight baby less than 2000g, poor suckling or baby who is not able to suck milk and gestational period less than 37 weeks. So newborn complication identification at the facility level is very much essential to prevent newborn death.

Maternal and newborn related complication or death can be addressed during delivery or childbirth. So, the major focus should be on quality of essential care during delivery to reduce maternal and new born complication as well as deaths.

Central Research Question

What is the quality of essential care a woman receives during her delivery at government facilities in Araria, Bihar which is affecting the maternal and newborn health.

Specific Objective

To evaluate the quality of essential and improved MNH (maternal and new born) care during institutional deliveries at government facilities in Araria, Bihar

Section 2: mode of Data Collection

Study setting

The observational study was conducted among nine government facilities of Araria, Bihar between February 2019 to April 2019. The study was done in the Labour room of the government facilities in nine blocks of Araria that is DH Araria, Sub-divisional hospital Forbes Ganj, Referral hospital Raniganj, Referral hospital Jokihat, CHC bhargama, CHC kursakata, PHC palasi, PHC sikti and PHC narpatganj. For the current study, Araria is the 19th largest district in term of population and 15th largest district in terms of area. Total area of the district is 2830 Square kilometers, which is spread over nine C.D. Blocks.

Study Design:

Observational -Cross sectional study

Study Population:

Full term Pregnant women.

Inclusion Criteria:

Full term pregnant woman coming to labor room till the process of delivery.

Pregnant mother who were able to provide certain information regarding details of pregnancy.

Pregnant mother who were willing to participate in the study.

Exclusion criteria:

Pregnant mother who refused to participate in the study.

Pregnant women who were referred to higher facilities due to APH and hypertensive disorders before delivery.

Sampling and data collection

Study Tools

This study used clinical observations to describe and investigate the quality of essential and improved MNH care provided routinely, for normal as well as complicated pregnancy and child birth, in government maternity facilities in Araria, Bihar.

Data was collected on healthcare services for two major domains maternal and new born under ten headings that is five for maternal and five for new born care. We then aggregated the headings into 44 care practices that is 23 obstetrics and 11 neonatal and check points are given for those practices and scored each practice 2 if fully covering the check points, 1 if partially covering the check points and 0 if no check points have been covered. Most of the practices is having multiple checkpoints and some had only observing the case. Finally, summary scores for obstetrics and neonatal essential care based on 44 clinical care practices were calculated as the percentage of quality of care during childbirth. Sample size of 225 deliveries were taken for clinical observation in nine government facilities of Araria district of Bihar. 25 deliveries were observed in each facility from the time of entry of pregnant female in the labour room till her delivery. Deliveries have been observed as per scheduled day and time decided for

each facility. 45 days have been planned for observation in which 5 days for each facility to observe 5 deliveries per day.

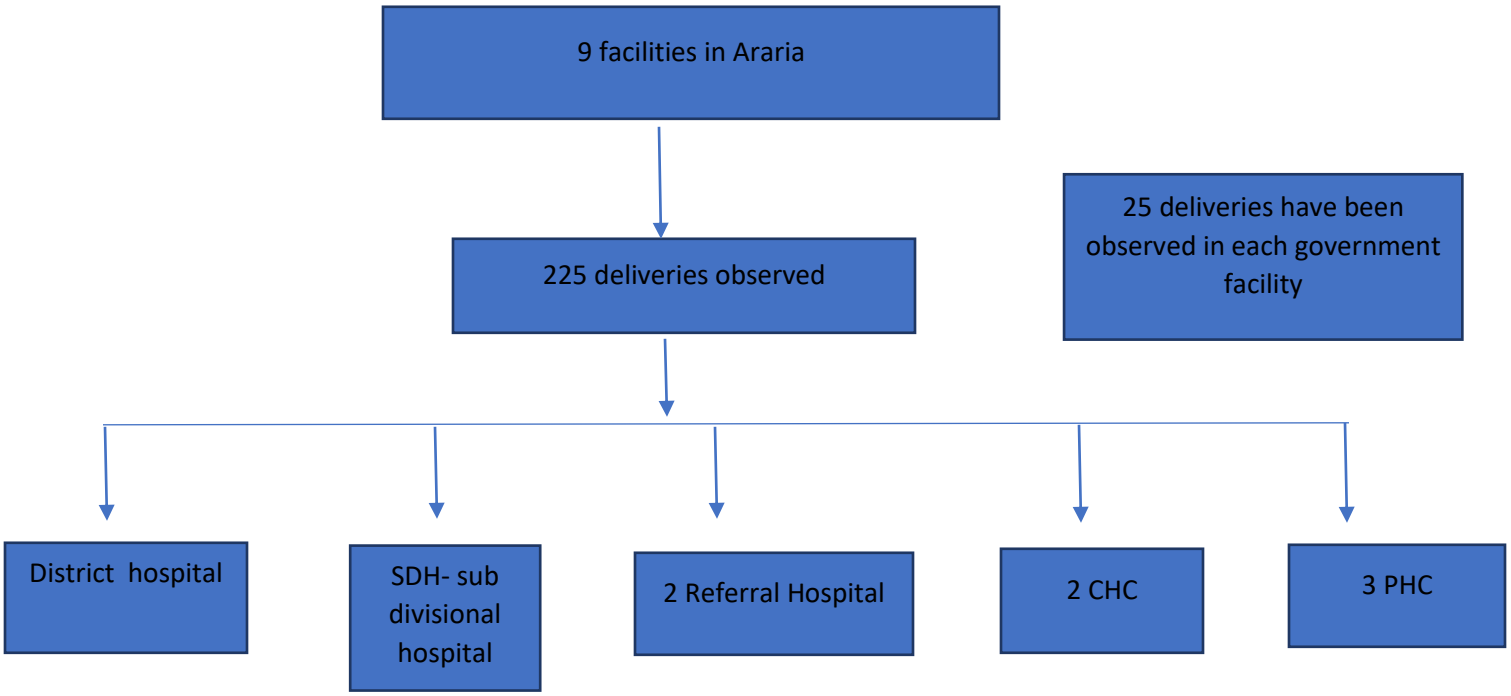
Our assessments of quality of care comprises of not only the provision of clinical care but also respectful maternity care.

Duration of Study:3 months (Feb-April)

Sample Size:

Sample size of 225 deliveries were observed for clinical observation in nine government facilities in Araria district of Bihar. Deliveries have been observed as per scheduled day and time decided for each facility. 45 days have been planned for observation in which 5 days for each facility to observe 5 deliveries per day. Random sampling was used for sampling method.

Flow chart- study selection and investigation of participants on quality of essential MNH care during childbirth, Araria, Bihar, 2019



Ethical Considerations:

- Informed consent was obtained from all the study participants.
- Appropriate measures were taken to ensure data security, privacy, and confidentiality.

Framework used for analysis:

HEADINGS		Care practices-obstetric	Check point
ANC	1	Demographic records generation	Name, age, sex, education
	2	Complication identification initially through rapid assessment of pregnant women to prioritize care	Vitals, FHS, danger signs
	3	Recording of clinical history	LMP, EDD, GPAL, History of previous illness
	4	Recording of current labour details	Time of labour pain, frequency of contractions, dilatation of cervix
	5	Physical examination	Vitals, presence of scars, pallor, icterus, weight, height
	6	Periodical monitoring and recording of vitals	BP, pulse, temp, RR, FHR, dilatation
	7	Intensive monitoring of high-risk pregnancies	List of cases available with staff and frequency of check-up
	8	Per abdominal examination	Presentation, lie, fundal height, head engagement
	9	Per vaginal examination	Cervix dilatation
AMTSL	10	Administration of 10 units of oxytocin after birth	
	11	CCT-control cord traction	Case observation
	12	Assessment of uterine tone	
	13	Complete removal of placenta	
PNC	14	Complication identification and its management	Check records
	15	Minimum 2 post check-up before discharge	
	16	Counselling of mother and companion on vitals	
RMC	17	Dignified and respectful behavior of staff	Check if staff is yelling, scolding, shouting, abusing
	18	Pregnant women is not ignored during care in LR	Check whether staff is attentive to the pregnant women
	19	Staff is not involved in physical harm and abuse	Check for practices such as slapping, pinching
	20	Informed consent	Check whether staff took permission before examination
Infection	21	Hand washing	Availability of antiseptic

control practice			soap and use of antiseptics
	22	Sterilization of equipment's	Autoclaving as per protocols
	23	Mopping and cleaning	Use of bleaching solution and phenyl
heading		Care practices-neonatal	Check-point
New-born care	1	Wipes the baby using a clean warm towel or cloth	Case observation
	2	Put the baby on mother's abdomen	Case observation
	3	Delayed cord clamping and cutting	Case observation
	4	Look for signs of infection and hypothermia	Case observation
EBF	5	Initiate breastfeeding immediately after the birth	
Golden minute in birth asphyxia	6	Resuscitating the new born within 30 seconds	
	7	Performing ambu bag and mask resuscitation for 30 seconds if not breathing	
Weak new-born identification	8	Records birth weight	Less than 2000g
	9	Asking mother whether the baby can suck milk or not	Identification of poor suckling
	10	Maintenance of gestational age	Less than 37 weeks
KMC	11	Skin to skin contact	

Quality assurance

Clinical observation was conducted by a trained investigator. Proper notes were made for each observed delivery and they were monitored for completeness, correctness, and comprehensive of the observed data with appropriate and proper recording of data. we undertook regular consultations with the superintendent, medical officer in charge and Labor room in charge about the data and its interpretations. It was ensured that the quality of observed data that is each observation was verified with the Labor room in charge and LR records.

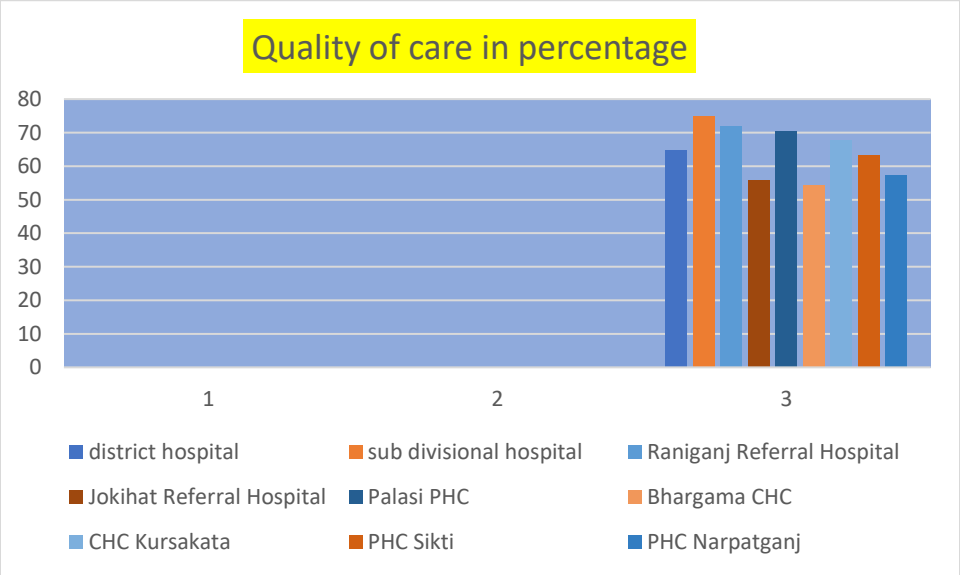
Data management and analysis

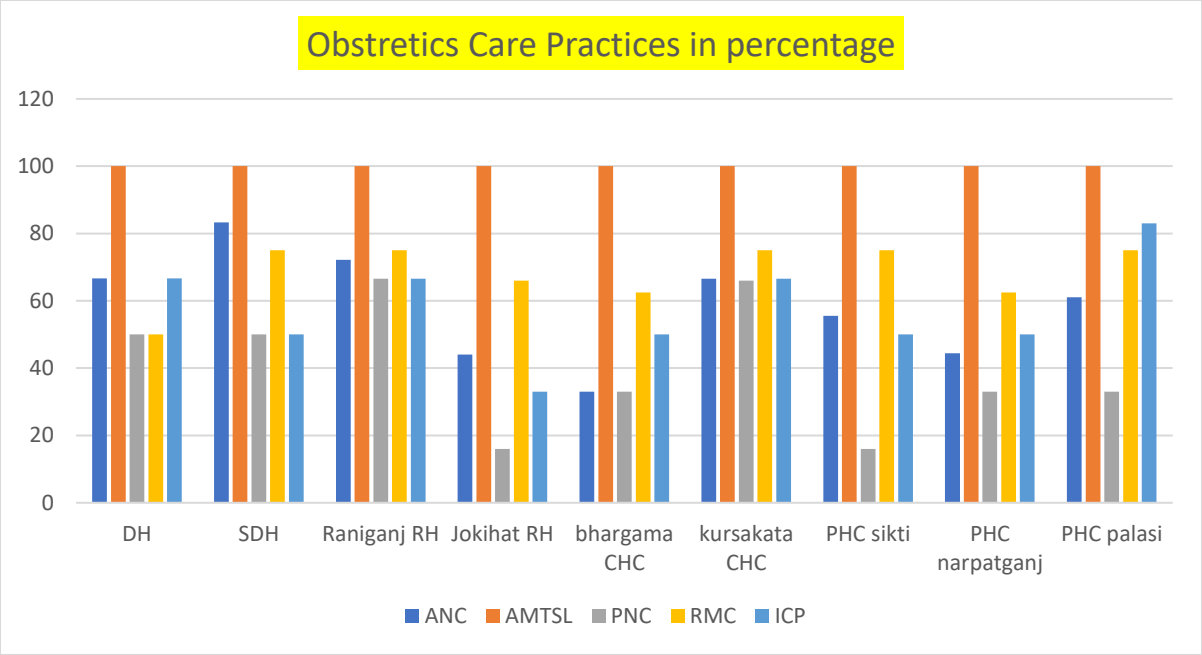
Microsoft excel is used for analysis of the data collected. Data was collected on healthcare services for two major domains maternal and new born under ten headings-five for maternal and five for new born care. We then aggregated the headings into 44 care practices that is 23 obstetrics and 11 neonatal and check points are given for those practices and scored each practice 2 if fully covering the check points, 1 if partially covering the check points and 0 if no check points have been covered. Finally, summary scores for obstetrics and neonatal essential care based on 44 clinical care practices were calculated as the percentage of quality of care during childbirth.

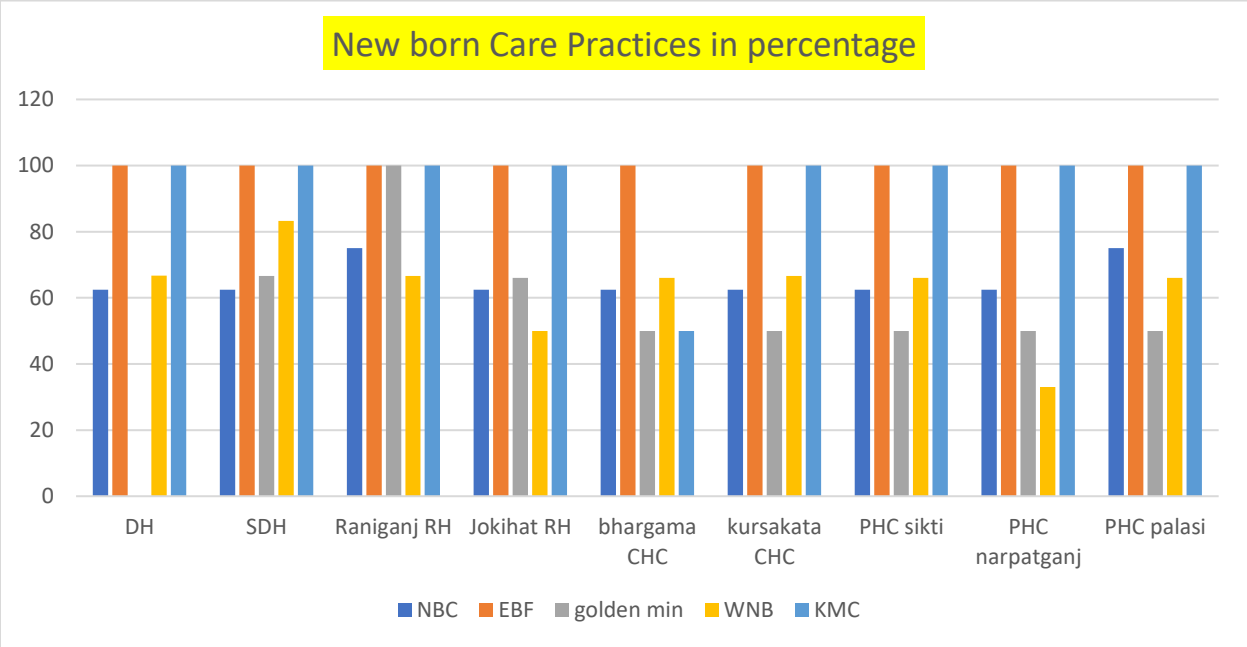
Results:

Table shows the quality of care in terms of each of the clinical practices (obstetrics and neonatal practices) measured.

Government facility	Out of total score 68	Quality of essential care during delivery or childbirth (in percentage)
District hospital	44	64.7
Sub divisional hospital	51	75
Raniganj referral hospital	51	72
Jokihat referral hospital	38	55.8
Palasi PHC	48	70
Bhargama CHC	37	54
Kursakata CHC	46	67
Sikti PHC	43	63
Narpatganj PHC	39	57




Obstretics Care Practices in percentage
120
100
80
60
40
20
0
DH
SDH
Raniganj RH
Jokihat RH
bhargama CHC
kursakata CHC
PHC sikti
PHC narpatganj
PHC palasi
ANC
AMTSL
PNC
RMC
ICP


New born Care Practices in percentage
120
100
80
60
40
20
0
DH
SDH
Raniganj RH
Jokihat RH
bhargama CHC
kursakata CHC
PHC sikti
PHC narpatganj
PHC palasi
NBC
EBF
golden min
WNB
KMC

Observational Findings:

Obstetrics care

- Overall poor quality of care- essential MNH care during childbirth was found to be lacking across our entire sample of facilities although Sub-divisional hospital and one referral hospital the quality of care was quite better than the other facilities.
- It has been observed that there was no Gynecologist available in any of the facilities in Araria and the deliveries has been conducted by ANM and GNM only although C-section is conducted by surgeon in District hospital, Sub-divisional hospital and CHC Bhargama.
- Many ANMs and GNMs lack skills of BEmONC (basic emergency obstetrics and newborn care).
- Complication identification initially through rapid assessment of pregnant women to prioritize care was quite good at few facilities but still needs improvement.
- Per abdominal examination was rarely observed.
- Respectful maternity care is quite being followed in all the facilities as no case of physical abuse have been observed but still informed consent is not in practice.
- Infection control practices are not being followed in most of the facilities. Sterilization of equipment's was not in practice in few facilities and many of them were not able to perform autoclaving in 3 shifts, also mopping and cleaning was not done using bleaching solution. Many of them does not know how to prepare bleaching solution.
- Several life-saving clinical practices such as use of partograph (current labour details) for monitoring labour, screening for pre-eclampsia/eclampsia, diabetes and anemia were observed only a few facilities. Complication identification and its management is poor in overall sample of facilities.
- Minimum two Postnatal checkup was rarely observed.
- Many clinical practices were quite good like AMTSL (active management of third stage of labour).
- Some practices such as the regular monitoring of FHR and BP was observed in most of the facilities which is a good practice.
- Counselling of mother and companion on vitals was rarely observed.

New born care

- Major lacking skills in newborn resuscitation within golden minute in case of birth asphyxia. Many nurses were not able to resuscitate the baby within the golden minute during birth asphyxia.

- Weak new born identification at the facility level is poor.
- Not able to mention correct gestational age of the newborn in the records and most of the nurses didn't gave attention to it.
- Many clinical practices were quite good like EBF (early initiation of breastfeeding), KMC (kangaroo mother care), STSC (skin to skin care).

Discussion

Using clinical observations, I found that in Araria, Bihar essential maternal and newborn healthcare during labour and childbirth was generally poor. Also, there was no gynecologist available in any of the facilities in Araria. There is lack of human resource in overall health sector of Araria.

My study advances the descriptive evidence base on quality of essential care at the time of delivery in Araria, Bihar particularly for government facilities. Direct observations of clinical care practices in labour room offers great advantage in quality assessment for MNH care. I developed a comprehensive measure of quality of essential care that included adherence to evidence based guidelines, respectful maternity care, criteria for identification of complication and its management and infection control practices. The methods I used to calculate separate indices for obstetrics, newborn and essential care at birth could be used for monitoring quality of essential care during childbirth.

Usually there is a triage area in the labour room where the staff examines the mother initially and performs all the examination of Antenatal checkup and based on status of cervix dilatation which is judged during PV examination, the mother is send to the labour room for delivery. If the mother is in full dilatation that is 10cm than she is send to LR for her delivery otherwise she is kept in ANC ward for wait and watch period. In Bihar there is a trend of giving pre oxytocin before delivery to initiate labour as soon as possible which has been banned by the government because that was leading to increase chances of PPH and fetal distress. There is increasing problem of maternal and new born complications in Bihar for which many interventions have been put forward by the government. Quality of care provided during childbirth is a major intervention in Bihar to reduce maternal and new born deaths. It includes initial assessment of pregnancy to prioritize care that may be included in ANC Checkup which consist of physical examination, vitals, per abdominal examination, per vaginal examination and lab investigation, recording of vitals, current labour details, and clinical history and then care during delivery that includes no abuse of oxytocin, active management of third stage of labour, identification of complication and its management and minimum two post check-ups before discharge, care of new born which includes keeping the baby on mothers abdomen, clean cord cutting, wiping baby with pre warmed clean towel, weighing the baby immediately after birth and early initiation of breastfeeding and looks for signs of infection and Resuscitating the baby within the golden minute if not breathing in the case of birth asphyxia.

AMTSL that is active management of third stage of labour is a major intervention to reduce maternal and new born complication which consist of rules out presence of second baby by palpating abdomen, administration of 10units of oxytocin in antero-medial side of right thigh immediately after the birth of baby, delayed cord clamping and cutting (1-3minutes), control cord traction, removal of placenta by giving fundal massage and uterine tone assessment to check uterine contraction. During my clinical

observation it has been observed that most of the nurses knows about AMTSL and is practicing it but still they lack skills in complication identification and its management and in essential new born care.

I found respectful rights based maternity care was overall fine, but they need to improve in informed consent as I observed no one was informing the mother before performing any examination or clinical procedure or if she was being shifted to OT for C-section. Cases of physical harm and abuse was nil and rare case of shouting, abusing and ignoring. Performing detailed examination of mothers and use of partograph for recording current labor details and recording of clinical history was quite poor. They need to focus on rapid initial assessment of pregnant women to identify complication and prioritize care according to that and there should be a fixed schedule for reassessment of pregnant women as per standard treatment protocol. Also, high risk patients like patients with high BP, high FHR, pedal edema, urine protein albumin test positive should be identified initially during triage phase and should be kept in intensive monitoring.

Infection control practices which is a major issue in Bihar needs to be addressed. Overall infection control practices were very poor although hand washing is being followed by everyone but there are many other practices which needs to be improved like sterilization. Autoclaving in three shifts of morning, evening and night is not at all in practice. Many facilities were able to make 5% of bleaching solution and using it for mopping and cleaning and use of bleaching solution for cleaning instruments before autoclaving.

Birth asphyxia and weak new born are the two major issues found during childbirth in government facilities. Government has given guidelines to manage the case of birth asphyxia within golden minute. Identification of preterm labor and weak newborn in government facilities is a major intervention in Bihar for which Government has given Guidelines that includes three criteria of Weak new born that is low birth weight baby less than 2000g, poor suckling/baby who is not able to suck milk properly and gestational period <37 weeks. So newborn complication identification at the facility level is very much essential to prevent newborn death. Overall 76% of all births in Bihar take place in institutions, most of them in government hospitals. All these births can be screened for preterm delivery, and for the babies who are weak newborn. At least fifty percent of all weak newborn babies in the state can be identified in government facilities alone. Such babies may be placed under radiant warmers for a short period while they are assessed for stability and a decision is taken whether to refer to an SNCU or to be sent home with the mother. Before sending home, kangaroo mother care can be taught to them and they can practice it, and the family members will be counselled regarding care of the baby at home including breastfeeding, thermal care and on cleanliness and hygiene.

Recommendations

1. A detailed outline of the action plan for the actual actions to be taken at the facility to reduce mortality from maternal or newborn complications should be made by the Labour room in charge with the MOIC to address the gaps and they should discuss those gaps during Clinical Review and QI meeting.
2. Tools and checklists to be used to improve quality of care during childbirth.
3. Refresh training should be given to the medical staff in the labour room once in every year.
4. Hospital management should focus on improving infection control practices. There should be mandatory autoclaving in three shifts that is morning, evening and night. Bleaching solution should be prepared every day.
5. Training should be provided in every 6 months to enhance skills for complication identification and its management for maternal and newborn complication.
6. Special focus should be on New born resuscitation within golden minute. MOIC should take some measures to improve skills in new born resuscitation and should discuss a case of birth asphyxia in clinical review meeting whenever if there is a case of birth asphyxia.
7. Informed consent should always be taken before performing any examination like per vaginal examination or any other clinical procedure like episiotomy.
8. Labour room staff need to focus on Post-natal care as well and at least 2 minimum post check-ups are required before discharge.
9. Counselling to be done by almost every medical staff posted in Labour room regarding vitals, KMC, exclusive breastfeeding, care of the mother and new born as well as on cleanliness and hygiene.
10. There should be compulsory conduction of clinical discussion once in every week and quality improvement meeting twice in a month.

Conclusion:

Major Gaps

1. The evidence from this study clearly suggests that quality of essential maternal and new born care is nearly poor in all the government facilities. Facilities need to focus more on intrapartum care because that can lead to reduction in maternal and newborn complication and deaths.
2. There is lack of Manpower/Human resource in government facilities of Araria and there is no Gynecologist in the district.
3. Lack of skills in Basic emergency obstetric and newborn care.
4. Poor infection control practices.
5. Identification and management of complication is poor.
6. Lack of prioritizing care during initial assessment of complication.
7. No post-natal check-ups in most of the facilities.
8. Lack of skills for new born resuscitation in birth asphyxia.
9. Weak new born identification and essential new born care still needs improvement.
10. Lack of counselling sessions by medical staff.
11. Lack of informed consent

Strengths

1. Active management of third stage of labour is almost been practiced in every facility.
2. Full compliance to early initiation of breastfeeding.
3. Kangaroo mother care and skin to skin care is practiced by everyone.
4. No case of physical abuse or harm by the medical staff.

References:

2. Maternal Health Situation in Bihar and Madhya Pradesh: A Comparative Analysis of State Fact Sheets of National Family Health Survey (NFHS)-3 and 4
3. Improving quality of care for maternal and newborn health: Prospective pilot study of the who safe childbirth checklist program
4. Utilization of maternal healthcare among adolescent mothers in urban India: evidence from DLHS-3.
5. 2015-16 National Family Health Survey (NFHS-4)
6. District Level Household and Facility Survey, 2007-08, Bihar.
7. Sample Registration System (SRS) Bulletin, 2014.
8. Annual Health Survey, Bihar 2012-13
9. Facility Based New Born Care (FBNC) Operational Guide, MOHFW, GOI 2011.
10. National Family Health Survey-4, 2015-16, State Fact Sheet, Bihar.
11. Kangaroo Mother Care & Optimal feeding of low birth weight Infants- Operational Guidelines, MOHFW, GOI, September,2014.
12. WHO recommendations on Postnatal Care of Mother and Newborn,2013.