Study of Maternal and Newborn Healthcare Services at District Hospital Sitamarhi, Bihar

By

Aditya Kumar

Dissertation submitted in partial fulfillment of the requirements of the degree

MBA Hospital and Health Management

Academic year, 2017-2019

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: **www.iihmr.edu.in**

Study of Maternal and Newborn Healthcare Services at District Hospital Sitamarhi, Bihar

By

Aditya Kumar

Dissertation submitted in partial fulfillment of award of

MBA Hospital and Health Management

Academic year, 2017-2019

Piramal Foundation (NITI ADT), Mumbai

The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Sanganer, Airport
Jaipur 302029, Rajasthan
Ph: 0141 3924700, Fax: 3924738
Website: **www.iihmr.edu.in**

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that Mr. Aditya Kumar, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Piramal Foundation (NITI ADT) from February 5th, 2018 to May 5th, 2019.

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

The Internship is in fulfillment of the course requirements.

Iwish him all success in all his future endeavors.

Dean, Academics and Student Affairs
The IIHMR University, Jaipur
15 May 2019

Professor
The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur- 302029, Rajasthan, India.
Ph.: 0141- 3924700, 2791431- 32, Fax: 0141 3924738, E-mail: iihmr@iihmr.edu.in, Web.: www.iihmr.edu.in

Piramal Foundation

The certificate is awarded to

MR. ADITYA KUMAR

In recognition of having successfully completed his

Internship in the department of

QUALITY

and has successfully completed his Project on

STUDY OF MATERNAL AND NEWBORN HEALTHCARE SERVICES AT DISTRICT HOSPITAL SITAMARHI, BIHAR

Date: May 08, 2019

ORGANIZATION: PIRAMAL FOUNDATION

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

We wish him all the best for future endeavors

Training & Development

General Manager - Human Resources

Piramal Foundation
CIN : U85100MH2011NPL220227
Registered office: Piramal Tower, Peninsula Corporate Park, Ganpatrao Kadam Marg, Lower Parel, Mumbai-400013, Maharashtra, India
Corporate office: 2nd Floor, Piramal Agastya Corporate Park, Opposite Fire Brigade, Kamani Junction, Off. LBS Marg, Kurla (west), Mumbai-400070, Maharashtra, India
T +91 22 3802 3000 / 4000 (Board Line)

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled Study of Maternal and Newborn Healthcare Services at District Hospital, Sitamarhiand submitted by Mr. Aditya Kumar, Enrolment No 0527under the supervision of Dr.Nutan .P Jain for award of MBA in Hospital and Health of the University carried out during the period from February 5, 2018 to May 4, 2018 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Signature

ABSTRACT

Title: Study of Maternal and Newborn Healthcare services at District Hospital Sitamarhi

Author: Aditya Kumar

Background:

LaQshya guidelines provided by Government of India are applicable to all Government-run medical colleges, district hospitals, community health centers, sub-district hospitals, and referral units and aims to organize the infrastructure and protocol of labour rooms and maternity operation theatre according to guidelines. The standards are provided in guidelines for the inputs (like space, layout, equipment, consumables, and human resources), process and outcomes.

Objectives:

- To assess the inputs, processes and outcome of labour room and maternity OT according to LaQshya guidelines
- To suggest ways to improve quality of labour room and maternity OT if find any bottlenecks

Methods: The study was conducted in 100 bedded district hospital, Sitamarhi, Bihar. The study is descriptive in nature. The primary data was collected by observation, review of records, interview with staff and women in antenatal, natal and postnatal period. Thedata has been collected with the help of standardized checklists in accordance with LaQshya guidelines

Results

The results show that in its current state, the inputs, process and outcomes for both labour room and operation theatre are far behind.Scorecard for labour room was 42% and 54% for Operation Theatre as compare to 70% norms. Lack of human resources, inadequate Standard Operating Procedures for all key processes and support services, and organisational framework for quality improvement were the challenges.

Conclusion:

The district hospital, Sitamarhi has to improve labour room by 28% points and for operation theatre 16% to achieve 70% LaQshya guidelines.

Key Words: Labour room, operation theatre, LaQshya guideline

ACKNOWLEDGMENT

I convey my heartfelt gratitude to Dr. Dinesh Jagtap national transformation manager, and Dr. Vibhor Kumar, national quality manager of aspirational district transformation programme of NITI aayog and piramal foundation, for giving me the opportunity to work with piramal foundation and allow me to conduct the project during the dissertation period.

I would like to convey my special thanks to Mr. Nishant Sagar state quality manager, Piramal foundation, Bihar and Mr. Debashish Sinha state transformation manager, piramal foundation, Bihar for mentoring and guiding me and for their constant encouragement and continuous support when it came to guidance, suggestions and their expertise during my dissertation period at Piramal foundation

I thank all the staff and leadership of health facility for allowing this study to be conducted in their units and for their active participation in the various components of the intervention

I express my sincere thanks to my internal guide Dr. Nutan P Jain for her valuable guidance and timely suggestions as and when I was seeking them.

I would also like to take this opportunity to thank Dr, Ashok Kaushik, Dean (Academics) and Professor cum Proctor and Mr. Hem Bhargava, General Manager, Corporate (Academics), Dy. Registrar (Academics) for providing me with the necessary support and for their faith in me.

Last but not the least, I would like to express my gratitude for my parents and for their constant encouragement and faith in me during my internship.

Above all, I would like to thank God for giving me the strength to manage the difficulties which I faced during this period.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

Pregnancy and motherhood are natural processes in the lives of women of reproductive age. These processes are generally considered to be positive and fulfilling experiences. However, it is unfortunate that for various reasons, many women and neonates end up dying as a result of these processes.

Maternal mortality and infant mortality are sensitive indicators which show evidence for describing the health care system of a country and also indicate the prevailing socioeconomic scenario. These major health indicators of Bihar are far behind the national targets. As per 2017 SRS (sample registration survey) report maternal mortality rate of Bihar is 165 and infant mortality rate is 38 which are very high as compared to national targets.

Recognizing the need to prioritize safe and respectful childbirth practices, the Government of India in March 2018 launched LaQshya- Labour Room Quality Improvement Initiative, to be implemented nation-wide with the objective of reducing maternal and newborn mortality and morbidity, and enhancing the satisfaction of women availing healthcare.

LaQshya guidelines are applicable to all Government-run medical colleges, district hospitals, community health centers, sub-district hospitals, and referral units. LaQshya aims to organize the infrastructure and protocol of labour rooms and maternity operation theatre according to guidelines. The standards provided in guidelines revolve around the space, layout, equipment, consumables, and human resources. Whereas the latter focuses on helping programme managers and clinicians organize critical areas of maternal health division, and is to receive support from the child health division and the national health systems resources center (NHSRC). The fund of the programme shall be channeled through the national health mission (NHM) programme implementation plan.

Aim of the study: The study aims at improving quality of labour room and maternity OT of district hospital Sitamarhi

Objectives of the study:

- To assess the inputs, processes and outcome of labour room and maternity OT according to LaQshya guidelines
- To suggest ways to improve quality of labour room and maternity OT if find any bottlenecks

REVIEW OF LITERATURE

Literature review suggest that implementation of the birth preparedness and complication readiness strategy is very crucial to establish a system where population can receive a good maternal and newborn healthcare services. According to a study which was published online there are significant barriers affecting the quality and appropriateness of maternal and neonatal health service in the rural communities and the Nadowli district hospital, the obstacles were inadequate medical equipment and essential medicines, infrastructural challenges, shortage of skilled staff, high informal cost of essential medicines and general limited capacities to provide care. Increasing the resources at the health provider level is essential to achieving international targets for maternal and neonatal health outcomes and for bridging inequities in access to essential maternal and newborn healthcare. (BMJ open, 2018:8(11): e021223

WHO recommendations Intrapartum care for a positive childbirth experience addresses these issues by identifying the most common practices used throughout labour to establish norms of good practice for the conduct of uncomplicated labour and childbirth. It elevates the concept of experience of care as a critical aspect of ensuring high-quality labour and childbirth care and improved woman-centered outcomes, and not just complementary to provision of routine clinical practices. It is relevant to all healthy pregnant women and their babies, and takes into account that childbirth is a physiological process that can be accomplished without complications for the majority of women and babies. The guideline recognizes a “positive childbirth experience” as a significant end point for all women undergoing labour. It defines a positive childbirth experience as one that fulfils or exceeds a woman’s prior personal and sociocultural beliefs and expectations, including giving birth to a healthy baby

According to an article published in journal of perinatology India has witnessed a significant improvement in neonatal health after the introduction of NRHM. Apart from the JSY, the country has launched several new initiatives to improve neonatal care. Notwithstanding this newfound focus on neonatal health, the annual rate of reduction in NMR and ENMR still lags behind IMR and U5MR. There is an interplay of different demographic, educational, socioeconomic, biological and care-seeking factors, which are responsible for the disparities and the high burden of neonatal mortality. The country has to increase the coverage of key interventions and also improve the quality of care in health facilities on an urgent basis.

A study conducted in Uttar Pradesh reveals that challenges experienced regarding provision of care were inadequate physical infrastructure, irregular supply of water, electricity, shortage of medicines, supplies, and gynecologists and anesthetist to manage complications, difficulty in maintaining privacy and lack of skill for post-delivery counselling. However, physical access, cleanliness, interpersonal behavior, information sharing and out-of-pocket expenditure were concerns for only users. Similarly, providers raised poor management of referral cases, shortage of staff, non-functioning of blood bank, lack of incentives for work as their concerns.

A study titled as maternal deaths and denial of maternal care in Barwani district, Madhya Pradesh suggest that there are five direct complication accounts for almost three fourth of all maternal deaths- hemorrhage, sepsis, eclampsia, obstructed labour and unsafe abortion. It is also known that while very often complications cannot be predicted. With adequate care, maternal death can be prevented. It is now well accepted that skilled care at delivery with timely access to emergency obstetric care is one of the key elements to reduce maternal mortality.

METHODOLOGY

Study area: 100-bedded District Hospital Sitamarhi, Bihar
Study duration: Three months (February to April 2019)
Study Respondents: Doctors, nursing staff, women in antenatal, natal and post-natal period
Study Design: Descriptive and cross sectional
Sampling and sample size

All the available doctors, and nursing staff were interviewed. A total of 10 staff was interviewed.

A total of 25 women who came for availing maternal health services or their attendants were interviewed while waiting for their number for consultation.

Methods of data collection

Data was collected by using following methods-

- Observation
- Record review
- Staff interview
- Patient interview

Tools of data collection: LaQshya Check List

The checklist has the following components which are measurable:

Area of concern	Details
Service provision	The facility provides curative, RMNCHA and diagnostic services to all patients; information to care seekers attendants and community about the available services and their modalities; delivered services in a manner that is sensitive to gender, religious and cultural needs, and there is no barrier on account of physical economic, cultural or social reasons
Patient right	The hospital maintains privacy, confidentiality & dignity of patient, and has a system for guarding patient related information
Inputs	The facility provides drugs and consumables required for assured services The facility has equipment and instruments required for assured list of services hospital ensures the physical safety of the infrastructure
Support services	The facility has defined procedures for storage, inventory management and dispensing of drugs in pharmacy and patient care areas The hospital provides safe, secure and comfortable environment to staff, patients and visitors The facility has established Programme for maintenance and upkeep of the facility
Clinical services	The hospital has defined procedures for registration, consultation and admission of patients The hospital has defined and established procedures for clinical assessment and reassessment of the patients The hospital has defined and established procedures for continuity of care of patient and referral The hospital has defined and established procedures for nursing care
Infection Control	The hospital has infection control Programme and procedures in place for prevention and measurement of hospital associated infection The hospital has defined and Implemented procedures for ensuring hand hygiene practices and antisepsis The hospital ensures standard practices and materials for Personal protection The hospital has standard procedures for processing of equipment and instruments
Quality	The hospital has established organizational framework for quality improvement The hospital has established system for patient and employee satisfaction The hospital has established internal and external quality assurance Programme wherever it is critical to quality

	The hospital has established, documented implemented and maintained Standard Operating Procedures for all key processes and support service
Outcome	The hospital measures Productivity Indicators and ensures compliance with State/ National benchmarks The hospital measures Efficiency Indicators and ensure to reach State/National Benchmark The hospital measures Clinical Care & Safety Indicators and tries to reach State/ National benchmark The hospital measures Service Quality Indicators and endeavors to reach State/ National benchmark

The information was obtained by following four methods:

• Observation: Scoring to the quantifiable components can be assessed by directly observing the articles, processes and environment. Example- Availability of screen/ partition between delivery tables, Availability of fire Extinguishers, Availability of Wheel chair or stretcher, display of signage, measuring BP, segregation of biomedical waste etc.

• Record Review: Records generates the objective evidences which need to be triangulate with findings. E.g. on the day of assessment, drug tray in the labour room may have adequate quantity of Oxytocin, but if review of the drug expenditure register reveals poor consumption pattern of Oxytocin, then more enquiries would be required to ascertain on the adherence to protocols in the labour room.

• Staff Interview: Interaction with the staff helps in assessing the skill level, demonstration of certain activities like hand-washing technique, new born resuscitation, Feedback about adequacy of supplies etc.

• Patient interview: Interaction with patients may be useful in getting information about quality of services and their experience in the health facility during their stay. It gives us users perspective. e.g. staff behavior, counselling services and drug administration etc.

Fig.1. Methods of assessment

LaQshya Checklist is the main tool for the assessment. Hence understanding with the tool would be vital**:**

	Area of Concern - B Patient Rights					
Standard B1	**The facility provides the information to care seekers, attendants & community about the available services and their modalities**					
ME B1.1	The facility has uniform and user-friendly signage system	Availability of departmental signage's	1	OB	Numbering, main department and internal sectional signage, Restricted area signage displayed. Directional signages are given from the entry of the facility	
ME B1.2	The facility displays the services and entitlements available in its departments	Necessary Information regarding services provided is displayed	1	OB	Name of doctor and Nurse on duty are displayed and updated. Contact details of referral transport / ambulance displayed	
ME B1.5	Patients & visitors are sensitised and educated through appropriate IEC / BCC approaches	IEC Material is displayed	0	OB	Breast feeding, kangaroo care, family planning etc (Pictorial and chart) in circulation & waiting area	
ME B1.6	Information is available in local language and easy to understand	Signage's and information are available in local language	1	OB	Check all information for patients/ visitors are available in local language	

Fig .2 LaQshya checklist

Compliance and scoring system – Departmental scorecard will be generated in percentages automatically after scoring all the departmental checklists. All the fields are mandatory to be filled to get overall Quality Scorecard. All the checkpoints have equal weightage to keep scoring simple. Once the scores have been assigned to each checkpoint, department wise score can be calculated for the department and also for themes by adding the individual scores for the checkpoints.

Score	Level of compliance
0	Non-compliance
1	Partial-compliance
2	Full-compliance

Full compliance is to be scored as 2, when all the criteria in Quantifiable component are met (100%) and means of verifications are available in checklist as supporting evidence. If the services arePresent/Sufficient/functional/being done/being used/ properly displayed/ properly updated will be scored as 2.

Partial compliance is to be scored as 1 when 50%-99.99% of the criteria in Quantifiable component are met and means of verifications are partially available for them. If the services are present but not functional/not sufficient/not done/not being used/not displayed/not updated/not maintained/not proper will be scored as 1.

Non-compliance is to be scored as 0 when the criteria in Quantifiable component are less than 50% (0%-49.99%) and there is no support available as means of verification in checklist. If the services are not Present completely will be scored as 0. ➢ Availability of Baby tray – if the Baby tray is having listed items less than 50%, it will be scored as 0.

Data analysis

Every department covers 8 core themes each having essential components with detailed means of verification for each. If any of the components were not available, then the field are marked as zero and not left blank so as to avoid any discrepancy in scoring.

The assessment scores are presented in the following ways:

1.Departmental Scorecard: This scorecard presents the overall Quality scores of the following departments in terms of average of individual components.

DEPARTMENT	SCORE
LABOUR ROOM	42%
OPERATION THEATRE	54%

2. Component Specific Score: This scorecard presents the overall Quality scores of the following departments in terms of average percentage.

Criteria for certification and badges of LaQshya certified

Platinum Badge- Achieving more than 90% core.

Gold Badge- Achieving More than 80% Score.

Silver Badge-Achieving more than 70% Score.

RESULTS

There are eight areas of concern for each departments and facility have to attend minimum seventy percent score in each area of concern to be LaQshya certified.

The results show that overall score was 42 while maximum scope for improvement was observed in quality (56) followed by support services (36) inputs (26) outcome (25) infection control (24) inputs (22) clinical services (21) and service provision (6)

Table 1: **Score in eight areas of concern and scope for improvement in labour room(%)**

Area of concern	Score obtained (%)	Minimum score for certification (%)	Scope for Improvement
Service provision	64	70	6
Patient right	48		22
Inputs	44		26
Support services	34		36
Clinical services	49		21
Infection Control	46		24
Quality	14		56
Outcome	45		25
OVERALL	42		

For operation theatre overall score was 54 while maximum scope for improvement was observed in service provision (48) followed by inputs (33) outcome (28) support services (27) quality (11) patient rights (6) clinical services (6) and infection control (3)

Table 1: **Score in eight areas of concern and scope for improvement in OT (%)**

Area of concern	Score obtained (%)	Minimum score for certification (%)	Scope for Improvement
Service provision	22	70	48
Patient right	64		6
Inputs	37		33
Support services	43		27
Clinical services	64		6
Infection Control	67		3
Quality	59		11
Outcome	42		28
OVERALL	54		

Table: Strengths and Weakness of LR and OT

Labour room and operation theatre	**Strengths**	**Weakness**
Input	Capital resources Building Equipment Vehicle	Health workforce Physicians Nurses Laboratory technician Operation theatre technician Training of the staff
Process	Timely action Providers behaviour Availability of essential seven trays Referral to other hospital	Infection Prevention – Supplies and Practices within the labour room Use of PPE Delayed diagnosis decision
Outcome	Protocol posters Initiation of breast feeding within first hour of birth and making a note of the time in delivery registers Use of radiant warmer	Prolonged length of stay Facility not ensuring all delivery tables are equipped with foot stool, mattresses, Macintosh, sheets, pillow and light source (lamps

Discussion and Conclusion

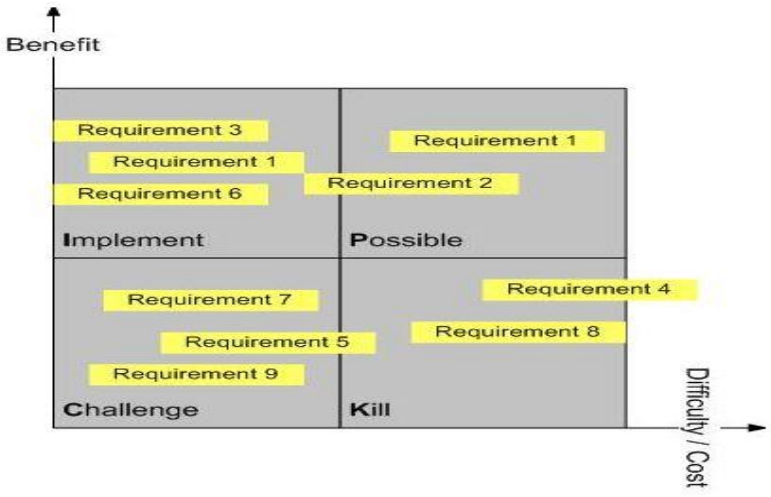
The district hospital, Sitamarhi has to improve labour room by 28% points and for operation theatre 16% to achieve 70% LaQshya guidelines. The various phase of the study identified prevalent challenges such as the lack of human resources, standard operating procedure for most of the key processes, organizational quality framework, prolonged stay of patient, non – calibrated instrument and equipment which adversely affect the outcome of the facility.

According to experts at the national institute of clinical excellence in United Kingdom, once high priority areas have been identified, quality standards must be developed for providing maternal and child health. these quality standards must be customized to the maternal health profile of the catchment area. the main aim of developing these standards is to improve outcomes and to ensure transparency in the provision of maternal and newborn care.

Recommendation

- The assessment was done in district hospital Sitamarhi Bihar, Facility assessment has discovered areas for improvement that may require further delineation and investigation in order to formulate an adequate strategy.
- There is a huge gap in quality of labour room. For improving the quality of labour room a quality circle should be form by the hospital management
- There is an essential need of improvement in the inputs like human resource, medical supplies, infection prevention programme, BMW management

- A precise action plan should be made by Hospital Management in a time bound manner, the action plan should be phased in a term goal of short, medium and long term
- Convergence between national, state, district and hospital level officials and the development partners like care India,Piramal foundation and UNICEF
- Quarterly reassessment of Labour room and OT
- Emergency resuscitation training like ACLS and BLS should be provide to the nurses and medical officers
- Quality tool pick chart can be use by facility management to identify the low hanging fruits and can improve them by making an action plan for them, it will help the hospital to improve the score in any assessment and the hospital will come closer to certificate achievable score



- As per the assessment of the facility with LaQshya checklist following measurable elements can be improve by using pick chart:

Implement

- Infected delivery cases can be managed at labour room and not referred to higher centre
- Ensuring high risk patients and availability of care as per need
- Staff adherence to identify and treatment of HIV infected mother and new-born
- ETP for waste and infected liquid waste

Possible

- Patient amenities can be provided as per patient load
- Demarcated area as per function
- Adequate consumables at the point of use
- Established procedure for initial assessment of the patients
- Procedure for staff handover whenever shift changes happen
- Preparation of action plan
- Implementation of action plan with quality tool PDCA cycle

challenge

- Established system of use of check list in different department and services
- Emergency drug tray will be available at every point of use or wherever needed

Kill

- Layout of labour room and operation theatre
- Engagement of nursing staff for validation of sterilisation by biological indicator
- Monitoring of departmental checklist by clinical staff

Reference

- http://nhsrcindia.org/updates/laqshya-%E0%A4%B2%E0%A4%95%E0%A5%8D%E0%A4%B7%E0%A5%8D%E0%A4%AF-labour-room-quality-improvement-initiative-guideline
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6231574/
- https://apps.who.int/iris/bitstream/handle/10665/260178/9789241550215-eng.pdf;jsessionid=1B023AD1CDD9A471F5D8FEFFBE6CCA96?sequence=1
- https://doi.org/10.1038/jp.2016.183
- https://doi.org/10.1186/s12913-015-1077-8
- http://www.commonhealth.in/resourses/eglish_resources/Fact_Finding_Report_Final.pdf
- http://nhsrcindia.org/sites/default/files/Maternal%20%20Newborn%20Health%20Toolkit.pdf