

Study on Infection Prevention Practices in Delivery Points of Dindori District of Madhya Pradesh

By

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This is to certify that Dr Shirish Dhore student of MBA Hospital and Health Management (MBAHM) from The IIHMR University, Jaipur has undergone internship training at National Health Mission, Madhya Pradesh, from 08.02.2016 to 08.05.2016.

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.

I wish him all success in all his future endeavors.



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The certificate is awarded to

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***A Study on Infection Prevention Practices in delivery Points
of Dindori District of Madhya Pradesh***

(8th February 2016 – 8th May 2016)

National Health Mission Dindori District MP

*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



District Program Manager

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **A Study on Infection Prevention Practices in delivery Points of Dindori District of Madhya Pradesh** and submitted by **Dr. Shirish Dhore** Enrollment No **0214 19th Batch** under the supervision of **Dr. P R Sodani** Dean, Training The IIHMR University, Jaipur, India for award of MBA Hospital and Health Management of the university carried out during the period from **February- 2016** to **April- 2016** 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

Dr. Shirish Dhore

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List of Abbreviations

ANM	Auxiliary Nurse Midwife
BEmOC	Basic Emergency Obstetric Care
BSU	Blood Storage Unit
CEmOC	Comprehensive Emergency Obstetric Care
CH	Child Health
CHC	Community Health Centre
CMHO	Chief Medical and Health Officer
CS	Civil Surgeon
DDK	Disposable Delivery Kit
DH	District Hospital
DP	Delivery Point
EmOC	Emergency Obstetric Care
FRU	First Referral Unit
HR	Human Resource
L1,L2,L3	Level 1, Level 2, Level 3
LR	Labour Room
MCH	Maternal and Child Health
MO	Medical Officer
NBCC	New Born Care Corner
NBSU	New born Stabilization Unit
Ob/Gyn/OBG	Obstetrician and Gynecologists
PPH	Post Partum Haemorrhage
RTI/STI	Reproductive Tract Infection/ Sexually Transmitted Infection
SBA	Skilled Birth Attendant
SN	Staff Nurse

1.1 Introduction

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 socio-economic scenario. These major health indicators of Madhya Pradesh are far behind the national targets. As per 2013 SRS (sample registration survey) report Maternal Mortality Rate of Madhya Pradesh is 221 and Infant Mortality Rate is 54 which are very high as compared to national targets.

Improving maternal health and reducing maternal mortality are accepted as human rights challenges and prioritized in several international declarations and national policies. However, progress in achieving these objectives still remains poor.

It is observed that the highest proportion of maternal and newborn deaths takes place during and immediately after childbirth which can be preventable through appropriate care of mothers during and after labor and appropriate care of the newborns immediately after birth. This points out to the need for improving the quality of practices in the labor room.

The National Rural Health Mission (2005-2012) aimed to improve availability of and access to maternal and child health services^[1]. One of the main elements of the Mission was the continued promotion of institutional deliveries. Increased deliveries in health facilities have been achieved through financial incentives provided to health workers and to women. Institutional delivery rates have steadily increased in the last 13 years from 26% to 41% in 2005^[2]

Many wound and genital tract infections can be introduced during childbirth. Of these, puerperal sepsis is one of the most serious and life threatening. In India, maternal deaths from puerperal sepsis constitute the second most common cause after haemorrhage, accounting for approximately 11% of all maternal deaths^[3]. It is recognised that some of the cases of haemorrhage also have infection as an underlying contributory factor^[4].

1.2 Literature Review

According to the special survey of deaths conducted by the Registrar General of India (RGI), the major cause of maternal deaths in India in 2001–03 was haemorrhage (38%), which was followed by other conditions (33%). Other causes of maternal deaths were sepsis (11%), abortion (8%), hypertensive disorders (5%) and obstructed labour (5%).^[5]

Research has shown that using the partograph can be highly effective in reducing maternal complications caused by prolonged labour such as postpartum haemorrhage, sepsis, uterine rupture and infant complications such as anoxia, infections, and death.

A based on predictors of maternal death revealed that postpartum haemorrhage was the chief cause of maternal death and alone accounted for one fourth of the total maternal deaths and it can be prevented by appropriate management during labour.^[6]

1.3 Rationale

Demographic and health surveys show that the majority of women do not receive a postnatal check and 14% of women who had a birth in the last 5 years reported very high fever in the postpartum period. There are few recent studies and little information on infections during childbirth.

1.4 Research Question

What are the current procedures and practices for infection control as reported by staff and through observation by researchers, in the labor and delivery areas in relation to:

- Clean practices (hand washing, antisepsis, asepsis, surgical procedures)
- Clean equipment (gloves, gowns and instruments)
- Clean environment (surfaces, washing facilities)

1.5 Objectives

The objective of this study was to assess infection control procedures and practices in health facilities

1.6 Methodology

Study Design: - Descriptive Cross-sectional study.

Study Area: - District Dindori, Madhya Pradesh.

Study Duration: - Three months (8th February 2016 to 8th May 2016).

Sample Size: – The sample was collected from all the identified L3, L2 and L1 delivery points of Dindori district. ((2 L3, 8 L2 and 30 L1 Delivery Point)). Total 40 delivery points.

Study Participants: - The participants for the following study were Specialists, Medical officers, Staff Nurse and ANM (Auxiliary Nursing Midwives) of the identified level 2 and level 3 delivery points.

1.7 Data collection method: -

In each participating facility there were two modes of data collection:

- a) A semi-structured interview with the officer in charge, and/or the health provider responsible for infection control procedures and practices.
- b) A 'walk-through' of specified delivery care units to observe infection control procedures and practices. The rooms included in the walk-through were the labor wards, any obstetric emergency evaluation areas (such as an admission room), changing rooms, scrub rooms, autoclave rooms and instrument processing and storage areas.

Data collection tools: - Development of the data collection instruments was based on existing tools and guidelines of Government of India for infection control

Topic areas covered in the interview and observation tools were:

- General information: on the type of facility, procedures and other materials related to infection control, such as registers, posters, documents or charts with summary information on infections.
- Practices: hand washing, use of non touch techniques and skin preparation.
- Equipment and supplies: use and methods for sterilization of gloves, gowns and other instruments including availability and use of autoclaves, thermometers, disinfection practices and antiseptics.
- Environment: availability of running water, design of taps, sink placement and cleaning of contaminated surfaces.

Data analysis: Data analysis was done by using MS Excel software. MS 2007 was used for graphical representation and further analysis.

1.8 **Results :**

Forty health facilities participated and there were forty respondents, one from each facility. There were no refusals. The respondents were medical doctors (25% medical officers) 35% and 45% were Staff nurses and ANM respectively. Almost all respondents had at least two years experience in that particular health facility.

Table 1 : Infection control procedures and practices, as reported during interviews

	% (N = 40)
Biomedical waste segregation and disposal in Color Coded Bins	75%
All staff routinely wash hands before procedures.	64%
Soap for Hand washing	68%
Staff knows six steps of hand washing	30%
Sterile gloves	80%
Use of Autoclave for sterilization of instruments	38%
Regular sterilization of room	20%
Deep burial of placenta and all blood and tissue fluid stained	95%
Hub Cutter used for disposing needles after use	53%
Bleaching Powder/ hypochlorite solutions available and used	87%
Slippers for service providers	50%
Use of PPE (Personal Protective Equipments)	15%

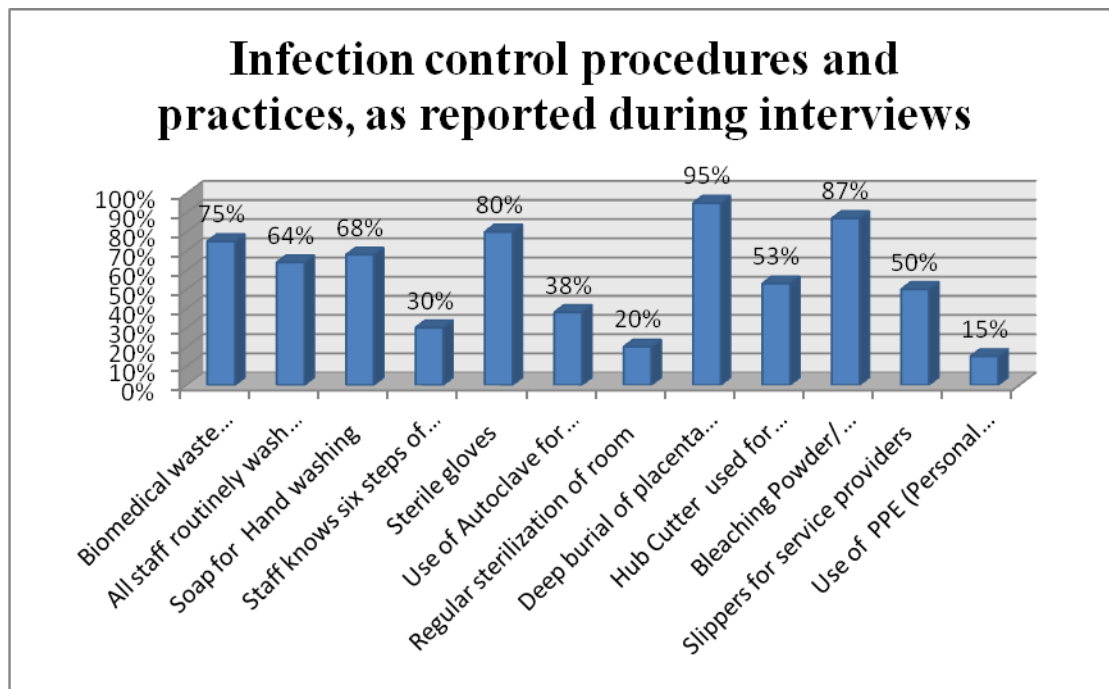


Figure 1 : Infection control procedures and practices as reported during interviews

- 25% of Delivery Point was not doing proper Biomedical waste segregation and disposal in color coded bins.
- 36% staff of delivery point didn't wash their hands before procedures.
- 32% staff of dp's didn't use soap for hand washing.
- 70% of staff still don't know about proper hand wash.
- 20% staff of delivery point didn't use sterile gloves.
- 33% staff of delivery point didn't use autoclave machine for sterilization of instruments, Either because of Unavailability or its non functionality.
- Only 20% staff did regular sterilization.
- Almost in all delivery point deep buried placenta was done.
- Less than 50% staff of all delivery point didn't use Hub cutter for disposing of used needle.
- Use of personal protective equipment is very low i.e 15%.

Table 2 : Infection control procedures and practices observed	
	% (N = 20)
Wall posters and charts relevant to infection control	35%
Wash basin with elbow tap	12%
Water Facility	95%
Soap (or any other antiseptic) available	74%

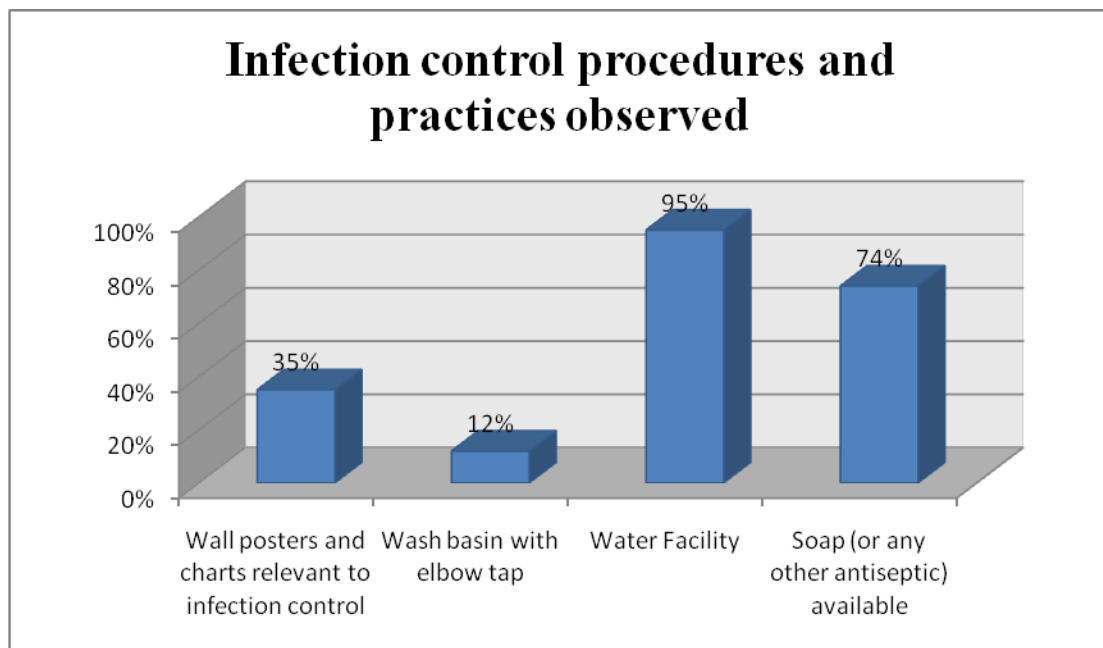


Figure 2 : Infection control procedure and practices observed

- Wall posters and charts relevant to infection control were actually observed on display in 35% of facilities. Most were faded and old, and were not present in prominent places.
- Only 12 % of facilities have Elbow tap provision.
- 26% of delivery point didn't have soap available for hand washing.

Conclusion

This study of current infection control procedures and practices during labor and delivery in health facilities in Dindori revealed a need for improved protocols and procedures, and for training and research.

Simply incentivizing the behavior of women to use health facilities for childbirth via government schemes may not guarantee safe delivery.

To conclude contracting infections during childbirth in health facilities is a risk in Madhya Pradesh and India that is poorly documented. A focus on infection control during delivery and puerperal sepsis may help to improve quality of maternity care. Models of care which try to drive uptake of health services need to be evaluated not only in terms of increased utilization, but also from the perspective of the quality of care provided.

Suggestion

Based on the Govt of India guidance other infection control standards key recommendations proposed are as follows:

- Protocols for infection control measures should be prepared, standardized and adapted to local situations. The protocols should include assessment of the evidence for procedures like fumigation, reuse of items, maintaining cleanliness of the environment (especially in labor rooms) and rational use of antibiotics, adapted to resource constrained settings.
- Training to upgrade minimum skills for infection prevention should be started at pre-service level and extend to continuous training at service for staff. This should be based on assessments of staff needs. The means to create motivation and accountability at individual level should be explored.
- Community based research should be carried out to estimate the burden of infection in postnatal mothers. Factors associated with occurrence of infection should be documented. This needs assessment can provide the basis for such work.
- There should be active hospital infection control committees set up, combined with maternal death reviews, audits, training and feedback on infection rates. State level officers could be included in such activities to ensure integration of these activities within the health system as a whole. Their role should also be to ensure the link-up between increasing utilization (for example, through incentives) and improving the quality of care that women receive once they reach health facilities.

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Annexure:

Checklist for Maternity Wing (L3)						
H. Sterilization & Waste Disposal Processes						
1	Accurate knowledge on Sterilization & Cleaning of labour Room	The staff should be trained and monitored by the Maternity In charge on LR sterilization as per protocols		Maternity In charge		
2	Accurate knowledge on Sterilization & Cleaning of equipments & Instruments	The staff should be trained and monitored by the Maternity In charge on decontamination, cleaning, autoclaving/steam sterilization of the LR equipments		Maternity In charge		
3	Availability of Colour Coded Bins. Biomedical Waste segregation and disposal protocols to be	The LR and maternity should possess color coded bins, segregation and disposal of Bio medical waste to be practised at all times as per protocols	Untied fund	Maternity In charge		
4	Hub cutter used for disposal of used needles	Hub-cutter,puncture proof boxes for needle disposal to be used. Needles must be destroyed immediately using hub-cutter	Untied fund	Maternity In charge		
5	Bleaching powder/hypochlorite solutions available and used	Sodium hypochlorite solution/bleaching powder solution must be used to decontaminate the used gloves, instruments etc.	Untied fund	Maternity In charge		