

Dissertation Training

At

UNICEF, Bihar

**“QUALITY IMPROVEMENT OF INFECTION
PREVENTION AND CONTROL AT SECONDARY LEVEL
HOSPITAL, PURNEA DISTRICT FROM 15 MARCH 2022
TO 16 JUNE 2022 ACCORDING TO LAQSHYA
GUIDELINE.”**

BY

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ENROLL NO. - PG/2022/038

UNDER THE GUIDANCE OF

Dr. Rupsa Banerjee

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IIHMR

**POSTGRADUATE DIPLOMA IN HOSPITAL AND
HEALTH MANAGEMENT 2020-2022**



**International Institute of Health Management Research
New Delhi**

COMPLETION OF DISSERTATION

The certificate is awarded to

Nandan Kumar Jha

in recognition of having successfully completed
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Maternal and Child Health

and has successfully completed his/her Project on

**“QUALITY IMPROVEMENT OF INFECTION PREVENTION AND
CONTROL AT SECONDARY LEVEL HOSPITAL, PURNEA DISTRICT
FROM 15 MARCH 2022 TO 16 JUNE 2022 ACCORDING TO LAQSHYA
GUIDELINE.”**

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UNICEF, Bihar

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

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Mr. Shiv Shekhar Anand

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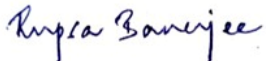
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The Candidate has successfully carried out the study designated to him during internship training and his/her approach to the study has been sincere, scientific, and analytical.

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The following dissertation titled “**QUALITY IMPROVEMENT OF INFECTION PREVENTION AND CONTROL AT SECONDARY LEVEL HOSPITAL, PURNEA DISTRICT FROM 15 MARCH 2022 TO 16 JUNE 2022 ACCORDING TO LAQSHYA GUIDELINE.**” is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned does not necessarily endorse or approve any statement made, opinion expressed, or conclusion drawn therein but approves the dissertation only for the purpose it is submitted.

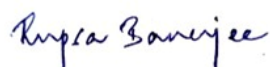
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This is to certify that **Nandan Kumar Jha**, a graduate student of the **PGDM (Hospital & Health Management)** has worked under our guidance and supervision. He/ She is submitting this dissertation titled “**QUALITY IMPROVEMENT OF INFECTION PREVENTION AND CONTROL AT SECONDARY LEVEL HOSPITAL, PURNEA DISTRICT FROM 15 MARCH 2022 TO 16 JUNE 2022 ACCORDING TO LAQSHYA GUIDELINE.**” at “**UNICEF, Bihar**” in partial fulfillment of the requirements for the award of the **PGDM (Hospital & Health 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.



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Nandan Kumar Jha
Signature

FEEDBACK FORM

Name of the Student: Nandan Kumar Jha

Name of the Organization: UNICEF

Area of Dissertation: Maternal and Child Health

Attendance: Perfect for the organizational norms

Objectives achieved : Dissertation completed on “**QUALITY IMPROVEMENT OF INFECTION PREVENTION AND CONTROL AT SECONDARY LEVEL HOSPITAL, PURNEA DISTRICT FROM 15 MARCH 2022 TO 16 JUNE 2022 ACCORDING TO LAQSHYA GUIDELINE.**”

Deliverables: Exposure to LaQshya Program

Strengths: Sincere, passionate, and dedicated to work.

Suggestions for Improvement: Should be target-oriented and self-motivated.

Date: 19/June/2022

Place : Bihar


Mr. Shiv Shekhar Anand

Aspirational District Consultant

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ABBREVIATIONS

1 .	U N I C E F	United Nation Children's Fund
2 .	I P C	Infection Prevention and Control
3 .	H W	Health worker
4 .	A N M	Auxiliary nurse midwife
5 .	G N M	General nurse midwife
6 .	M O	Medical Officer
7 .	M O I C	Medical officer In-charge
8 .	S D H	Sub-divisional Hospital
9 .	F R U	First referral Unit
1 o .	L a Q s h y a	Labour room Quality Improvement Initiative.
1 1	W H	World Health Organization

.	O	
1 2 .	B M W	Bio-Medical Waste
1 3 .	P P E	Personal Protective Equipment
1 4 .	S D	Standard Deviation
1 5 .	M S	Microsoft

Organization Profile

About Company:

UNICEF is an acronym that stands for **United Nations Children's Fund..** UNICEF is a unique program of the United Nations that looks to provide aid in children's education, health, nutrition, and welfare. The organization was created in 1946 to provide relief to children in countries that were affected by the Second World War. After the war, these funds were taken to provide aid in other general programs for the welfare of children, especially in the developing states.

Company History:

The UNICEF was formed in 1946 for providing basic needs and health care facility to children affected by the WW-2 in Europe. In 1953, the organization upgraded to a permanent member of the UN. Consequently, the name changed to the United Nations Children Fund.

UNICEF later widened its activities in the 1960s to advocate for children's rights in more areas. As a result, it received the 1965 Nobel Peace Prize for its work with children. The program further broadened its scope of work to include women's rights, especially for mothers in developing nations. With such efforts, it created the Women in Development Programme in 1980. In addition, UNICEF launched another health program in 1982. The Child Survival and Development Revolution focused on monitoring growth, oral rehydration therapy, and promoting breastfeeding.

Mission-

UNICEF's mission statement is "**promotes the rights and wellbeing of every child, in everything we do.**" The mission statement is further broken down to identify each of the various activities that the organization carries out to meet the needs of the children. Some of these include helping developing countries form appropriate children related policies, protection of the most vulnerable children and the rights of all other children in the world.

Vision-

UNICEF's vision statement is "**to create a world where the rights of every child are realized.**" The statement draws attention to the impacts the organization desires to have on children irrespective of where they are. It also shows that UNICEF looks to be the propeller of events that lead to the realization of the rights of children. The statement has these points:

1. **Global influence.** As a UN body, UNICEF shows that it does not settle on any specific location. Instead, the organization wants its presence to be felt everywhere with disadvantaged children. The resolve to trickle its benefits in all countries across the globe reveals the selflessness nature of the organization. What this means is that UNICEF spares no resources when it comes to reaching out to those in need.

2. **Drive realization of the right of every child.** Based on UNICEF, there is no room for favoritism in its line of work. The organization is very active across the globe as shown in the first point of the vision statement to ensure that it reaches the children in any location. By emphasizing on the right of every child, UNICEF declares that all human life matters notwithstanding all other factors.

Core Values:

UNICEF core values comprise "**care, respect, integrity, trust, accountability, sustainability.**" These are the six elements that drive UNICEF as they make up the foundation and guide of all the operations of the organization.

BACKGROUND:

LAQSHYA is a Labour room quality improvement initiative which is meant to improve quality of care provided to mother and new-born during intra-partum and immediate postpartum period. It is a quality assurance initiative of MOHFW New Delhi started in 2016 and now implemented throughout the country. It involves birthing unit and focus on labour room operation theatre so as to keep a vigil on the golden 72 hours around birth. The processes involve in LAQSHYA are: Initial assessment and rapid improvement cycles followed by external assessment. Certification is done if the facility scores more than 75% and beneficiary satisfaction score is more than 80%. The aim of LAQSHYA is to decrease preventable maternal and new-born mortality, morbidity and still birth associated with care around delivery in LR and M- OT.

Laqshya has 8 areas of concern out of which one area of concern deals with Infection Prevention and Control (IPC).

The key practice involve in IPC for healthcare facility are Hand Hygiene either hand wash or hand rub, % moments of hand hygiene, availability of resources for Infection control like inputs of hand hygiene, availability of Personal protective Equipment like aprons, boots, goggles, waste containers, water containers etc, Environment cleanliness, management of Infectious and hazardous waste.

The Rural Hospitals in Purnea district in Bihar have implemented Laqshya guidelines. Two RH in Purnea district will be examined for the extent to which IPC procedures are being adhered to.

OBJECTIVES

- 1) To assess the adherence to IPC procedures by nurses for prevention of hospital associated infection according to Laqshya guidelines
- 2) To identify gaps in IPC procedures
- 3) To suggest an action plan to overcome gaps in Infection control management

METHODOLOGY

Study design- Cross-sectional survey

Study Period- The study will be conducted from 15 March to 16 June 2022.

Study area- Labour room and maternity ward of RH Amour , RH Rupauli and Dhamdaha of Purnea Bihar.

Sample Population - Non-probability sampling techniques will be carried out for the study based on feasibility and accessibility to collect maximum information from the participants.

Sample size- Since data regarding adherence of nurses to IPC procedures was lacking, we considered the prevalence of poor knowledge among nurses which was found to be 72.7%.¹ Considering 95% confidence level and 10% absolute precision, sample size is 77 nurses.

Study Tool- Semi structure questionnaire containing provision of check-ups at interval of period and immunization of all healthcare staff, the facility has established procedures for regular monitoring of IPC, hand washing, PPE kit and standard personal protection practices, standard practice for disinfection and sterilization, BMW management etc. The tool will be designed based on the Laqshya guidelines.

Method of data collection- Data will be collected through facility observation using a checklist and through personal interview and record review of nurses using a pre-designed questionnaire.

Data Analysis- Data will be entered and analysed using MS Excel. Qualitative data will be calculated.

ETHICAL CONSIDERATION-

The study will be submitted for an ethical review to the IIHMR student research review board. The tool and protocol will be cleared through this committee. As a researcher I would make the participants understand and explain to them in the language they understand, after explaining them consent would be taken. Privacy and data protection will be strictly followed.

¹ Ochie CN et al. Infection prevention and control: knowledge, determinants and compliance among primary healthcare workers in enugu metropolis, south-east Nigeria. Infection prevention in practice 2022;4:100214.

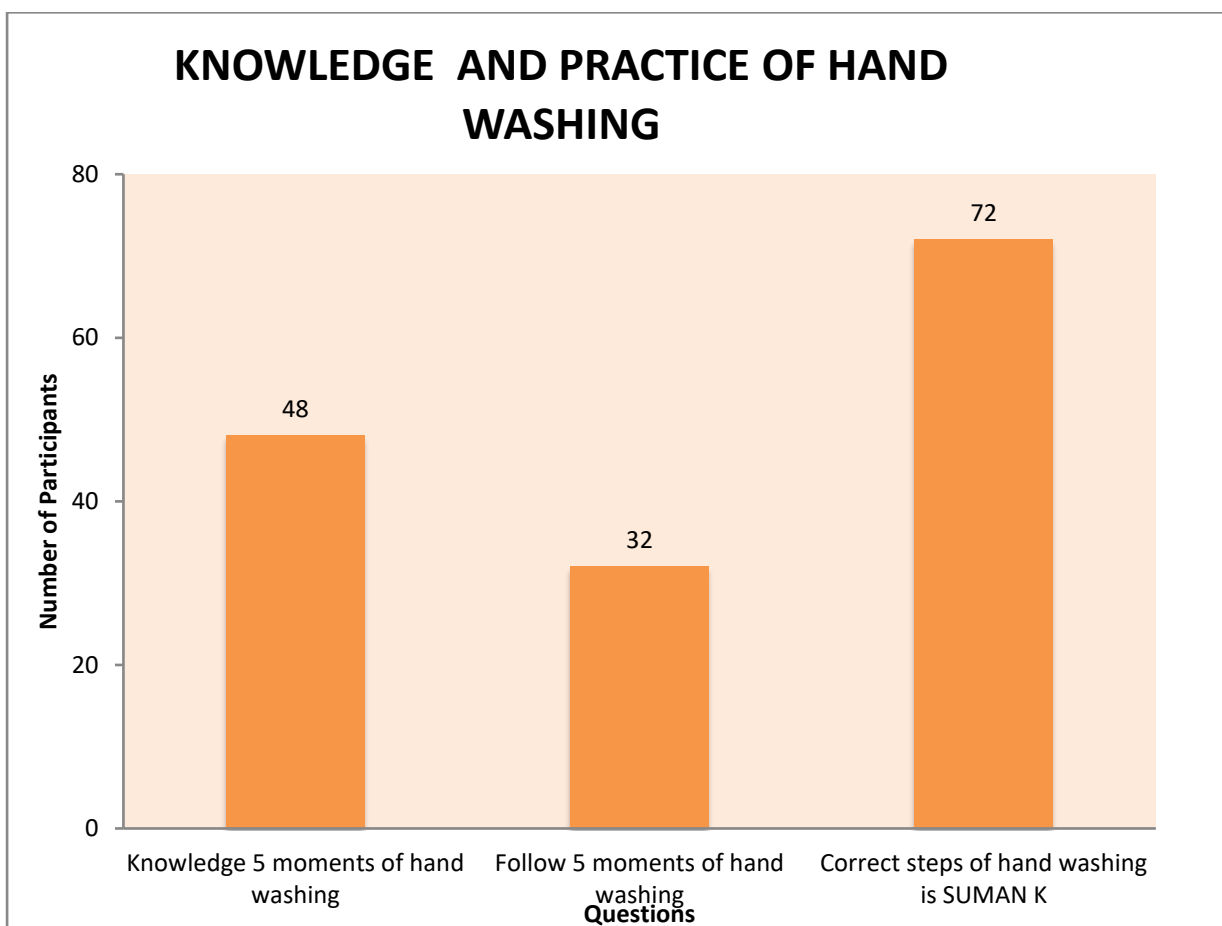
LITERATURE REVIEW

STUDY	METHODOLOGY	RESULT	STRENGTH	LIMITATION
Infection prevention and control: knowledge, determinants and compliance among primary healthcare workers in enugu metropolis, south-east nigeria – By-Casmir N Ochie, Elias C Aniwada, Eloka K Uchegbu, Thaddeus C Asogwa, Chika N Onwasoigwe	-cross-sectional study -semi-structured interviewer administered questionnaire.	Only 254 Of respondents had previous IPC trained -27.3% Of them had good knowledge Of IPC. -Needle-stick injury was identified as source Of Occupational exposure to infections amongst 61.7%. -81.3% could not correctly identify 5 moments of hand washing.	The study focus On infection prevention and control	-The study tool was self designed. -Tool was prone to bias. -Small sample size research can be generalized for the repetitive sample.
Infection control practices at facilities providing monetary incentives for facility births: An assessment at selected labour and delivery rooms in two states Of India By Vikas Manchanda, Deepa Prasad, Bharat Randive, Addison Gearhart, W Charles Huskins, Nalini Singh	This study was conducted in five public facilities in the two high-focus states – odisha and Rajasthan. Both the states registered a high uptake of the Janani Suraksha Yojana programme.	study reveals that basic core components of IPC practices were not being fully implemented for safe delivery Of babies.	The study focus On infection prevention and control Conclusion of two state leads to refining Of research	-The study tool was self designed. -Tool was prone to bias. -Small sample size research can be generalized for the repetitive sample.

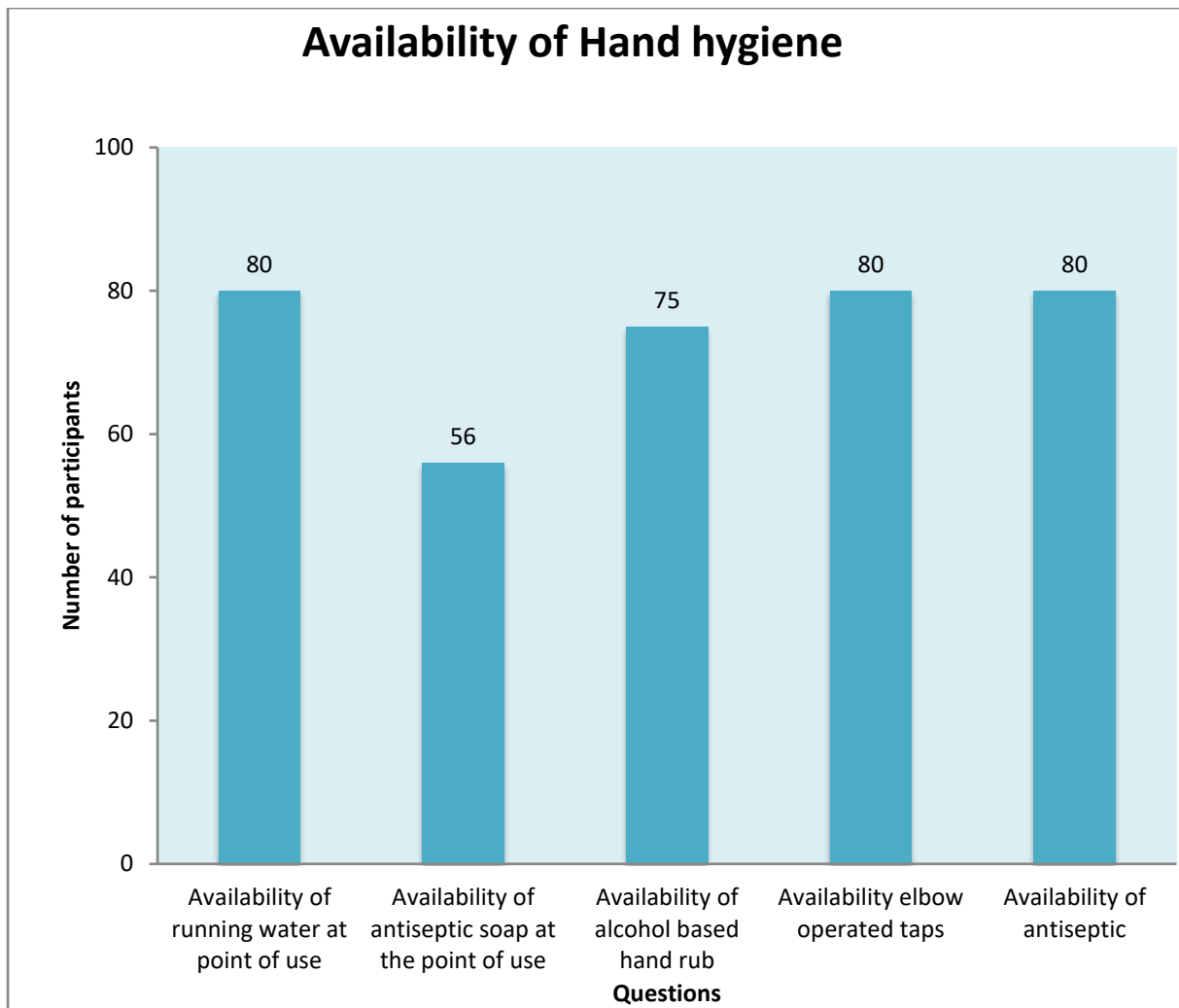
<p>Infection control in delivery care units, Gujarat state, India: A needs assessment by Rajesh Mehta¹, Dileep V Mavalankar², KV Ramani², Sheetal Sharma³ and Julia Hussein^{4*}</p>	<p>20 health care facilities (private and public hospital), -sampled from 2 districts in Gujarat. -3 pretested tools for interview and for Observation were used</p>	<p>-facilities need for improved information systems, protocols and process map and procedure for training and research. -Simple incentive would not guarantee safe delivery.</p>	<p>The research contains large sample size leads to generalization of the research.</p>	<p>-Convenient sampling. -Bias Facility was previously informed.</p>
<p>assessment of health care professionals knowledge, attitude and practice towards infection control in labour room by Meena and Gaurav</p>	<p>To study the present practices of infection control in labour room. To assess Health Care Workers Knowledge, Attitude and Practice towards infection control in labour room. To study the methods for improvement for infection control in labour room.</p>	<p>-Staff nurse have best knowledge and practice for IPC among other healthcare worker. The good infection control practice is acquired by experience over years of work.</p>	<p>The study is related to infection control and labour room staffs including intern, nurses and doctors</p>	<p>The study tool was self designed. -Tool was prone to bias. -Small sample size research can be generalized for the repetitive sample.</p>

RESEARCH ANALYSIS AND INTERPRETATION

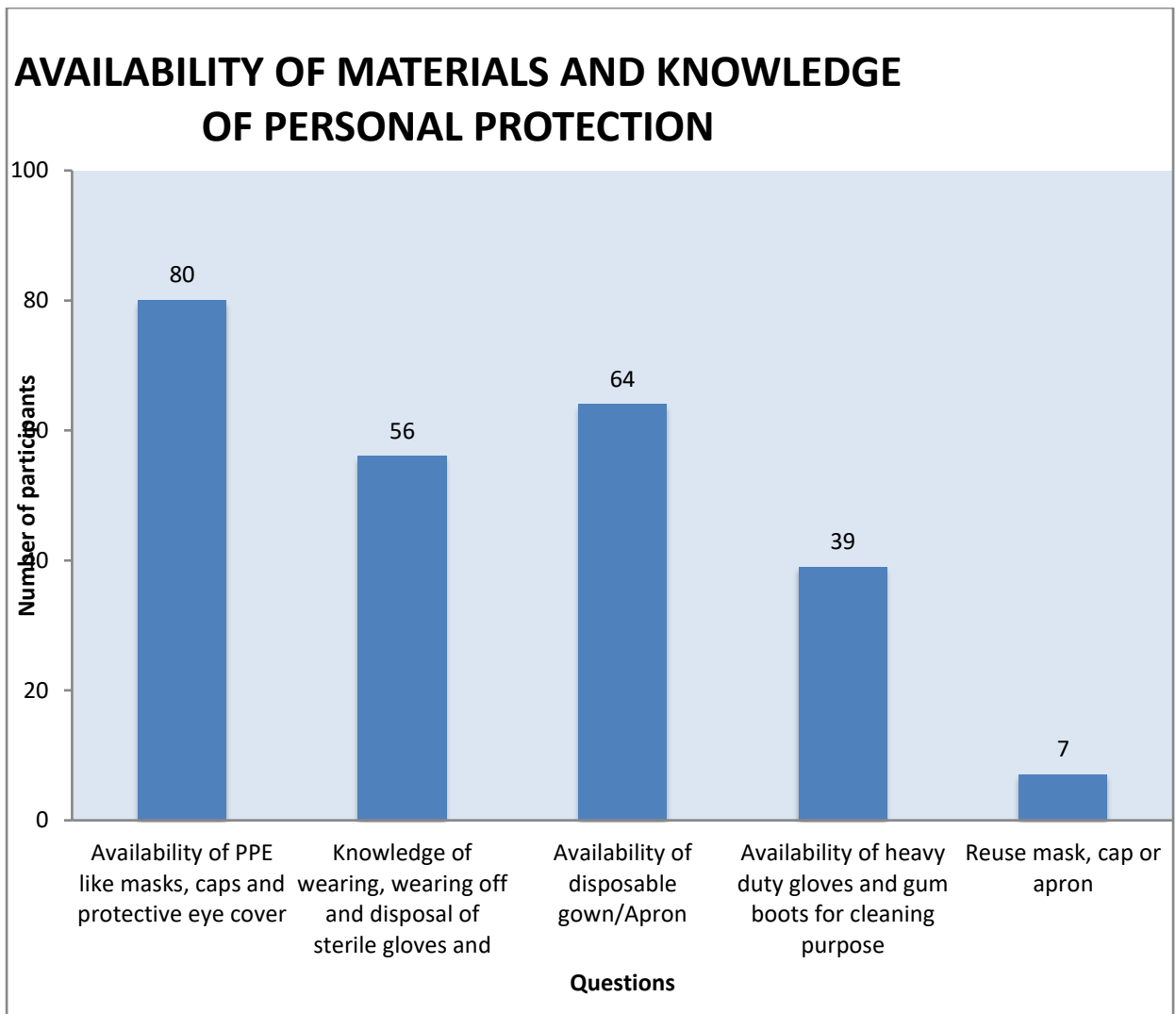
80 participants were surveyed out of 34% participants were off 20- 30 age group ,31% participants were of 30- 40 age group, 11% participants were of 40- 50 age group and 24% participants of 50 to 60 age group were participated, out of which 81% were ANM and 19% were GNM in the healthcare facility.



INTERPRETATION-60% of the participants out of 80 participants had knowledge of hand-washing and only 40% of the participant's practice five moments of hand washing in day to day use. 90% of the participants has the knowledge of correct steps of hand-washing which is SUMAN K.

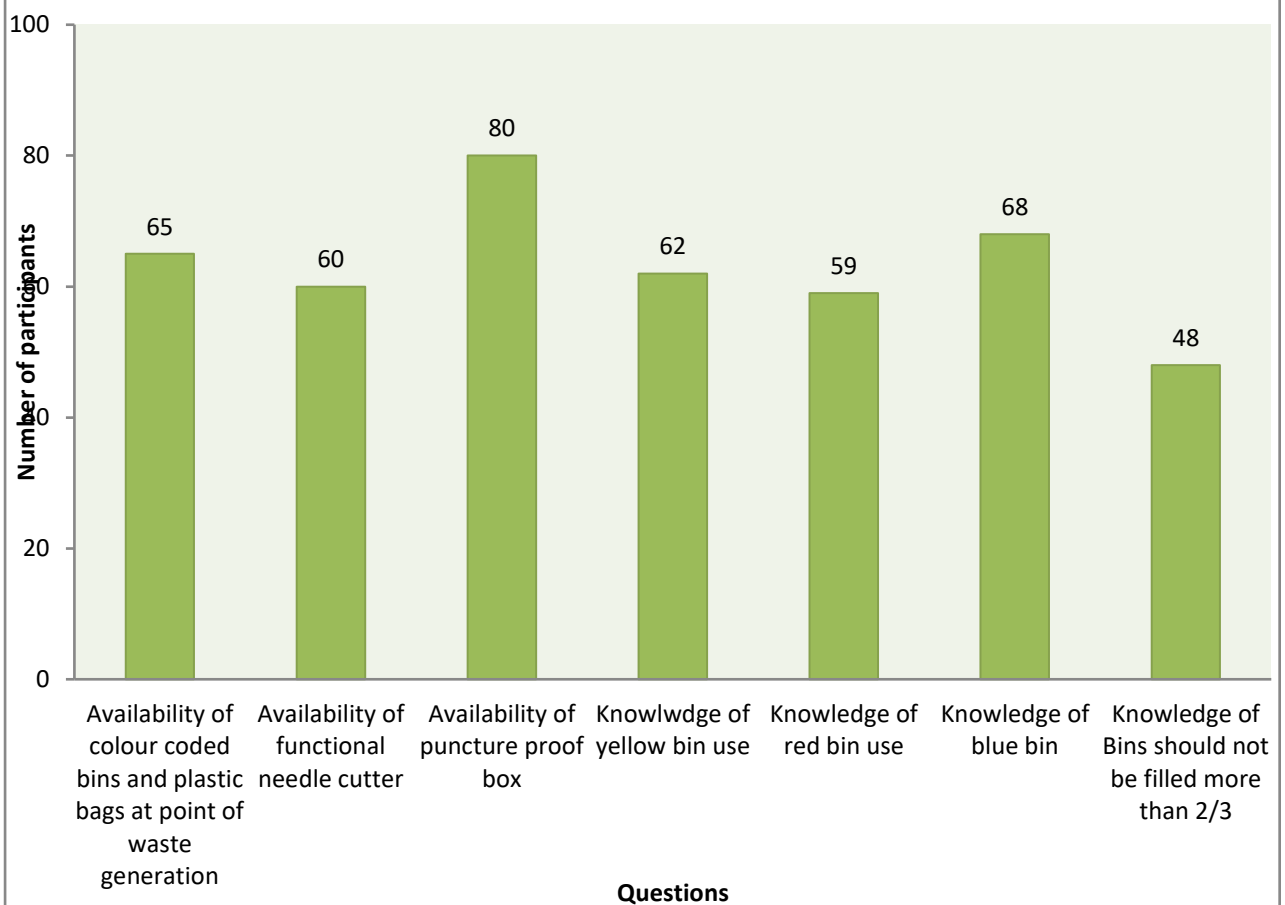


INTERPRETATION- All the facilities had availability of 24*7 running water facility at the point of use and Elan bow tap in the facility at the point of use. 70% of the participants out of 80 responded to the availability of antiseptic soap at the point of use and 93% responded adequate availability of alcohol-based hand rub at a point of use. All the facility has availability of antiseptic.



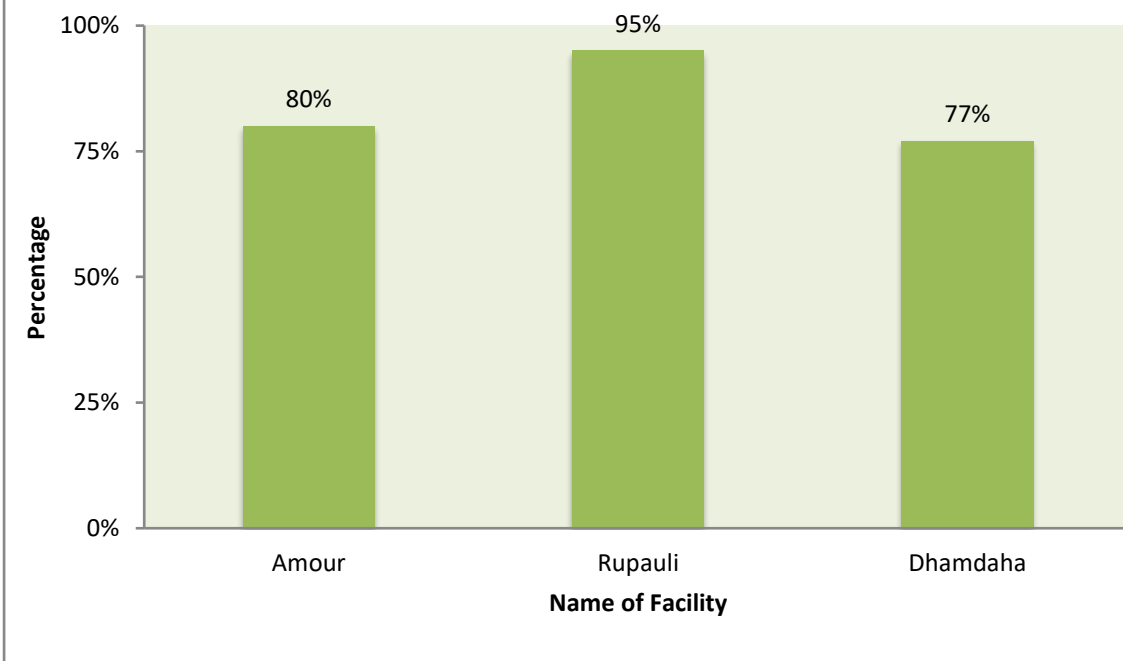
INTERPRETATION- All the participant responded adequate supply of PPE kit like mask, cap and protective eye cover out of which 30% participants prpracticed0P of wearing and wearing off and disposal of sterile gloves.40 % participants use disposable gown and apron every time of use and 40% use sometimes. For housekeeping staff 49% responses they use heavy duty gloves and gumboots for cleaning process. The practice of reuse of mask, cap or apron in 75 % responded no. Knowledge of use of 2% carbolic acid question 72% participants responded for the cleaning of delivery table signifies the sound knowledge of disinfection.The availability of Spill management was there in all facility while the practice of management kit in participants was only 55%.

AVAILABILITY AND KNOWLEDGE OF BIOMEDICAL WASTE MANAGEMENT



INTERPRETATION- 81.25% participant responded the adequate availability of colour coated bins with plastic bag at the point of waste generation but only 60% of the participants had knowledge of bin should not be filled more than 2 by 3. 75% participants responded availability of functional needle cutter and all the facility at the availability of puncture proof box for the disposal of sharp object. For the knowledge of coloured bins 77.5% of participants know the use of yellow bin for the segregation of anatomical and soil waste. 74% of the participants know the use of red bin for the segregation of infected plastic waste and 85% know the use of blue bin used for segregation of vials slides etc. only 30% participants had knowledge of microbial surveillance and 50% participants at knowledge of medical check-up for the staff will turn for the prevention of infection transmission and staff health.

Labour room Score card Of Area of Concern F (Infection control)



INTERPRETATION- Amour facility scored 80%, Rupauli scored 95% and Dhamdaha scored 77% when the National Quality Assurance Standard 2016 checklist for labour room was run for area of concern F which is Infection Control.

Gaps Identified In Amour	Action Plan
No microbiological surveillance	Swab should be taken from various infection prone surfaces for culture test.
Staff were unaware of when and how to hand wash	5 moments of hand washing protocol should be present in at the point of use
Unavailability of elbow length gloves for obstetrical purpose	stock / Expenditure register for the PPE should be maintained availability of elbow length gloves for obstetrical purpose should be ensured.
Non-Availability of disposable gown/ Apron	Availability of Disposable Gown/ Apron should be ensured
Disinfection of operating & Procedure surfaces is not followed	Ensure Cleaning of delivery tables tops with 2% carbolic acid after each delivery with and availability.
Soiled and infected linen are not-Properly handled	Bleach solution container for infected and and dry container of 5o L should be present in the facility.
Non-Availability of post exposure prophylaxis & Protcols	Ensure Availability of post exposure prophylaxis & Protcols

Gaps Identified In Rupauli	Action Plan
Unavailability of Carbolic acid	Ensure availability of carbolic acid and use of carbolic acid
Soiled and infected linen are not-Properly handled	Ensure availability bleaching and dry bucket for Proper handling of Soiled and infected linen

Gaps Identified In Dhamdaha	Action Plan
No microbiological surveillance	Swab should be taken from various infection prone surfaces for culture test.
No procedure for Medical checkup and immunization of staff .	Ensure immunization of Hepatitis B, Tetanus Toxic and health checkup of staff nurse.
No Regular monitoring of IPC	Ensure infection control and handwash audits done at periodic intervals
Unavailability elbow length gloves for obstetrical purpose	Check if staff is using PPEs Ensure adequate supply Verify with the stock / Expenditure register
Unavailability of disposable gown	Ensure adequate supply Check if staff is using PPEs Verify with the stock / Expenditure register
At Entry to the labour no changing of shoes and Mask & Cap wearing practice.	Ensure adequate supply of shoe,slipper, mask and cap .
No Disinfection of operating & Procedure surfaces	Ensure Cleaning of delivery tables tops with 2% carbolic acid after each delivery with and availability.
Soiled and infected linen are not- Properly handled	Proper handling of Soiled and infected linen
Non-availability agent of cleaning and disinfectant as per requirement	Ensure no shortage of disinfectant solution

DISCUSSION-

- Knowledge of IPC among healthcare workers can make the healthcare practice at this basic level of healthcare system.
- Regular audits could strengthen the practice of IPC in healthcare facility.
- Checklist for everyday should be updated for ensuring yeh availability for the sustainability of the IPC practice.
- Practice of IPC can decrease the incidence of hospital acquired infection among patients and health care workers who have higher chances of acquiring infection from patients
- Proper handwashing reduce risk of cross containment among the healthcare workers become hand hygiene has been regarded as the most effective way of infection control and prevention.
- There is a lack of a systematic approach of infection control in the facilities with no set procedure for recording,analysis or follow up action.

CONCLUSION-

Quality improvement training for IPC nurses and healthcare professionals are needed to be provided to the healthcare facility. Refresher training program should be focused for retention of knowledge in healthcare professionals. The non availability of the IPC administrative measures in the most of the facilities is an indication of poor commitment to IPC in healthcare facility. Under reporting of sepsis and other infectious complications related to child birth. Record keeping analysis and feedback of data needed to be improved. Notification of sepsis like cases should be encouraged. Protocol for infection control measures should be prepared standard eyes and adapted to local situation the protocol should include assessment of the evidence.

LIMITATION

Selection of facility is not blinded. The record findings can be biased way. The IPC in hospital is a sensitive issue as it pertaining to individual behaviour and practices. The observation visit was organised in advance and by appointment on specific day, so changes could have been made to specially prepared for the visit.

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