

EVALUATING THE IMPACT OF SIMULATION TRAINING ON KNOWLEDGE OF NURSES IN PUBLIC HEALTH FACILITIES.

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Introduction

- Rajasthan lags behind the rest of India in terms of social health indicators .
- With a maternal mortality ratio of 244 per 100,000 births, the state records the third highest maternal mortality ratio.
- MATIND study(2012) indicated that institutional deliveries have gone up but there is no significant decrease in MMR. This suggests that the healthcare providers are not skilled to respond to obstetric emergencies at any stage of pregnancy.

Challenges in providing quality services

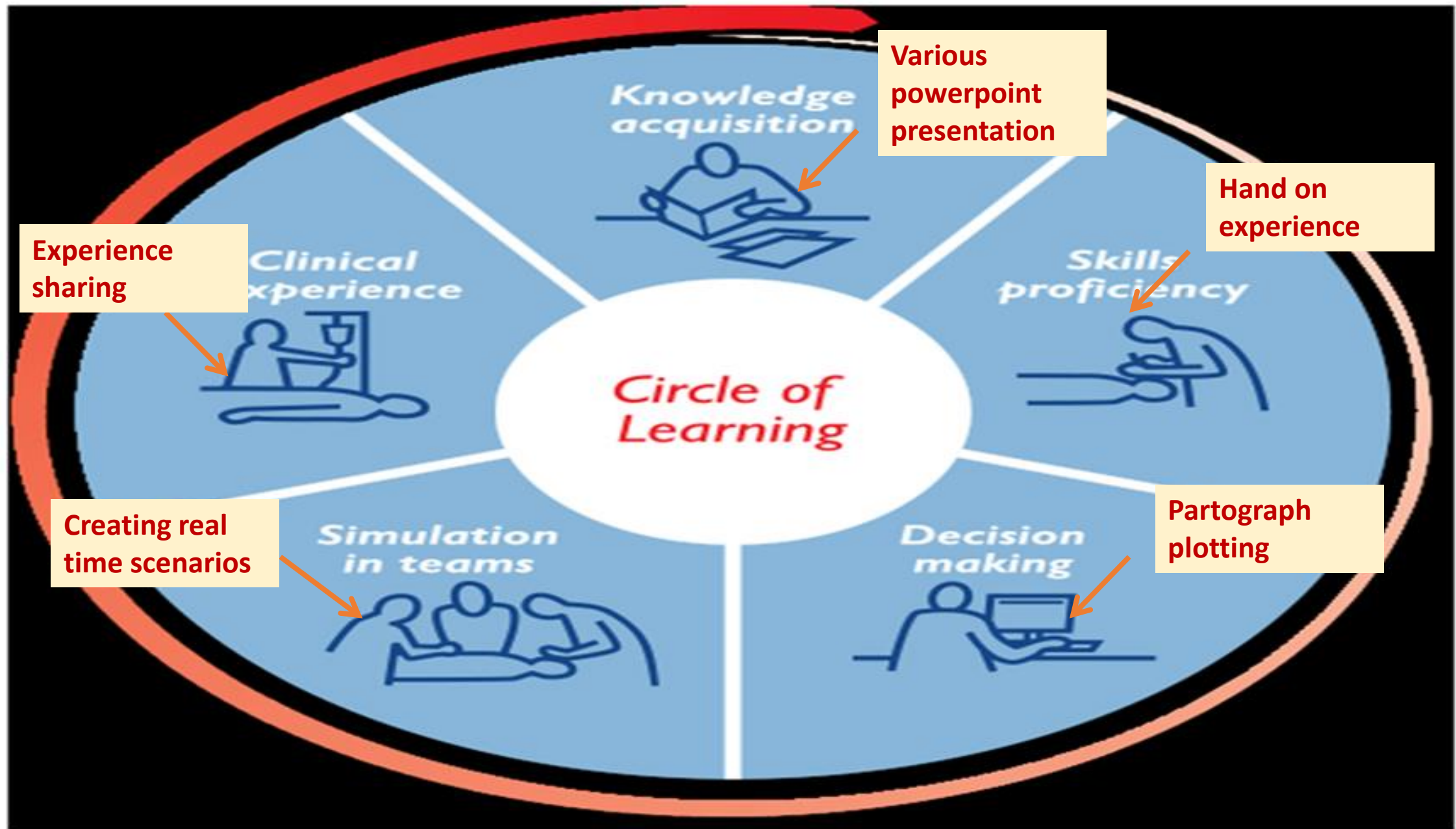
- **Health care providers are less confident in applying skills.**
- **Limited focus on assessing the competencies acquired by the trainees during the training.**
- **Absence of structured plan for Continuing Nursing Education / Continuing Medical Education or reorientation training.**
- **Weak infrastructure, poor technical capacity and inadequate teaching/learning capabilities.**

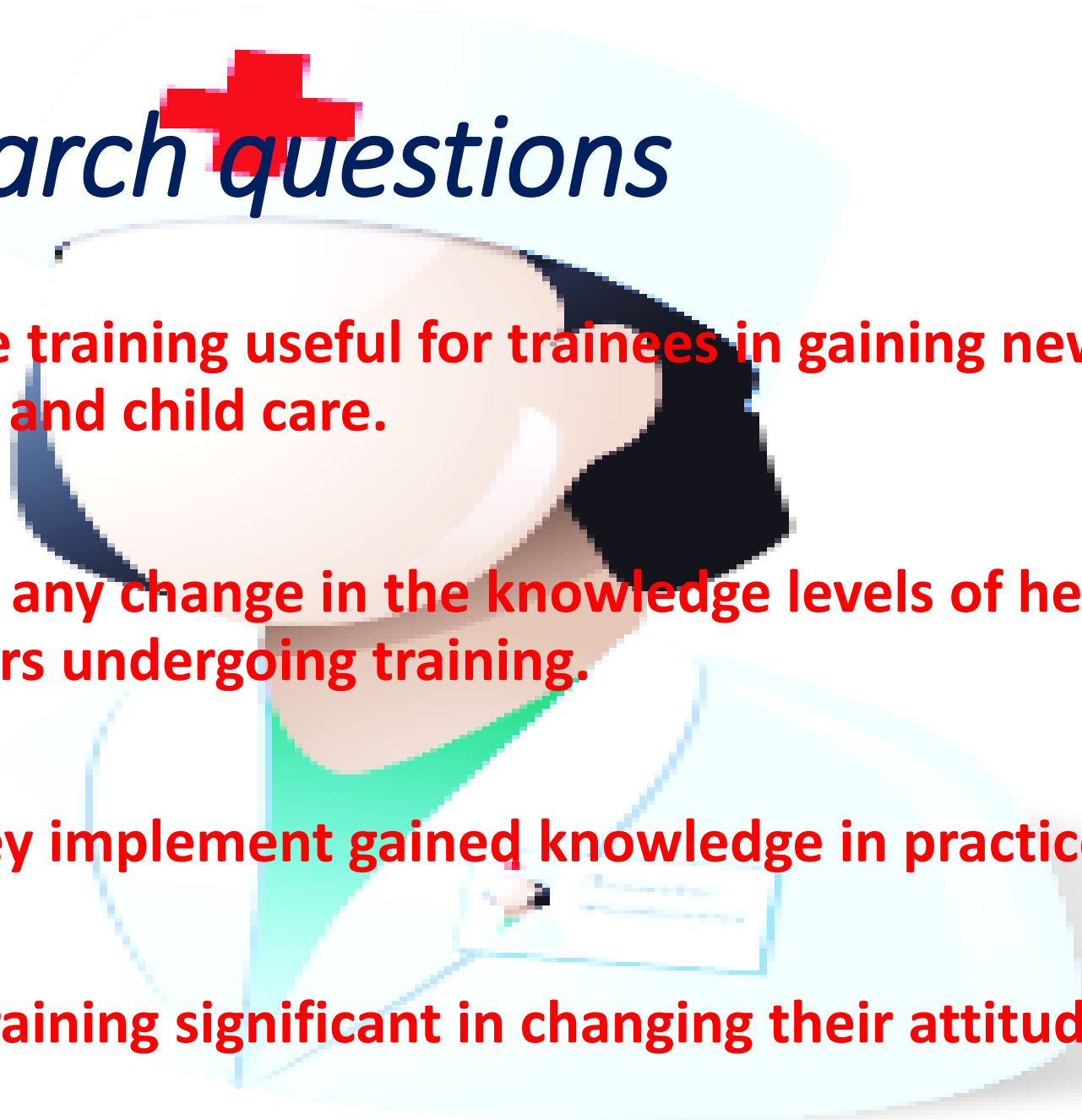
Baseline study findings

- Nurses were unaware of either new developments or procedural approaches in the institution in which they are working.
- Newly appointed staff, who has been out of the field of clinical practice for some time, was lacking in skills and expertise and possess an inadequate knowledge regarding new policies.
- Due to high workload, there was a gap in knowledge and practicing the regimes and protocols.

Proposed Intervention

- Based on the findings a 5- day simulation based capacity building program was launched for the healthcare providers in these districts.
- The sessions were planned as
 - *2 days on Ante Natal Care, Intrapartum and postpartum care,*
 - *1 day on EmOC(Emergency Obstetrics Care) and New born Resuscitation.*
 - *2 days for immediate New born care and evaluation and discussions.*





Research questions

- Was the training useful for trainees in gaining new skills in providing mother and child care.
- Is there any change in the knowledge levels of health service providers undergoing training.
- Will they implement gained knowledge in practice at their facility.
- Is the training significant in changing their attitude towards patient care.

Objectives

- To measure the impact of simulation based training for maternity and newborn care on the knowledge of service providers at the delivery points.

Specific Objectives:

- To assess the knowledge level of trainees through pre training and post training assessments.
- To evaluate the attitude of the trainees towards the training program.
- To measure the effectiveness of training program.

Methodology

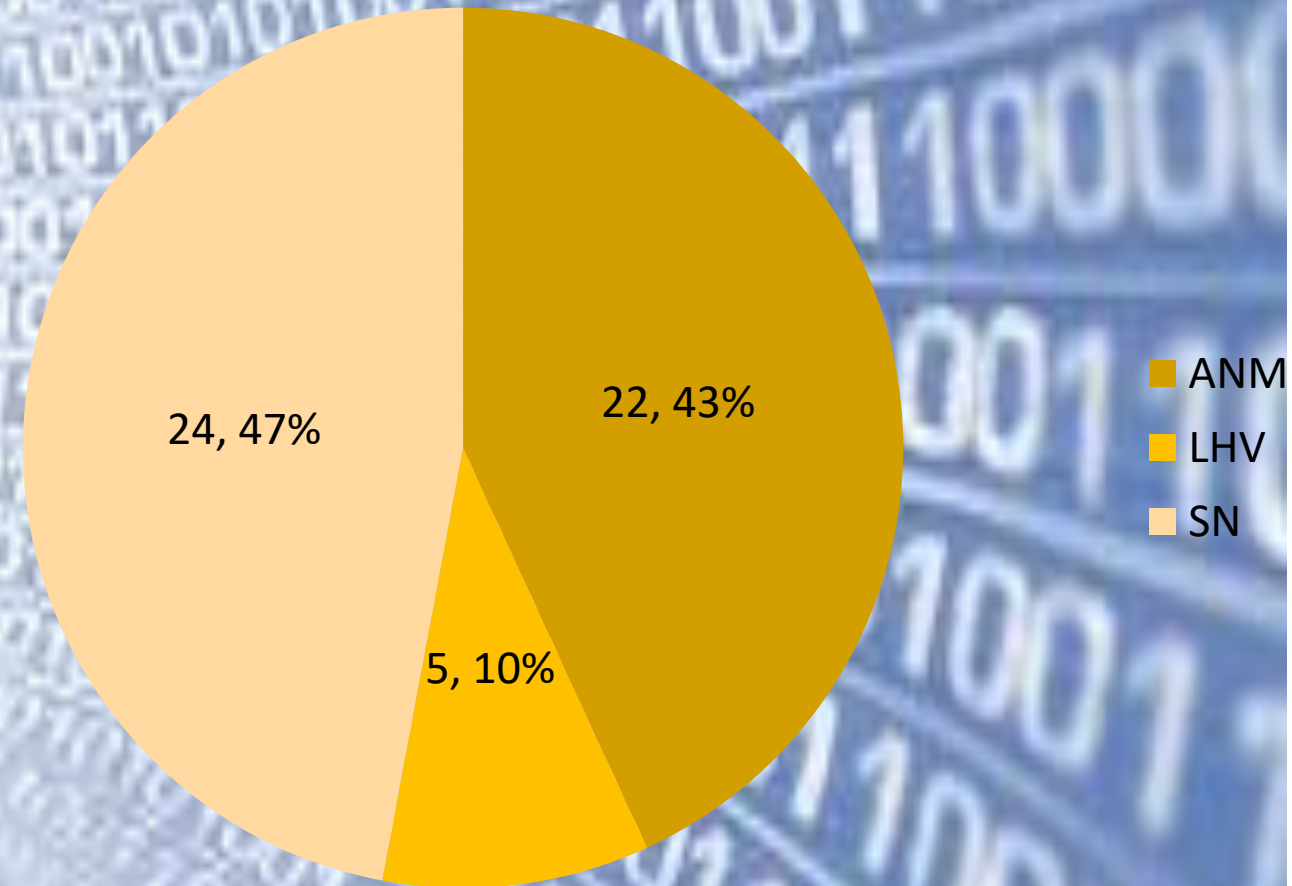
- **Research design** - Pretest-intervention-posttest designs
- **Settings** - The study is conducted in March, 2018 based on trainings held from September 2017 to May 2018 in Jhalawar and Baran districts of Rajasthan.
- **Sampling** - Purposive sampling to include staff providing Obstetric and new born care.
- **Sample size** – 51
- **Data Collection** - Primary data is collected using questionnaires and feedback form.
- **Instruments used**- Multiple choice questionnaires(Pre & Post) in Hindi and English. Feedback form were also used.

Data Analysis

- Data is captured and analyzed using MS-Excel.

Study participants

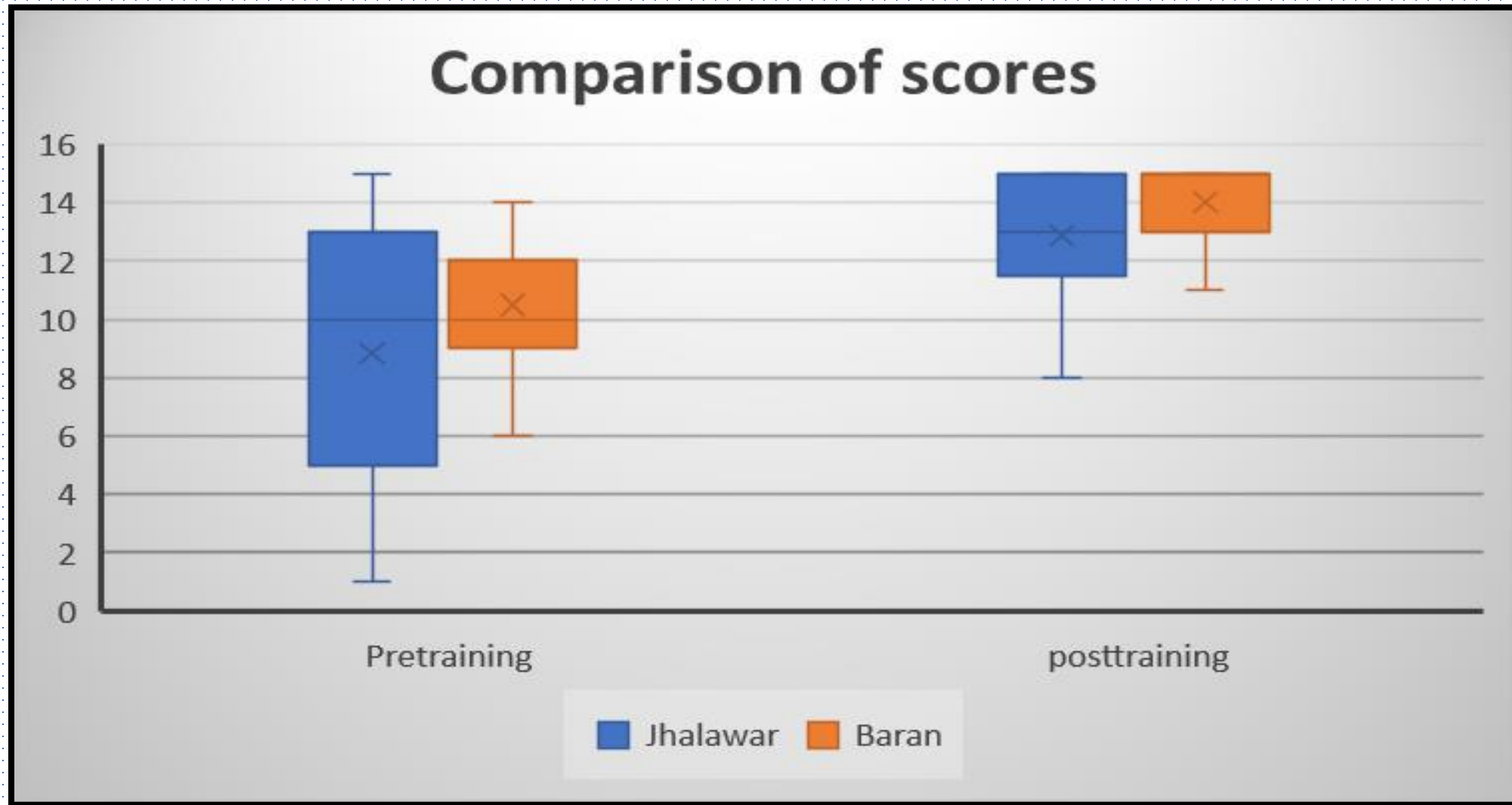
- Out of total 51 participants,
Staff Nurse-24
ANM were 22
LHV-5



Summary of Descriptive statistics

Pre training		Post training	
Mean	9.55	Mean	13.45
Standard Error	0.51	Standard Error	0.25
Median	10	Median	14
Standard Deviation	3.61	Standard Deviation	1.79
Sample Variance	13.01	Sample Variance	3.21
Skewness	-0.72	Skewness	-1.33
Minimum	1	Minimum	8
Maximum	15	Maximum	15

Box plot Distribution of scores.



HYPOTHESIS EVALUATION FINDINGS

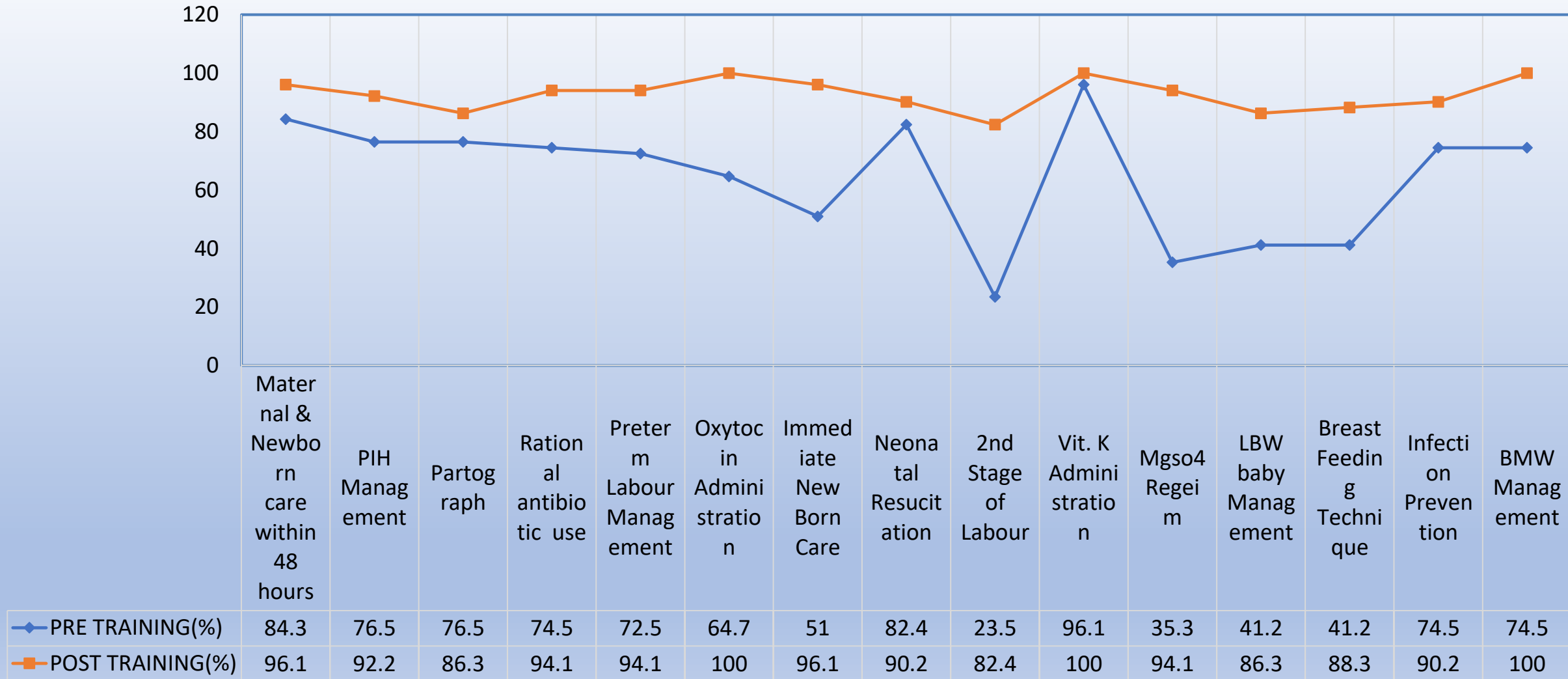
t-Test: Paired Two Sample for Means		
	Pre training	Post training
Mean	9.5	13.4
Variance	13.01	3.21
Observations	51	51
df	50	
t Stat	9.5	
P(T<=t) two-tail	7.16E-13	
t Critical two-tail	2.008	

- A paired t-test was used to test if as a result of training program there would be no significant difference in the cognitive knowledge of nurses when measured with test instrument.
- The calculated t value is $9.5 >$ critical t (two tail) 2.08.
- p- Value is $0.7 \times 10^{-12} < 0.05$.
- *Hence we reject the null hypothesis.*

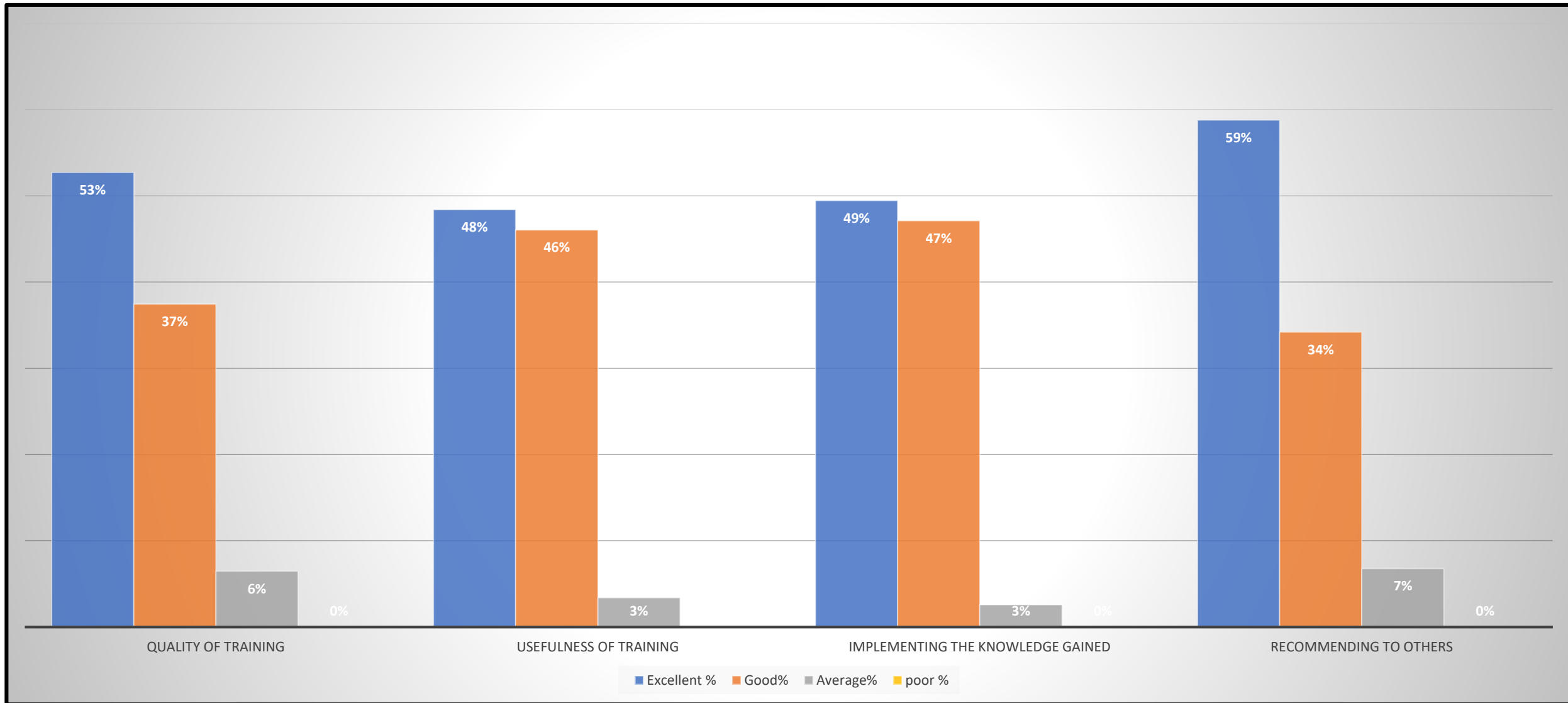
Question wise Analysis

Questions	Pre training (%)	Post training (%)	% change	p- value	significant(y/n)
Maternal & Newborn care within 48 hours	84.3	96.1	11.8	0.108	No
PIH Management	76.5	92.2	15.7	0.221	No
Partograph	76.5	86.3	9.8	0.126	No
Rational antibiotic use	74.5	94.1	19.6	0.228	No
Preterm Labour Management	72.5	94.1	21.6	0.110	No
Oxytocin Administration	64.7	100	35.3	0.104	No
Immediate New Born Care	51	96.1	45.1	0.050	Yes
Neonatal Resuscitation	82.4	90.2	7.8	0.046	Yes
2nd Stage of Labour	23.5	82.4	58.9	0.005	Yes
Vit. K Administration	96.1	100	3.9	0.359	No
Mgso4 Regime	35.3	94.1	58.8	0.008	Yes
LBW baby Management	41.2	86.3	45.1	0.048	Yes
Breast Feeding Technique	41.2	88.3	47.1	0.036	Yes
Infection Prevention	74.5	90.2	15.7	0.081	No
BMW Management	74.5	100	25.5	0.072	No

RESULTS



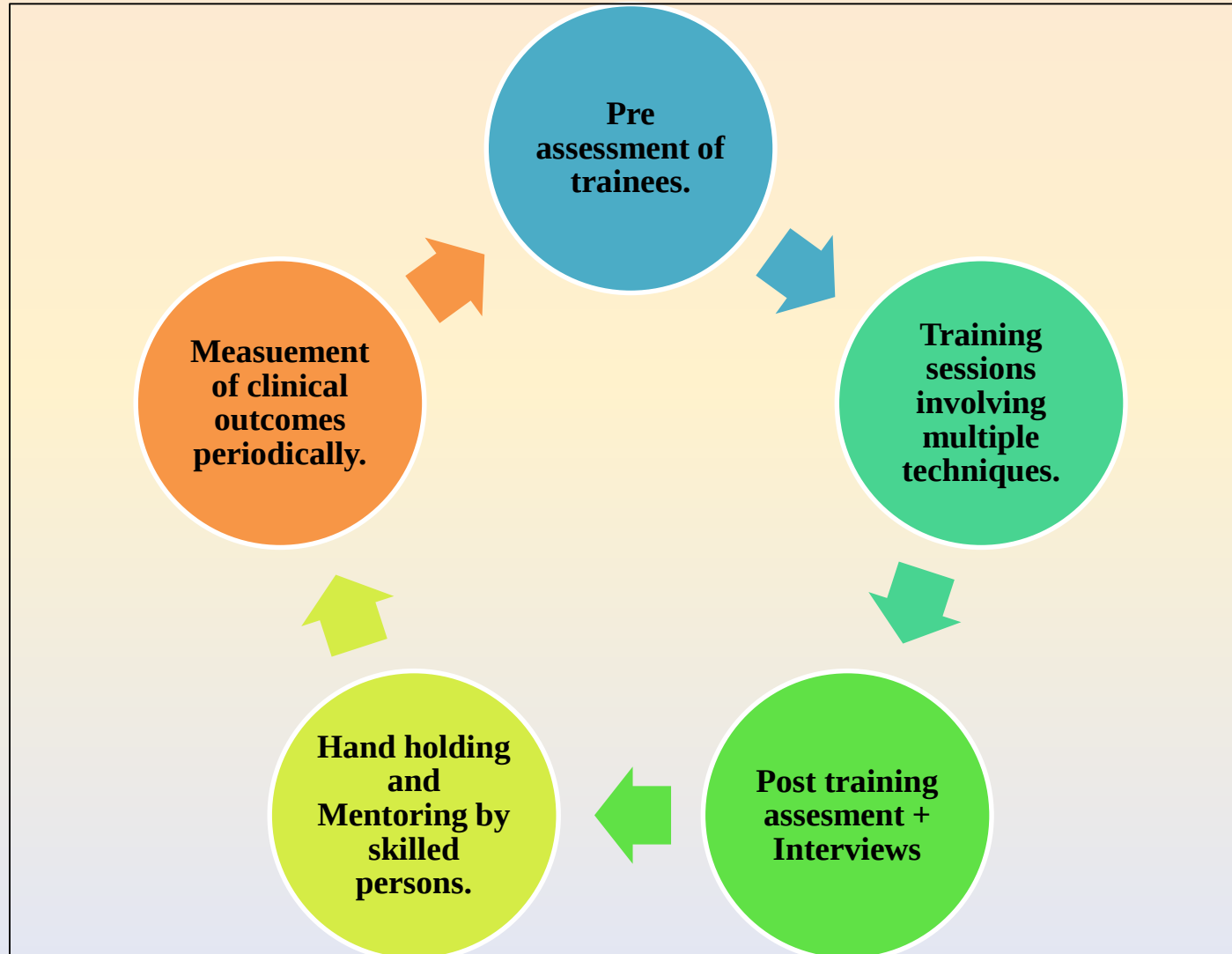
ATTITUDE TOWARDS TRAINING



Observations

- *The training programme was more focused on enhancing learning and evaluating the knowledge levels of Health providers. While there was no provision to measure the attitudes towards patient care.*
- *Also the training programme does not evaluate the clinical practices done by nurses and other health providers.*

Suggestions



Based on Observations, training model is proposed.

- It includes all four levels of training outcomes namely: **Reaction, Learning, Behavior and Outcomes**

Conclusion

- It can be concluded that the elements of the training intervention successfully increased the knowledge levels of Healthcare providers(EmOC and intrapartum care).
- Nursing knowledge levels increased for less than half of the knowledge areas covered by the cognitive test and the measured knowledge levels did not significantly increase in all areas.

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THANK YOU