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A study to assess the effectiveness of planned teaching program on infection control standard among staff nurses working in labour unit at SMVMCH, Puducherry

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Abstract
Introduction: Hospital-acquired infections are a global issue, characterized by localized or systemic infections that occur after the patient was admitted, discharged, or underwent surgery. Modern labor management should aim to provide the mother and the fetus with the best possible conditions during and after delivery, as well as emotional fulfillment for everyone involved.
Objectives of the study: The main objective of the study was Pre and post-assessment level of practice regarding infection control standard among staff nurses.
Methodology: Quasi-experimental one group pre and post -test research design was used for the study. The study consists of 30 staff nurses working in labor unit at SMVMCH. In this study non-probability convenient sampling techniques were used.
Results: In pre assessment, the result reveals that the majority, 25 (83%) had a good level of practice and 5 (17%) had a fair level of practice. In the post assessment the result revealed that the majority, 27 (90%) had a good level of practice and 3 (10%) had a fair level of practice regarding infection control among staff nurses.
Conclusion: The study findings concluded that there was a significant difference in the level of practice on infection control in the labor unit among healthcare personnel after the administration of Infection Control Standards.

Keywords: Infection control, staff nurses, labour unit, planned teaching program

Introduction
Pregnancy and childbirth are crucial for women's health, with 1400 mothers dying daily and over 500,000 dying annually. A strong health system is essential for improving maternal health and reducing maternal mortality. Pregnant and childbirth-related issues expose the mother and baby to life-threatening infections, serious bleeding, and obstructed labor. Nurses, who carry out daily patient care duties in hospitals, are more likely to be exposed to hospital acquired infections (HAIs). Infection control measures must be followed by nursing personnel to prevent and manage infections. HAIs are a global issue, characterized by localized or systemic infections that occur after the patient was admitted, discharged, or underwent surgery. Modern labor management should aim to provide the mother and the fetus with the best possible conditions during and after delivery, as well as emotional fulfillment for everyone involved. The location of delivery is crucial for both the infant's life and the mother's safety. A professionally aided birth with trained staff and observance of aseptic precaution is essential [1].

Infection prevention and control (IPC) policies and practices should be implemented to stop and lessen the spread of infection at labor and delivery care units. Best practices include using personal protective equipment, injection safety, handling patients' possessions, cleaning and sanitizing the surrounding environment, and correct aseptic technique. Nurses must engage in lifelong learning to maintain and improve their nursing practice competency. Nursing compliance recognizes gaps in knowledge and seeks the opportunity to be updated on a regular basis through ward-based educational programs [2].

Need for the study
Hospital-acquired infections (HAIs) are a significant global health concern, with rates

varying between 5.7% and 19.1%. In developing nations, 98% of the world's estimated 5 million newborn fatalities occur, with hospital-acquired infections accounting for 1.6 million fatalities. In the USA, 75,000 of 722,000 patients who had an infection at the time of their stay in an acute care hospital died as a result of a nosocomial illness in 2011 [3].

In Iran, hand hygiene compliance increased significantly after the development and implementation of an infection control link nurse program. In Egypt, nurses' performance in terms of infection control at labor and delivery care units greatly improved after the implementation of the educational programme. In Yemen, improvements in nurses' knowledge and behavior related hospital infection control procedures were achieved more successfully through intervention [4].

In India is home to 30% of the 3.9 million neonatal fatalities each year and 20% of the world's births. In India, neonatal nosocomial infections have been the leading cause of neonatal mortality, and babies are 3.8% more likely to have systemic infections, with sepsis accounting for 61.5% of those cases. In order to benchmark nosocomial infection rate data for patients in the NICU, the Centres for Disease Control and Prevention studied the epidemiology of neonatal nosocomial infections and developed the National Nosocomial Infections Surveillance (NNIS) system. They discovered that 89% of the infants with perinatally acquired infections presented with symptoms in the first 48 hours of life. According to the National Nosocomial Infection Surveillance (NNIS) system, developing nations like India have a nosocomial infection rate of 14.1% per 1000 patient days [5].

Statement of the problem

"A study to assess the effectiveness of planned teaching program on infection control standard among staff nurses working in labour unit at SMVMCH, Puducherry"

Objectives of the study

1. To assess the pre-assessment level of practice regarding infection control standard among staff nurses working in labour unit.
2. To assess the post assessment level of practice regarding infection control standard among staff nurses working in labour unit.
3. To assess the effectiveness of planned teaching program on infection control standard among staff nurses working in labour unit at SMVMCH.
4. To associate the Post assessment level of practice regarding infection control standard among staff nurses working in labour unit with their selected demographic variables.

Hypothesis

H_1: There is a significant difference between pre and post level of practice regarding infection control standard among staff nurse working in labour unit.

H_2: There is a significant association between the post-test levels of practice regarding infection control standard among staff nurse working in labour unit with their selected demographic variables.

Assumptions

1. Staff nurses may have good level of practice to control infection in labour unit.
2. Imparting information regarding infection control standards may enhance the level of practice to control infection in labour unit among staff nurses.

Methodology

The research approach used in this study is Quantitative research approach. Quasi-experimental one group pre and post -test research design was used for the study. The setting of the study in labour unit at SMVMCH, Puducherry. Population included in this study comprised of staff nurses working in labour unit at SMVMCH. The study consists of 30 staff nurses working in labour unit at SMVMCH. In this study non-probability convenient sampling techniques was used. The sample inclusion criteria includes staff nurses who are available during the period of data collection. Demographic variables were collected. Observational checklist was used for the pre-test assessment of level of practice regarding infection control standard among staff nurses working in labour unit were assessed. Then interventions on planned teaching program regarding infection control standard were given. After intervention, day 7th, Post-test assessment of level of practice regarding infection control standard among staff nurses working in labour unit were assessed.

Data analysis and interpretation

The data collected was analysed using descriptive and inferential statistics. The data was organised as

Section A	Distribution of Demographic Variables among staff nurses working in labour unit
Section B	Pre and post-assessment level of practice regarding infection control standard among staff nurses
Section C	Effectiveness of planned teaching program on infection control standards among staff nurses working in labour unit
Section D	Association of the post assessment level of practice regarding infection control standards among staff nurses with selected demographic variables

Frequency and Percentage-Wise Distribution of Demographic Variables among staff nurses working in labour unit

The finding reveals that majority 10 (33%) are in the age group of 26-30years. In the aspect of religion, the data shows 24 (80%) are Hindu. With regards to education, the data shows the majority 20 (66%) are in Bachelor of Nursing. In aspect of overall years of experience in the nursing field majority 10 (33%) were had 6-10 years of experience, 8 (27%) were had 4-6 years of experience, 7 (23%) were had 1- 5 years of experience. In the aspect of the years of experience in the labour unit majority, 12 (40%) had 7-10 years of experience, 8 (27%) had 4-6 years of experience and 5 (17%) had more than 5 years of experience.

In the aspect of previous experience, the majority 10 (33%) have experience in the Obstetrics and gynaecology unit, 7 (23%) have experience in the surgical unit, 5 (17%) have experience in medical and child health unit. In the aspect of experience in any hospital other than SMVMCH, majority

16 (53%) were had experience and 14 (47%) were had no experience. Regarding the of income in month majority, 15 (50%) had an income of Rs.20001-30000 monthly and 13 (43%) had an income of Rs.10000 – 20000. In the aspect of previous information about infection control practice majority 25 (83%) had yes and 5 (17%) had no for previous information. Regarding the source of information, data shows 16 (53%) had received information from CNE and 14 (47%) had receive information from conferences. In the aspect of mass media, the data shows majority of 30 (100%) belong to mass media awareness programs.

Table 1: Distribution of pre and post assessment level of practice regarding infection control standard among staff nurses (N=30)

S. No	Level of practice	Pre-Test		Post-Test	
		N	%	N	%
1.	Poor level of practice	0	0%	0	0%
2.	Fair level of practice	5	17%	3	10%
3.	Good level of practice	25	83%	27	90%

Table 1: The above table shows the distribution of pre assessment level distribution of level of practice show that the majority 25 (83%) had a good level of practice and 5 (17%) had a fair level of practice regarding infection control among staff nurses in the pre-test. Post assessment level of practice show that the majority 27 (90%) had a good level of practice and 3 (10%) had a fair level of practice regarding infection control among staff nurses in the post-test.

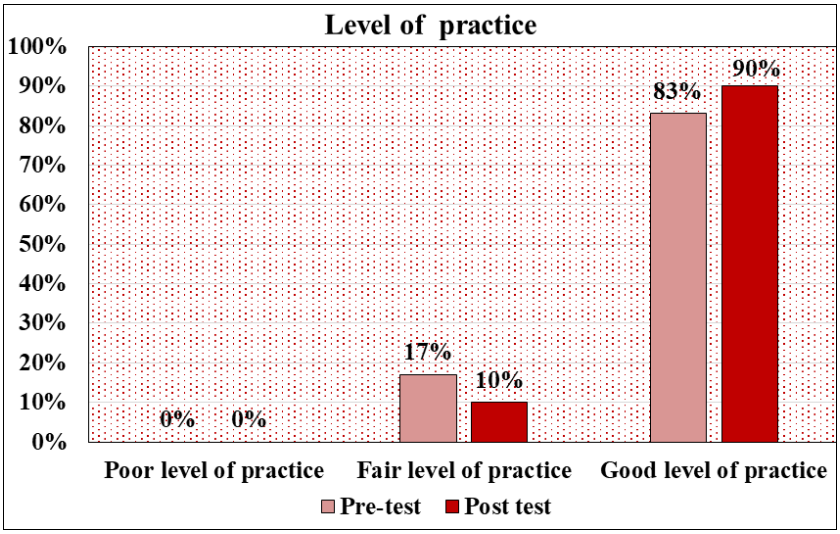

Fig 1: Bar diagram shows the pre and post assessment level of practice wise distribution regarding infection control among staff nurses working in the labour unit

Table 2: Effectiveness of planned teaching program on infection control standards among staff nurses working in labour unit (N = 30)

Practice	Mean	SD	Paired 't' value
Pre test	23.73	3.28	t = 3.543 * p = 0.001 (S)
Post test	26.60	2.94	

*p<0.05 - Significant; p<0.01 - Highly Significant

Table 2: The above table shows the effectiveness of the pre and post-assessment levels of practice, the pre- assessment mean score was 23.73 with a standard deviation of 3.28 and the post-test mean score was 26.60 with a standard deviation of 2.94. The calculated 't' value was 3.543 which was greater than the table value and this indicated that there was a statistically high significant difference at p< 0.001 level.

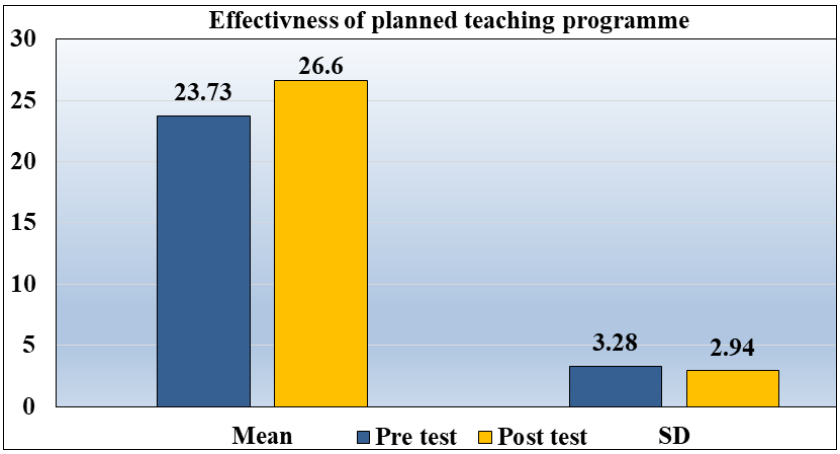

Fig 2: Bar diagram shows Effectiveness of planned teaching program on infection control standards among staff nurses working in labour unit

Table 3: Association of the post assessment level of practice regarding infection control standards among staff nurses with selected demographic variables (N=30)

S. No	Demographic variables	Level of practice						X^2 value
		Poor		Fair		Good		
1.	Age in years	N	%	N	%	N	%	$X^2 = 5.482$ DF = 2 p = 0.006 (S)*
	21-25	0	0%	1	3%	4	13%	
	26-30	0	0%	1	3%	9	30%	
	31-35	0	0%	1	3%	8	27%	
	36 and above	0	0%	0	0%	6	20%	
2.	**Religion**							$X^2 = 2.256$ DF = 1 p = 0.139 (NS)
	Hindu	0	0%	1	3%	23	77%	
	Muslim	0	0%	2	7%	1	3%	
	Christian	0	0%	0	0%	3	8%	
	Others	0	0%	0	0%	0%	0%	
3.	**Education**							$X^2 = 11.49$ DF = 3 p = 0.021 (S)*
	General nursing and midwifery	0	0%	0	0%	4	13%	
	Post basic	0	0%	1	3%	5	17%	
	Bachelor of nursing	0	0%	2	7%	18	60%	
	Master of nursing	0	0%	0	0%	0	0%	
4.	**Overall Year of experience in nursing field**							$X^2 = 7.249$ DF = 2 p = 0.021 (S)*
	1-5 years	0	0%	0	0%	7	23%	
	6-10 years	0	0%	0	0%	10	33%	
	11-15 years	0	0%	1	3%	7	23%	
	16-20 years	0	0%	2	7%	3	10%	
5.	**Year of experience in labour unit**							$X^2 = 7.652$ DF = 3 p = 0.041 (S)*
	1-3 years	0	0%	0	0%	5	17%	
	4-6 years	0	0%	0	0%	8	27%	
	7-10 years	0	0%	2	7%	10	33%	
	More than 10 years	0	0%	1	3%	4	13%	
6.	**Previous experience?**							$X^2 = 5.956$ DF = 2 p = 0.041 (S)*
	Medical unit	0	0%	1	3%	4	13%	
	Surgical unit	0	0%	1	3%	6	20%	
	Child health unit	0	0%	1	3%	4	13%	
	Obstetrics and gynaecology unit	0	0%	0	0%	10	33%	
	OPD	0	0%	0	0%	3	10%	
7.	**Wexperience any hospital other than SMVMCH?**							$X^2 = 9.256$ DF = 2 p = 0.001 (S)*
	Yes	0	0%	2	7%	14	47%	
	No	0	0%	1	1%	13	43%	
8.	**Income in months**							$X^2 = 7.356$ DF = 2 p = 0.98 (NS)
	Rs.10000-20000	0	0%	1	3%	12	40%	
	Rs.20001-30000	0	0%	1	3%	14	47%	
	Rs.30001-40000	0	0%	1	3%	1	3%	
	More than Rs.40000	0	0%	0	0%	0	0%	
9.	**Did you receive previous information**							$X^2 = 7.456$ DF = 3 p = 0.041 (S)*
	Yes	0	0%	1	3%	24	80%	
	No	0	0%	2	7%	3	10%	
10.	**Source of information**							$X^2 = 6.456$ DF = 1 p = 0.012 (S)*
	CNE	0	0%	2	7%	14	47%	
	Conferences	0	0%	1	3%	13	43%	
11.	**Mass media**							$X^2 = 5.456$ DF = 2 p = 0.041 (S)*
	Awareness program	0	0%	3	10%	27	90%	
	Nil	0	0%	0	0%	0	0%	

Table 3: The chi-square test revealed that is statistically significant association between age, education, Overall Year of experience in nursing field, year of experience in labour unit, previous experience, previous information about infection control practice, Source of information and Mass media. There was no significant association between the demographic variables such as religion and income in months.

Major findings of the study

- On assessing the pre assessment frequency and percentage-wise distribution of level of practice, the result reveals that the majority 25 (83%) had a good level of practice and 5 (17%) had a fair level of practice regarding infection control among staff nurses in the pre assessment.
- On assessing the post-assessment, the frequency and percentage-wise distribution of level of practice the result revealed that the majority 27 (90%) had a good level of practice and 3 (10%) had a fair level of practice regarding infection control among staff nurses in the post-assessment.
- When comparing the pre and post-assessment level of practice, the pre-assessment mean score was 23.73 with a standard deviation of 3.28 and the post assessment mean score was 26.60 with a standard deviation of 2.94.

The calculated value was 3.543, which was greater than the table value and this indicated that there was a statistically high significant difference at $p< 0.001$ level.

- The analysis revealed that there was a statistically significant association between age, education, Overall Year of experience in nursing field, year of experience in labour unit, previous experience, previous information about infection control practice, Source of information and Mass media.

Conclusion

The present study assessed the effectiveness of a planned teaching program on infection control standards among staff nurses working in the labour unit at SMVMCH. The study findings concluded that there was a significant difference in the level of practice on infection control in the labour unit among healthcare personnel after the administration of Infection Control Standards.

Recommendations

- Similar studies with a large sample can be conducted in other parts of the country.
- The same study can be conducted with other research designs.
- Similar studies can be conducted in ICU and wards

Conflict of Interest

Not available

Financial Support

Not available

Reference

1. Arora V, *et al*. Educating Nursing Staff Regarding Infection Control Practices and Assessing Its Impact on the Incidence of Hospital-Acquired Infections. J Educ Health Promot. 2021;1:40. DOI:10.4103/jehp.jehp_542_20.
2. El-Din M, *et al*. Effect of Educational Program on Nurses' Performance Regarding Infection Control in Labor and Delivery Care Units. Tanta Sci Nurs J. 2022;33:85-101. DOI:10.21608/tsnj.2022.255381.
3. Alamer A, *et al*. Healthcare-Associated Infections (HAIs): Challenges and Measures Taken by the Radiology Department to Control Infection Transmission. Vaccines. 2022;12:2060. DOI: 10.3390/vaccines10122060.
4. Ghorbanmovahhed S, Shahbazi S, Gilani N, *et al*. Effectiveness of implementing an infection control link nurse program to improve compliance with standard precautions and hand hygiene among nurses: A quasi-experimental study. BMC Med Educ. 2023;23:265. DOI:10.1186/s12909-023-04208-1.
5. Antony Rose Aby, *et al*. Effectiveness of a structured teaching programme on knowledge regarding neonatal nosocomial infections in newborns among the staff nurses working in labour and paediatric units of selected hospitals of Tumkur district. Int J Healthc Sci. 2015;3(1):110-119. ISSN 2348-5728.
6. Fortney JA. Puerperal sepsis and maternal mortality: what role can new technologies play? Int J Obstet Gynecol. 2008, 5(2). Retrieved from http://hdl.handle.net/123456789/8828.
7. Huskin, *et al*. Infection control practices during labour and delivery and Newborn care in resource-limited setting: assessment and recommendations for improvement. J Antimicrob Resist Infect Control. 2013;2(1):269. Retrieved on November 2013 from http://www.aricjournal.com/content/2/S1/P269.
8. Pillitteri A. Maternal and Child Health Nursing. Philadelphia: Lippincott Williams Publications; c2003.
9. Jacob A. Comprehensive Textbook of Midwifery. New Delhi: Jaypee Brothers Publication; c2005.
10. Bobak IM. Essentials of Maternity Nursing. Washington: C.V. Mosby Company; c2000

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