

Original Research Article

## Assessment of Knowledge of Staff Nurses Regarding Aseptic Techniques at Selected Hospital - A Descriptive Survey Study

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### ABSTRACT

According to WHO report (2008), In India it is reported that 50-60% of all neonatal death occur within the first month of life due to poor aseptic technique practicing in the labour room. Of these more than half may die during the first week of life, so study was aimed to assess the knowledge of staff nurses regarding aseptic techniques at selected hospital of Pilkhuwa.

**Materials and Methods:** A descriptive survey design was adopted with 68 staff nurses selected by convenience sampling technique from selected hospital of Pilkhuwa, Hapur. Knowledge was assessed using the structured knowledge questionnaire. The reliability coefficient was found 0.70 by Kuder Richardson-20 formula.

**Results:** Findings of study showed that mean knowledge score of staff nurses was 13.13 with median score of 14. Standard deviation of knowledge score was 3.25. Maximum staff nurses i.e. 43 (63.24%) were having average knowledge whereas 25 (36.76%) having knowledge poor average, none of the staff nurse was having adequate knowledge regarding aseptic techniques. On computation of chi square, it was found that there was no significant association of the knowledge score of the staff nurse with any demographic variables at 0.05 level of significance.

**Conclusion:** Study concluded that Staff nurses were not having adequate knowledge regarding aseptic techniques, so there is a need of proper educational programmes to enhance knowledge of staff nurses regarding aseptic techniques.

**Key words:** Aseptic techniques, Assessment, knowledge, Staff nurses.

### INTRODUCTION

Infection is the attack on body by pathogenic microorganism or the entry of any disease producing factor in the body, developing and causing damage to the body.

<sup>[1]</sup> Nosocomial infection is an infection originating in a patient while in the hospital or other health care facility. It denotes a new disorder cannulated to the patient's primary condition associated with being in a hospital. It includes infections acquired in the hospital but appearing after discharge, and also such infections among the staff of

the facility. <sup>[2]</sup> The source of nosocomial pathogens in health care facilities varies, but both health care workers and clients are reservoirs in most instances. The most common sites of nosocomial infection in clients are the urinary tract, lower respiratory tract, surgical wound, and the blood stream. Prevention of nosocomial infections through hand washing, combined with principles of asepsis and proper use of gloves. <sup>[3]</sup>

According to WHO report (2008), In India it is reported that 50-60% of all

neonatal death occur within the first month of life due to poor aseptic technique practicing in the labour room. Of these more than half may die during the first week of life. [4]

Every year about 5000 patient die unnecessary in India from hospitals acquired infection (National audit office 2000). Many become infected during simple procedure such as IV drugs, owing to poor hand washing and aseptic technique. [5]

Aseptic technique is a set of specific practices and procedures performed under carefully controlled conditions with goal of minimizing contamination by pathogens. [6] The effectiveness of infection control practices depends on nurse's conscientiousness and consistency in using effective aseptic technique. It is human nature to forget key procedural steps, or when hurried, to take short cuts that break aseptic procedures. However, failure to comply with basic procedures places the client at risk for an infection that can seriously impair recovery or lead to death.

[7] Staff nurses play an important role in risk reduction by careful attention to hand washing and by following guidelines to reduce technical risks associated with patient care. [8]

Hence keeping the above points in mind the researcher felt the need to assess the knowledge of staff nurses regarding aseptic technique.

**Objectives:** To assess the knowledge of staff nurses regarding aseptic techniques and to Determine the association of the knowledge of the staff nurses with selected demographic variables.

## MATERIALS AND METHODS

Study design in the present study, Univariate Descriptive research approach was adopted to accomplish the objectives of the study with descriptive survey design.

### Setting and sample

The final study was conducted in Rama Super Specialty Hospital & Research Center, Pilkhuwa, Hapur.

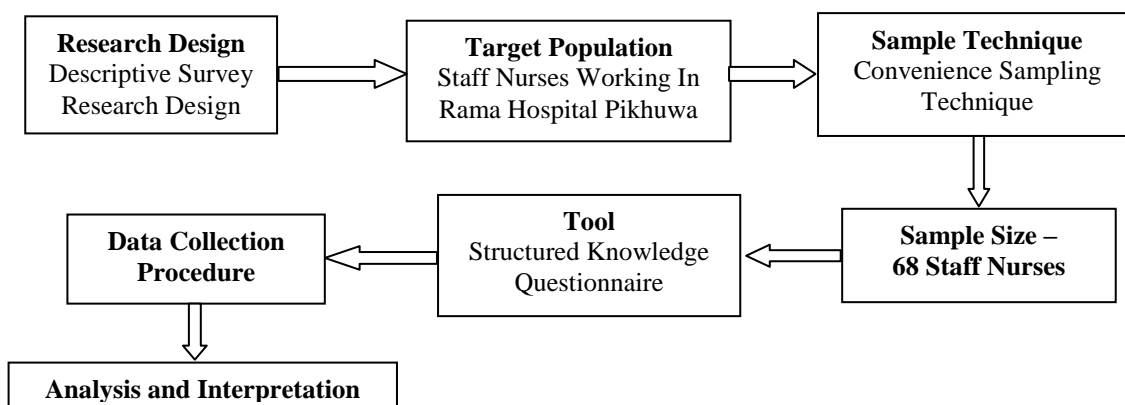


Fig: 1 Schematic representation of research methodology

In this study, population was staff nurses and sample comprised of staff nurses working in Rama Super Specialty Hospital and Research Center, Pilkhuwa, Hapur. 68 staff nurses were selected using convenience sampling technique.

**Ethical consideration:** Ethical consideration was taken from the Rama university institutional ethical committee. Written informed assent was also obtained

from all the participants before starting the study.

**Tool:** Based on the objectives of the study the tools used to collect the data are structured knowledge questionnaire to assess the knowledge regarding aseptic techniques.

The tools along with request letter, statement of problem, objectives and criteria rating scale was submitted to 5 experts from the different fields of Health Care for

validation. Based on expert suggestions, necessary modifications were made. After the try out on 07 staff nurses of Shriram Hospital, Pilkhuwa, reliability co-efficient of structured knowledge questionnaire was

calculated by using Kuder Richardson-20 formula. The reliability coefficient of knowledge questionnaire was found to be 0.70; thus the tools were found to be reliable.

**Data Collection Tools and Techniques**

S. No.	Tool	Purpose	Data collection technique
1.	Structured knowledge questionnaire ➤ Part-1(demographic characteristics) ➤ Part-2(aseptic techniques)	➤ To determine the socio-demographic data of the sample ➤ To assess the knowledge of staff nurses regarding aseptic techniques.	Paper & Pencil

Structured knowledge questionnaire consists of 25 multiple choice items. Each statement was followed by four options and there is only one correct answer. Each correct response was given one score and each 'no response' or 'incorrect response' was given zero. Maximum scores of the structured knowledge questionnaire were 25.

Data collection procedure Formal administrative permission was obtained from Rama Super Specialty Hospital and Research Centre. Data was collected in March 2016.

**Data analysis:** The data analysis is conducted to organize and give meaning to the data. The data analysis was done by using descriptive and inferential statistics.

**Section 1: Sample characteristics**

- Frequency and percentage to describe the sample characteristics

**Section 2: Findings related to knowledge of staff nurses regarding aseptic techniques.**

- Mean, median and standard deviation of knowledge scores

**Section 3: Findings related to the association between knowledge with selected demographic variables**

- Chi square values to find the association between knowledge scores with demographic variables.

**RESULTS**

**Base line characteristics**

**Frequency and percentage distribution of demographic characteristics of the staff nurses**

Results depicted that most of nurses (52.9%) were of age group 20-25 years and (41.2%) were of age group 26-30 years. Most of the staff nurses (67.6%) were male and (32.4%) were female. Qualification of most of nurses (58.8%) was GNM followed by B.Sc. nursing (29.4%) and no one was M.Sc. Nursing. Majority of staff nurses (89.78) had 0 - 5 year experience. Most of staff nurses (67.6) responded there was not an infection control program in hospital and out of them mostly nurses (63.6) were familiar with the contents of infection control protocol. Majority of staff nurses (94.1%) did not attended any infection control workshop, only (5.9%) has attended any infection control workshop.

**Findings related to knowledge of staff nurses regarding aseptic techniques**

Results revealed that the mean knowledge score of staff nurses was 13.13 with median score of 14. Standard deviation of knowledge score was 3.25. (As shown in table 1).

**Table 1: Mean, Median, Standard deviation of pre-test and Post-test knowledge scores of staff nurses N-68**

Mean	Median	S D
13.13	14	3.25

Maximum Scores-25; Minimum score: 0

**Frequency and Percentage distribution of knowledge of staff nurses regarding aseptic techniques**

Results showed that in maximum staff nurses i.e. 43 (63.24%) were having average knowledge whereas 25 (36.76%) having knowledge poor average, none of the staff nurse was having adequate knowledge regarding aseptic techniques. (As shown in figure 1)

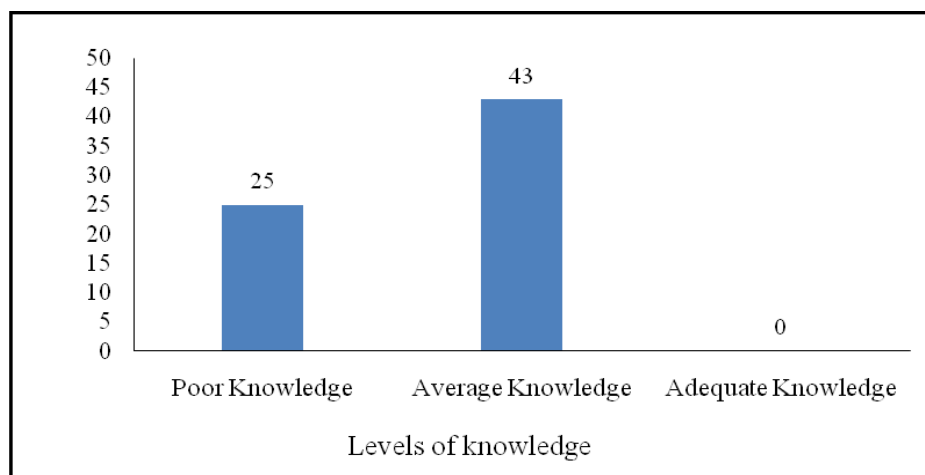


Figure 1: Bar Graph showing frequency of staff nurses according to the level of knowledge regarding aseptic techniques.

### Computed chi square values showing the association of knowledge with selected demographic variables

Table 2: Findings related to association of knowledge with selected demographic variables N-68

S. No.	Selected demographic variables	Knowledge score		Chi square	df	P value
		Below median	Above median			
1	<b>Age</b>					
	20 - 25 years	17	19	0.001	1	0.97
26 years and above	15	17				
2	<b>Gender</b>					
	Male	23	23	0.494	1	0.482
Female	9	13				
3	<b>Education</b>					
	Diploma in General Nursing & Midwifery	21	19	1.550	1	0.213
Graduate in Nursing	10	17				
4	<b>Area of Posting</b>					
	Medicine	11	5	8.995	7	0.253
	Surgery	3	8			
	Obstetrical and Gynecology	1	4			
	Pediatric	1	5			
	Intensive Care Unit	8	7			
	Causality & Emergency	4	3			
	Private Ward	3	3			
Operation Theater	1	1				
5	<b>Experience</b>					
	0 – 5 years	30	31	1.071	1	0.301
6 years and above	2	5				
6	<b>Is there an infection control program in the hospital?</b>					
	Yes	10	12	0.034	1	0.855
No	22	24				
7	<b>If yes; are you familiar with the contents of infection control protocol?</b>					
	Yes	5	8	0.627	1	0.429
No	5	4				

The data represented in Table 2, showed that on computation of chi square, it was found that there were no significant association of the knowledge score of the staff nurse with any demographic variables at 0.05 level of significance. This indicated that the demographic characteristics of staff nurses and their knowledge scores did not have the significance association and were independent of each other.

### DISCUSSION

The findings in the study revealed that the staff nurses not had adequate knowledge regarding aseptic techniques as evident from mean knowledge score  $13.13 \pm$ . These study findings was found to be consistent with study done by Pankaj P et al in 2104. The study findings show that overall knowledge means score was  $11.56 \pm 2.37$ . It interprets that staff nurses has

“good” level of knowledge of aseptic techniques applied in nursing practice. [9]

Results in study showed that in maximum staff nurses i.e. 43 (63.24%) were having average knowledge whereas 25 (36.76%) having knowledge poor average, none of the staff nurse was having adequate knowledge regarding aseptic techniques. These study findings was found to be consistent with previous study in which knowledge level of staff nurses was not found to be adequate regarding aseptic techniques done by G. E. Margareat Thatcher et al in 2015. Results shows that the level of knowledge of staff nurses regarding aseptic wound dressing practices revealed that highest percentage (70%) of the respondent had average knowledge and their scores ranged between 10-19. 19% of the subjects had good knowledge and 11% of the respondents had poor level of knowledge, with scores ranging between zero and nine. [10]

## CONCLUSION

The study concluded that Knowledge deficit existed regarding aseptic techniques among staff nurses. They don't have the knowledge up to the mark.

## IMPLICATIONS

There are several implications for nursing administration; nursing practice. Nursing administrator should formulate policies that will include all nursing staffs to be actively involved in infection control programs in their respective hospitals. Nurse administrators should concentrate on workshop and in service education of nurses, who play a vital role in prevention and treatment of infection. There should be provision of reading material like journal, manuals, text books etc. in the department for updating the knowledge of nursing personnel. In Nursing Practice: Hospital Acquired Infections is one of the greatest challenges the health care delivery system is facing. The staff nurse plays a

vital role to prevent hospital acquired infection. Equipping them with the right knowledge and attitude will lead them to adopt an infection control policy.

Based on the findings, recommendations for further research were also made.

## RECOMMENDATIONS

This study recommends that an experimental study can be done to see the effectiveness of educational program to increase the level of knowledge regarding aseptic techniques.

**Source of funding:** Self

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