



# "Exploring The Knowledge And Application Of Aseptic Techniques In Gynaecological Wards Among Staff Nurses In Chosen Hospitals Of Karnal, Haryana."

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## Abstract:

It is crucial to emphasize the significance of taking precautionary measures to mitigate potential risks, especially in situations where the passage of time may lead to increased hazards. In light of the investigative work conducted at Karnal, Haryana, it is imperative to assess the knowledge and adherence of staff nurses to established infection prevention protocols in order to enhance post-operative outcomes and minimize gynaecological complications. The research employed a quantitative study approach with a descriptive research design, encompassing a total enumerative sampling of 40 nurses working in gynaecological wards. The findings revealed that the respondents demonstrated a mean percentage of 48% with a standard deviation of 3.04 in terms of knowledge regarding infection prevention, and a mean percentage of 54% with a standard deviation of 3.23 in relation to practice. Furthermore, a moderately positive correlation ('r' value of 0.67) was identified between the knowledge and practice scores of staff nurses concerning infection prevention during procedures. The results indicated insufficient knowledge and suboptimal practice among staff nurses with regard to infection prevention in gynaecological wards, establishing a moderately positive correlation between their knowledge and practice.

**Keywords:** Knowledge, Practice, Staff nurses, prevention of infection, procedures in operation theatres, maternity hospital.

## Introduction

An infection occurs when pathogenic microorganisms invade the body or when disease-causing agents enter the body, leading to the development and subsequent harm to the body. A nosocomial infection is an illness that occurs in a patient while they are in a hospital or another healthcare facility. It refers to a newly identified disorder that is linked to the patient's underlying condition and is related to being in a hospital. It includes post-discharge infections acquired in the hospital, as well as illnesses among the facility's staff.

In health care institutions, the origin of nosocomial diseases might vary, but in most cases, both health care staff and customers serve as reservoirs. The urinary system, lower respiratory tract, surgical wound, and blood stream are the most frequent locations of nosocomial infection in patients. The prevention of nosocomial infections can be achieved by practicing hand hygiene, following aseptic techniques, and

ensuring adequate glove usage. According to a research by the World Health Organisation (WHO) in 2008, it was found that in India, approximately 50-60% of all cases were recorded.

Aseptic technique refers to a method or set of steps employed to establish a state of asepsis, which is the absence of potentially harmful microorganisms. Its purpose is to prevent the transmission of these microorganisms to a vulnerable area, hence reducing the risk of infection. If a nurse fails to adhere to aseptic practices in a clinical context, it could lead to patients or healthcare workers being exposed to hospital-acquired infections.

The mortality rate for patients admitted to the hospital with sepsis is eight times higher compared to other conditions. Nurses in the general ward setting do aseptic procedures. However, multiple studies suggest that there is a lack of understanding or neglect in implementing the concepts of aseptic technique in daily nursing practice. In order to minimise the chances of patients acquiring infections while in the hospital, it is crucial to avoid the transfer of microorganisms between healthcare workers and patients during invasive procedures. This can be accomplished through the practice of asepsis. Asepsis refers to the complete absence of potentially harmful microorganisms. The comprehension and implementation of asepsis concepts can be attributed to Florence Nightingale, who in 1855 established the connection between proper hand cleanliness, environment, and the decrease in wound infections.

A study conducted in Rwanda aimed to predict mortality in low-income country ICUs by validating the Rwanda Mortality Probability Model (R-MPM). The study revealed that 42.2% of patients admitted within 24 hours had a diagnosis of sepsis, while 33.0% had severe sepsis, and 20.8% had septic shock. In Burundi, there has been no study assessing the effectiveness of using principles of asepsis in the hospital environment. Our study focused on assessing nurses' knowledge and identifying possible barriers to implementing the principles of asepsis, as they are the ones who frequently assess and spend most of the time with patients, providing nursing care that requires aseptic technique. The study aims to contribute to the promotion of nursing care in hospitals by respecting the principles of asepsis.

### **Objectives of the study:**

1. To assess the level of knowledge regarding prevention of infection among staff nurses in gynaecological ward of selected maternity hospital in Karnal. Haryana.
2. To assess the practice regarding prevention of infection among staff nurses in gynaecological ward of selected maternity hospital in Karnal. Haryana.
3. To find out the relation between the level of knowledge and practice regarding prevention of infection among staff nurses in gynaecological ward of a selected maternity hospital in Karnal. Haryana
4. To find out the association between the level of knowledge regarding prevention of infection among staff nurses in operation theatre with selected demographic variables.
5. To find out the association between the practice regarding prevention of infection among staff nurses in operation theatre with selected demographic variables.

### **Hypotheses**

H<sub>1</sub>: There will be significant correlation between level of knowledge and practice regarding prevention of infection during procedures among staff nurses in gynaecological ward of selected maternity hospital in Karnal. Haryana.

H<sub>2</sub>: There will be significant association between level of knowledge regarding prevention of infection during procedures and selected demographic variables among staff nurses working gynaecological ward of selected maternity hospital in Karnal. Haryana.

H<sub>3</sub>: There will be significant association between practice regarding prevention of infection during procedures and selected demographic variables among staff nurses working gynaecological ward of selected maternity hospital in Karnal. Haryana.

## Methodology

The investigator chose a quantitative research approach and a descriptive research design to evaluate the understanding and application of infection prevention practices among staff nurses in the operating theatre. The research was carried out at selected hospitals in Karnal, Haryana. A total of 40 staff nurses were included in the study using total enumerative sampling technique. Data collection was conducted after obtaining official permission from the relevant department's higher authority and obtaining informed consent from the participants. The data collection tool included a structured knowledge questionnaire and a practice checklist.

## Results

**Table 1: Frequency and percentage distribution of demographic variables**

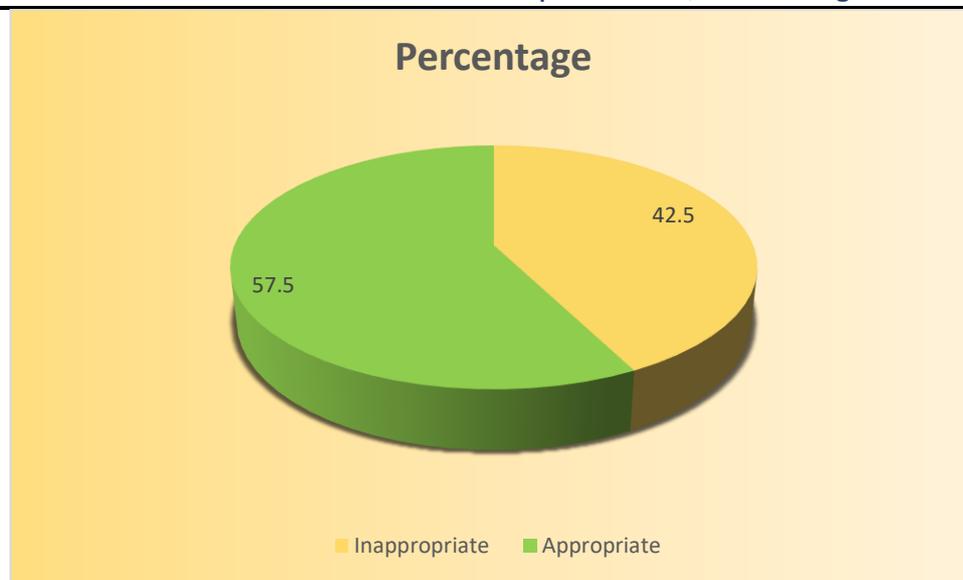
N = 40

S. No	Demographics	Frequency and Percentage
1.	<b>Age</b> Less than 25 26 – 38 39 – 50 More than 50	2 (5.00) 35 (88.00) 2 (5.00) 1 (3.00)
2.	<b>Sex</b> Male Female	14 (35.00) 26 (65.00)
3.	<b>Education</b> M. Sc B. Sc GNM	0 (0.00) 8 (20.00) 32 (80.00)
4.	<b>Year of Experience</b> Less than 5 years 6 – 10 years 11 – 15 years More than 15 years	19 (48.00) 17 (43.00) 3 (8.00) 1 (3.00)
5.	<b>Working experience in Gynaecological ward</b> Less than 5 years 6 – 10 years 11 – 15 years More than 15 years	33 (83.00) 6 (15.00) 0 (0.00) 1 (3.00)

**Table 2: Distribution of staff nurses by the level of knowledge**

N=40

Knowledge	Frequency	Percentage
Adequate	0	0.00
Moderate	31	77.5
Inadequate	9	22.5



**Figure - 1: Distribution of staff nurses by the level of practice**

**Table 3: Correlation between knowledge and practice among staff nurses**

(n = 40)

Karl Pearson Correlation Co-Efficient Value	Type of correlation	Tabulated Value	Significant
0.67	Moderate	0.30	Significant

## Discussion

The findings from the study revealed that 31 respondents (77.5%) exhibited moderate knowledge, while 9 respondents (22.5%) demonstrated inadequate knowledge regarding infection prevention during procedures in the operating theatre. The average knowledge score was 19.6, with a mean percentage of 58% and a standard deviation of 2.14. Similarly, the results indicated that 23 respondents (57.5%) had appropriate practice, while 17 respondents (42.5%) had inappropriate practice in infection prevention during procedures in the operating theatre. The average practice score was 17.25, with a median of 17, a mean percentage of 51%, and a standard deviation of 4.93. Furthermore, the analysis of the correlation between knowledge and practice demonstrated a moderately positive correlation, as indicated by a calculated 'r' value of 0.67 using Karl Pearson's correlation coefficient formula. This signifies a correlation between knowledge and practice scores of staff nurses in relation to the prevention of infection during procedures. As such, hypothesis H3 was accepted.

The recent study highlighted that many participants demonstrated a poor understanding of aseptic principles within hospital settings. Their knowledge was assessed across various variables, with most scoring less than 50%, except for the proper use of sterile gloves. As noted by Labrague et al. (2012), a solid theoretical understanding of sterile technique is crucial for delivering safe and effective nursing care to patients. A substantial portion of participants (71.4%) reported using sterile gloves during tasks such as indwelling urinary catheter management, labor and delivery, newborn care, wound dressing or suturing, and handling aseptic equipment or inserting nasogastric feeding tubes. This aligns with the findings of Tambe, Nkfusai, Nsai, and Cumber (2019), whose research indicated that 80% of participants claimed to consistently maintain aseptic techniques, while 20% strictly adhered to them.

## Conclusion

The investigator found that carrying out the current study was, on the whole, a rewarding experience. The findings of the study revealed that the staff nurses exhibited insufficient knowledge and inappropriate practice with regard to the prevention of infection during procedures in operating rooms. Furthermore, the

researchers found that there was a moderately positive correlation between the knowledge and practice of the staff nurses. The staff nurses found the information booklet that was presented to them to be in their best interest.

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