



DISSERTATION REPORT

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Dissertation Report

KNOWLEDGE, ATTITUDE, AND PRACTICE STUDY OF INFECTION PREVENTION AMONG STAFF OF A PRIVATE HOSPITAL IN GURUGRAM, HARYANA

Introduction

- Healthcare workers are vulnerable to many infectious diseases while practicing the healthcare profession.
- This type of exposure primarily takes place while performing major or minor surgical procedures, while rendering regular services to the patient such as physical examination by health care providers, etc.
- The mode and mechanism of transfer of an infectious agent forms the basis of infection control measures.
- With the emerging life-threatening infections like COVID-19, there exists a need for effective infection control programs in all healthcare facilities
- The incidents of occupational exposure are often observed in hospitals settings mainly due to lack of knowledge and practice of infection control measures
- Knowledge, attitude, and practice is an important cognitive tool to promote health and prevent infections.

Objective

- To assess the knowledge of infection control protocols among healthcare workers.
- To measure the attitude of healthcare workers towards infection control protocols.
- To observe the infection control protocols practiced by healthcare workers.

Methodology

- **Research Question**

- How knowledgeable is the staff of the hospital about IP practices?
- What is the attitude of the staff towards Infection control measures?
- What are the practices amongst the healthcare workers of the hospital under study?

Methodology-contd.

Study Design

- The study is descriptive cross-sectional.

Study Setting

- This study is conducted in a private hospital in Gurugram, Haryana.

Study Tool

- Self-administered questionnaires

Study Duration

- 2 months

Methodology-contd.

Sample Size

- 100 (including all doctors, nurses, paramedics, and housekeeping staff)

Sampling Technique

- Multistage Sampling

Data Collection Procedure

- Multistage sampling technique is used. First stage is selection of departments and units by simple random sampling. The next stage selection of the respondents is cluster sampling. Therefore, the entire staff (including doctors, nurses, paramedical staff and housekeeping staff) from various departments have been included in this study. Contents of the questionnaire include demographical variables, knowledge, attitude and practice of infection prevention measures.

Methodology-contd.

- **Data Synthesis and Analysis-**

➤ All the staff was analyzed separately and was compared based on their knowledge and perception towards the infection control precautions. Discrete variables were presented as frequencies. The knowledge score obtained was estimated as per following criteria: Each correct answer was scored 1 while wrong answer or nonresponse was scored zero. Total knowledge score = $\frac{\text{total correct answers}}{\text{total possible correct answers}} \times 100\%$. A score of less than 50% was considered poor, 50% to 70% was considered fair while 70% and above was considered good.

Results

- Responses from 100 HCPs were collected and analyzed.
- Data regarding socio-demographic status, knowledge, attitude and practice in Infection control formed the content of our questionnaires.

Fig 1: Percentage Distribution of Various Categories of Hospital Staff

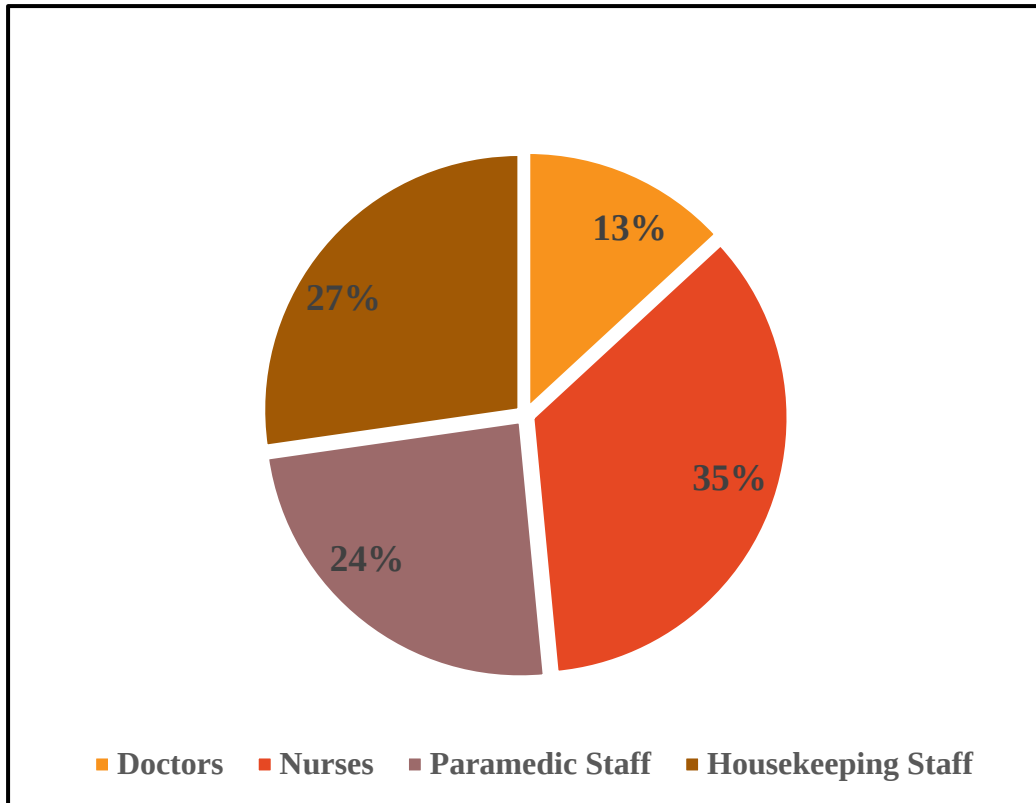


Fig 2: Age Distribution of Staff

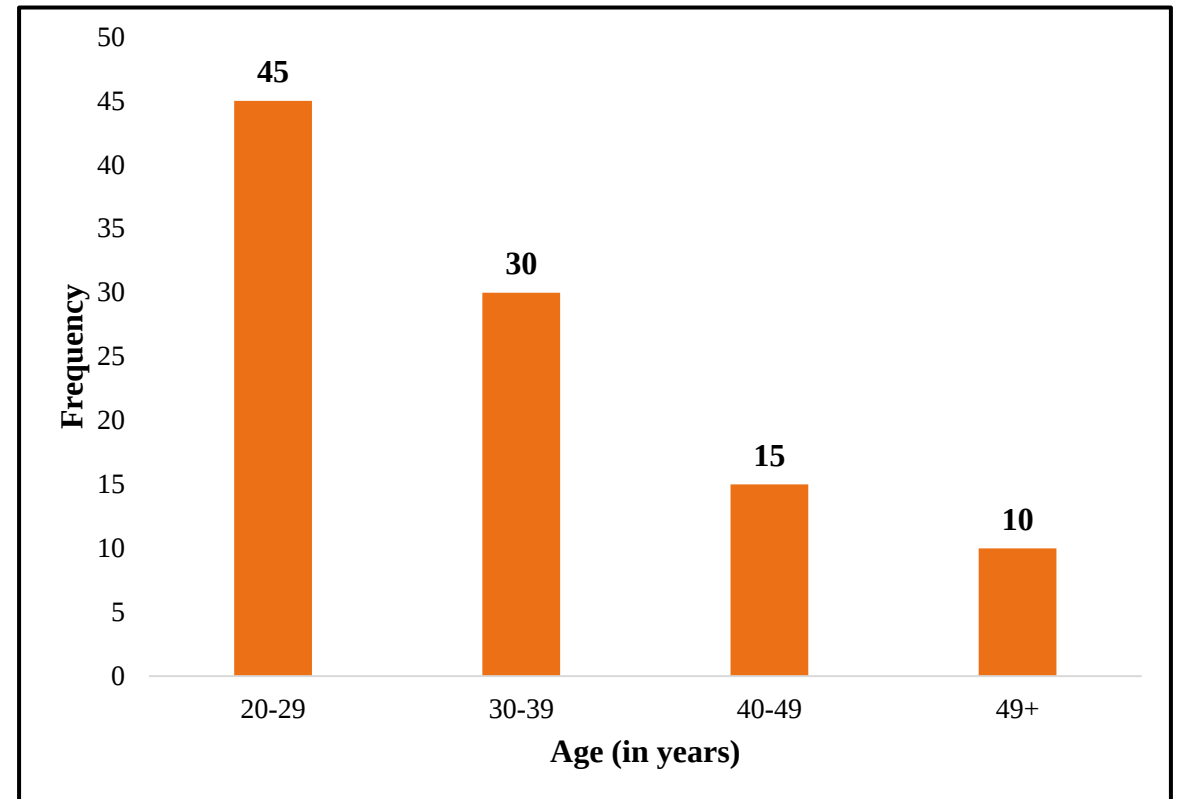


Fig 3: Experience of Staff

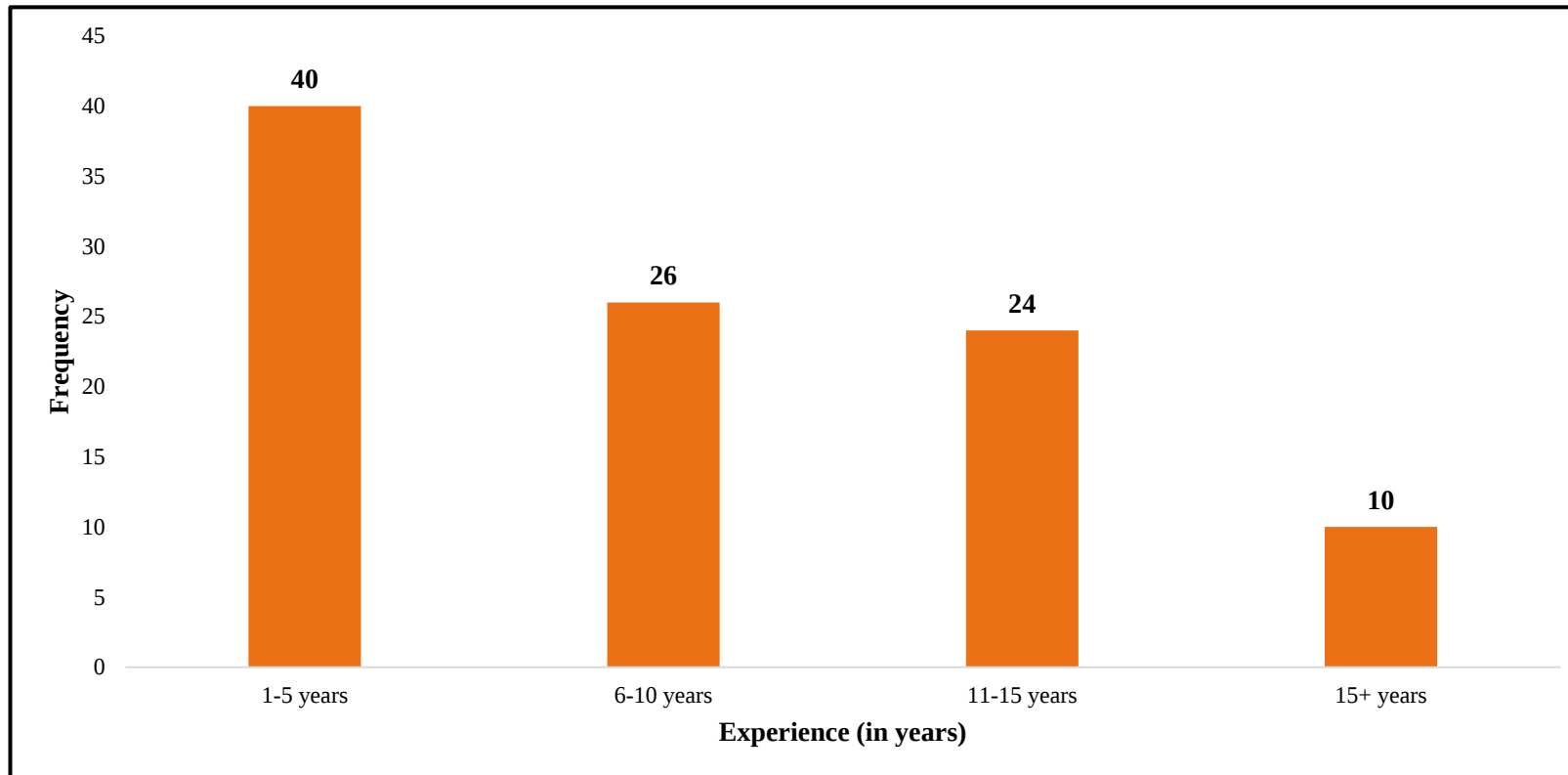


Table 1: Knowledge of the Staff	
Questions	Responses (in percentage)
Ever heard about infection control precautions?	90%
The main source of information from where you have heard about infection control precautions.	
Colleagues	8%
Educational Books	44%
Formal Training	37%
Have not heard	5%
Others	6%
Components of Infection Control Precaution	
Hand Hygiene	78%
Personal Protective Equipment	75%
Needle and Sharp Injury Prevention	73%
Waste Disposal	70%
Safe Infection Practice	72%
Respiratory Hygiene Etiquettes	61%
Handling Body Fluids	86%
Advantages of Infection Control Precautions	
Protect both healthcare personnel and patients	74%
Reduce spread of communicable disease	80%
Reduce hospital acquired infection	72%
None of the above	24%
Moments of Hand Hygiene	
After contact with blood, body fluids or excreta	35%
Before performing any aseptic procedure	32%
After removal of gloves	33%
Before touching patients	26%
None of the above	0%
All of the above	67%

Knowledge of Staff about Infection Precautions

- ❖ This table shows that out of 100 health care providers in the hospital, 90 were aware of the infection control precautions.
- ❖ It can be seen that the main source of information from where the staff heard about infection control precautions were educational books (44%) and formal training (37%).
- ❖ More than half of the staff was aware of the components of infection control precautions and advantages of infection control precautions.
- ❖ 67% of the staff had knowledge about all the moments of hygiene.
- ❖ So, the overall knowledge of the staff can be interpreted to be good from the decision criteria.

Table 2: Attitude of Staff towards Infection Control Precautions					
Attitude	Strongly Agree	Agree	Indifferent	Disagree	Strongly disagree
Regular training should be provided to the hospital staff	90%	6%	3%	0%	1%
Infection control precautions help in reducing the occupational hazards, related to you	76%	14%	4%	6%	0%
Infection control precautions are not really important in hospital	0%	3%	0%	30%	67%
Infection control precautions are mainly related to the critical care of the hospital	44%	15%	4%	24%	13%

Attitude of the Staff towards Infection Control & Precautions

- ❖ This table shows that 96% of the staff believed that regular training should be provided to the hospital staff.
- ❖ 90% of the staff believed that infection control precautions help in reducing the occupational hazards, related to them.
- ❖ 97% of the staff denied the statement that infection control precautions are not really important in the hospital.
- ❖ Therefore, the overall attitude of the staff from the results can be interpreted as positive towards infection control precautions.

Table 3: Practice	Agreed (in percentage)
Hand washing is done before and after coming in contact with the patients or any procedure done on patients	94%
Autoclaving of all used equipment (especially in operation theatre and labor room) is done after every procedure	80%
Proper PPE is used in a particular department (operation theatre, labor room, lab, etc.)	87%
Manufacturers' instructions are followed while diluting disinfectants used in cleaning hospital services	80%
Disposal of used needles and syringes among doctors, nurses and laboratory technicians -	
Recap needle and discard both syringe and needle	94%
Discard both syringe and needle into the safety box without recapping	6%
Disconnect and discard needle and replace with new needle for another drug administration on the same patient	91%
Immunization of Hepatitis B	90%
Awareness of handling and reporting NSI	60%
Practice of disposing waste material appropriately	63%

Practice of Infection Control Precautions by Hospital Staff

- ❖ This table shows that 94% of the staff agreed that they practice handwashing before and after coming in contact with the patients.
- ❖ 80% of the staff agreed that autoclaving of all used equipment is done after every procedure.
- ❖ The disposal of used needles and syringes among the staff showed that 94% of them recap needles and discard both syringe and needle
- ❖ More than half of the staff exhibit awareness of handling and report NSI (60%) and practice disposing waste material appropriately (63%).
- ❖ Therefore, the overall practice of the hospital staff can be interpreted as good.

Discussion

- Knowledge, attitude and practice of the staff was observed to be satisfactory.
- Majority of the healthcare staff was aware of the components of infection control precautions, moments of hand hygiene and advantages of infection control precautions.
- Knowledge of the staff was thus, assessed to be good with respect to infection control precautions.
- The attitude of the staff was seen to be positive from the results obtained.
- Practice of the staff was found to be good as seen in results. The comparative study of our literature review suggests that although, the practices were satisfactory on an overall basis, a scope of improvement through trainings exists.

Discussion (contd.)

- The strength of this study is that the survey was collected from every department of the hospital.
- Additionally, my tenure in the quality department gave me a bird's eye view of the compliance with the relevant guidelines in the day-to-day operations of hospital which helped me to conduct this study.
- However, the limitation of this study remains that the feedback was taken on voluntary basis and therefore, the findings can be discounted to eliminate survey bias.
- Additionally, since the feedback was taken during the peak of second wave of COVID-19 in India, that occurred in April-May, it must be noted that some of the respondents could not have fully utilized their cognition and awareness during the survey due to limited time availability.

Discussion (contd.)

- Looking at the results, it is recommended that continuing medical and nursing education should place more emphasis on awareness of needle stick injuries and incident reporting.
- Clinical, departmental and medical audits should be conducted frequently within the organization.
- Feedbacks from both the patients as well as clinicians should be thoroughly analyzed by the Quality Department to keep a check on patient safety and infection control practices by the hospital staff.
- Regular trainings should be provided to the hospital staff with assessments to check the success of those trainings.

Discussion (contd.)

- Organizational culture should be made more friendly with respect for every employee so that staff does not fear in reporting incidents and seeking timely help from appropriate authority.
- No blame culture along with learning organization type environment should be developed within the hospital.
- Incentive system can be incorporated for staff to motivate everyone in the hospital.
- Regular interdepartmental meetings should be conducted and mock drills and simulation exercises will help to give the staff vision of real-world incidents and the ways to handle them appropriately with respect to infection control practices.
- All these measures, if planned and executed correctly, will help to improve further the standards and quality of infection control practices by the healthcare providers in the hospital.

Conclusion

- The study concludes that majority of the hospital staff exhibits required knowledge, positive attitude and follows standard practices compliant with the guidelines for patient and staff safety in the entire health care setting of the hospital.
- Key infection control precautions like proper handwashing techniques are adequately practiced by the health care personnel in the hospital.
- However, awareness of handling and reporting NSI and proper disposal of waste are the two areas which can be further improved.
- Regular trainings and active audits will help to further improve the knowledge, attitude and practices of the health care personnel in the hospital in the domain of infection control practices.

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THANK YOU