



## STUDY ON AWARENESS ABOUT HAZARDS AT MULTI-SPECIALITY HOSPITAL

## Healthcare

**Ms. Stuti Upadhyay**

Masters in Hospital Administration, Fourth Semester. Shri Guru Ram Rai University, Dehradun Uttarakhand.

**Dr. Mamta Bansal** H.O.D, Associate Professor, Shri Guru Ram Rai University, Dehradun Uttarakhand.

**Dr. Neha Ghildiyal** Asst. Professor, Shri Guru Ram Rai University, Dehradun Uttarakhand.

**Mr. Mandeep Narang** Asst. Professor, Shri Guru Ram Rai University, Dehradun Uttarakhand.

## ABSTRACT

Hazard occurs everywhere but it become more common in hospitals. These hazards are harmful not only for patients but also to the staff and the visitors or the attendants of the patients, infrastructure, and the environment. Various types of hazards in the hospitals are listed below- Spill hazard, Nosocomial infection hazard, Electrical hazard, fire hazard, Ergonomic hazard, etc. To identify and analyse the several hazards in the Multi-Speciality Hospital and to control such processes which can be hazardous to the patient, staff, visitors, and the environment.

## KEYWORDS

Hazard, Hazard Identification, Hospital Hazard, Risk, Risk Assessment, Fire Hazard, Spill Hazard, Nosocomial Hazard, Ergonomic Hazard.

## INTRODUCTION

Hazard is a condition or the source which has capacity to harm the people, property, environment and combination of all. Hazard Identification is the process of identifying and determining the undesired events and mechanism which have a capacity to harm to the hospital. Controlling of hazard is the execution of precautionary steps which will decrease the occurrence of risk associated with the hazard. Hierarchy of Control is the sequential order of processes to be taken to control the risk related to hazards. Risk is the probability of the occurrence of the undesired events in particular time or in particular circumstances which can lead to the harm to the population and the environment. In Mathematical way, Risk is measured as.

$\text{Risk} = \text{Likelihood} * \text{severity}$

Where, Likelihood is the probability of occurring of the undesired event

Severity is the effect or outcome of the undesired event which can cause harm to the people, property and environment.

Risk Assessment is the process of analysing of the risks arising from the hazard in this every step of the process is evaluated.

There is a specific process to identify the hazard and assess the risk from it, and the process is called Hazard Identification and Risk Assessment.

## 1) Fire Hazard-

It is one of the most common types of hazards in the hospital. As hospital uses heavy electrical instruments and machinery to carry out life-saving processes. Any deformity in it can lead to fire which could turn out into a big tragedy. Fire can cause not only by short-circuit but can also occur through cooking oils and open flames in kitchen, flammable chemicals in pharmacy, kitchen, wards etc which can ignite and intensify the fire. Though smoking and drinking is prohibited in the hospital premises but still some secretly consume it within the premises and its leftover can create the fatal fire. Hence, mock drills should practice periodically so as to improve the staff's awareness and their performance.

## 2) Spill Hazard-

Spill is the running out or the flowing of the substances from the container. Code HAZMAT is announced in the hospital. HAZMAT is an abbreviation for HAZ- Hazardous MAT- Material. Spill Management Setting plays a most crucial part, as it informs the staff what to do first, how to announce the code HAZMAT, who will be the member of Spill Team. HAZMAT consists of substances like chemicals, (biological, chemicals, radiological agents.

## 3) Nosocomial Infection-

Hospital Associated Infection. This is the most prominent hazard. It is

a subset of infectious contagious disease. The infection can be acquired after the 48 hours of admission as it was not present at the time of admission which leads to sepsis and even death. The infection can be caused due to invasive procedures, excessive antibiotic use and by not properly following the infection prevention and control measures. These can't only be hazardous for patients but also to the staff, visitors. Still some people are at more risk of acquiring the nosocomial infection. Increasing age, Greater length of hospitalization, High number of invasive devices and procedures and co-morbid conditions etc are some reasons which can cause nosocomial infection. Hence, nurses and medical staff need to be very aware to prevent the patient from nosocomial infection.

## Types of Nosocomial Infection

| Staff Acquired                                                                                                                        | Patient Acquired                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Staff Acquired</li> <li>• Needle Stick Injury (NSI)</li> <li>• Contagious Disease</li> </ul> | <ul style="list-style-type: none"> <li>• Patient Acquired</li> <li>• Catheter Associated Urinary Tract Infection (CAUTI)</li> <li>• Central Line Associated Blood-Stream Infection (CLABSI)</li> <li>• Surgical Site Infection (SSI)</li> <li>• Ventilator Acquired Pneumonia (VAP)</li> </ul> |

## 4) Ergonomic Hazard-

These arises from the physical factors which results in musculoskeletal injuries. It is found in all workspaces which can cause short-long term health of employees. These hazards generally are employee based but in hospitals it somehow affects the patient care. These injuries can happen due to poor posture (not having an appropriate chair for the employees) this not only lead to postural deformity but also obesity or metabolic syndromes, cholesterol problems etc, prolong standing, poor indoor air quality, no proper lighting, improper maintenance of temperature and not having aesthetic surrounding which will affect the mood of the employee and led them to work less productive and psychologically irritates the patient and disturbs their recovery.

## RESEARCH METHODOLOGY

## Objectives-

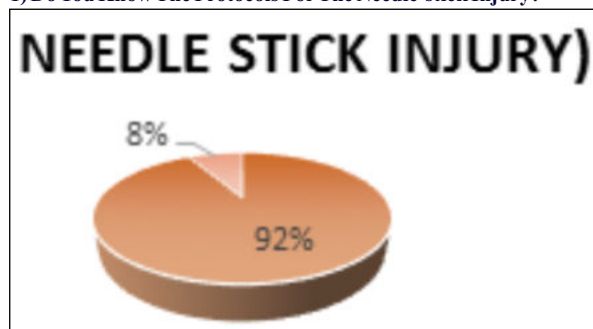
- To observe all such parameters which can cause harm to patients and staff in the hospital.
- To determine all the harm that can lead anyone to fall in any harmful condition and evaluate all the severity from it.
- To allow the staff to design, observe the preventive measures and mitigate the hazards and that the risks are properly controlled.

An observational study is done on the several departments of a multi-speciality Hospital regarding the identification of hazard. A knowledge survey is done on the departments by preparing a questionnaire regarding the awareness of the staff on the identification of hazard. Random Sampling was opted to take a survey.

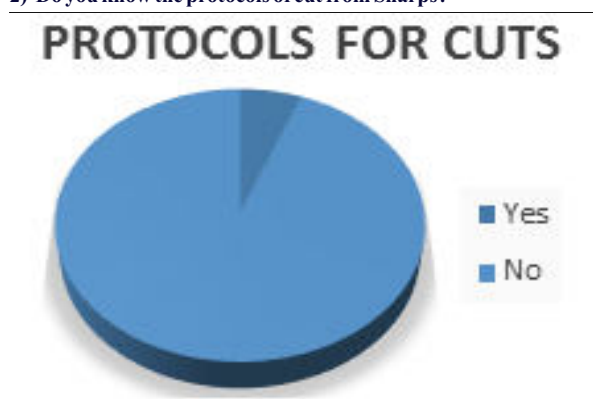
Question Are As Follows: -

1. Do you know the protocols for the Needle-Stick Injury?
2. Have you got cut from sharps? Do you know the protocols to deal with it?
3. How many times your mock drills occurred?
4. Have you felt the musculoskeletal injury after joining the hospital?
5. Do you know about the Spill Management protocols?
6. How many sterilization indicators are used during sterilization?
7. How much of your staff have post-operative stress?
8. Does your staff use all precautions during the radiological procedure?
9. How long your hospital keeps the Bio-medical waste?
10. Do you know color coding of the bio-medical containers present in the hospital?

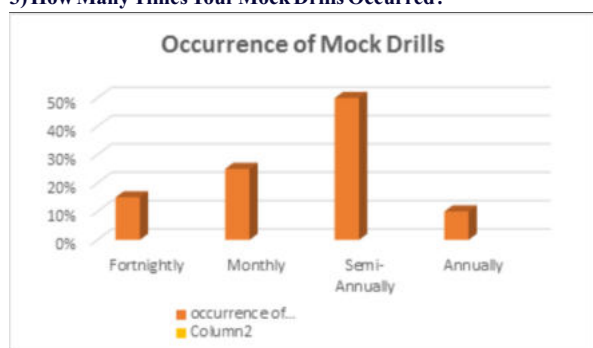
#### 1) Do You Know The Protocols For The Needle-stick Injury?



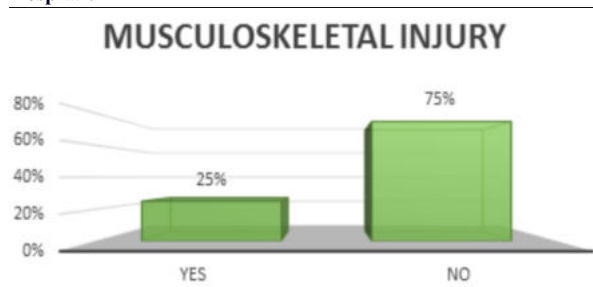
#### 2) Do you know the protocols of cut from Sharps?



#### 3) How Many Times Your Mock Drills Occurred?



#### 4) Have You Felt The Musculoskeletal Injury After Joining The Hospital?



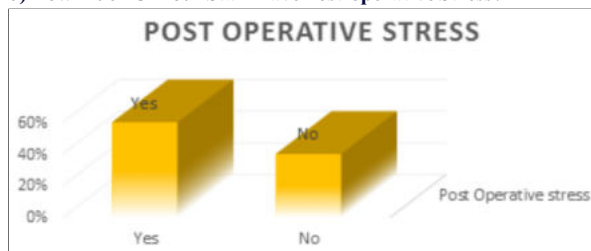
#### 5) Do You Know About The Spill Management Protocols?



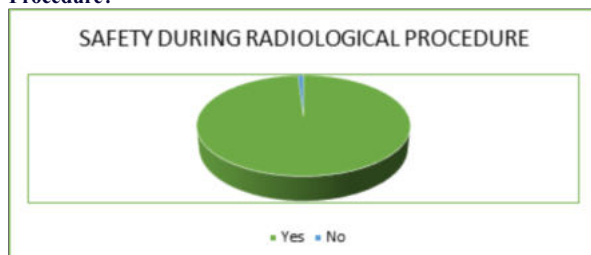
#### 6) How Many Sterilization Indicators Are Used During Sterilization?



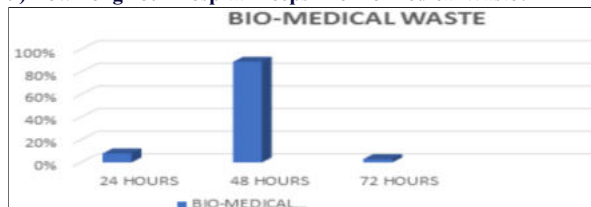
#### 7) How Much Of Your Staff Have Post-operative Stress?



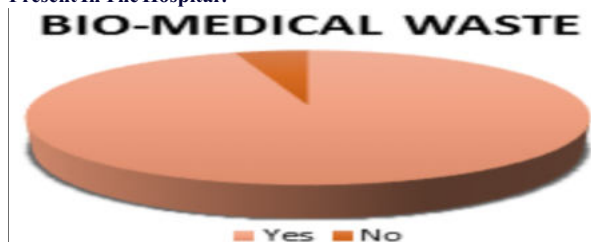
#### 8) Does Your Staff Use All Precautions During The Radiological Procedure?



#### 9) How Long Your Hospital Keeps The Bio-medical Waste?



#### 10) Do You Know Color Coding Of The Bio-medical Containers Present In The Hospital?



## CONCLUSION

- Hazard is inevitable, but we should try to decline its occurrence. Hence, Identifying the hazard is the primary task in the hospital followed by implementing the standard protocols and policies setup by the NABH, Disaster Management Team and hospital administrators.
- Making the staff more aware of the various hazard is of utmost importance as they can help in prevention of hazard and tackles those situations promptly and properly.
- Setting of teams to track the routine activities in the premises.

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