

## A Study on Usage of Personal Protective Equipment Among the Health Care Providers With Reference to Meenakshi Hospital Thanjavur

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### ABSTRACT

Personal protective Equipment (PPE) limits the health care workers contact with all related to the body function of living things. Healthcare workers (HCWs) must be full of knowledge and confident in selecting the appropriate type of personal acting to prevent harm equipment, and the use in way of doing things when putting on and removing PPE. The study was planned to find gaps between use of PPE among the health care providers in Meenakshi hospital Thanjavur.

### 1.INTRODUCTION

Personal protective equipment is designed to protect health care providers from serious workplace injuries or illnesses. Personal acting to prevent harm equipment providers a physical something that blocks between microorganism and wearer. It offers protection by preventing very tiny living thing from contaminating hands, eyes, clothing, hair and shoes. A failure/mistake in infection control practices helps transmission of infection from patients to health care workers, other patients and helpers.

“made to do one thing very well clothing or equipment worn by an employee for protection against able to be easily caught from others materials”

First, don it before you have any contact with the patient, generally before entering the room. Once you have PPE on, use it carefully before entering the room. Once you have PPE on, use it carefully to prevent spreading contamination. When you have completed your tasks, remove the PPE carefully and throw out it in the receptacles given. Then immediately do hand hygiene before going on to the next patient.

Personal serving or equipment includes gloves, protective eye wear (goggles), mask, apron, gown, boots/shoe cover, head cover. PPE should be used by all health care providers, supporting staffs, laboratory staffs, and family members who provide care to patients in the original position where they have contact with blood, body fluids, releases of fluid or excretions. While PPE is last in the system where things of prevention, it is very important for protecting healthcare workers from disease transmission.

Key words: Personal protective equipment (PPE)

## 2. REVIEW OF LITERATURE

The hospital or provider healthcare should have standards and secure protection for healthcare worker and patient and encourage nurses or other staff to follow the guide of action based on the decisions and measures taken by the hospital (**Gershon, et al., 2000; Pitter, et al., 2000**)

**Grantham, (1992)** defines personal acting to prevent harm equipment “as eye protection, hearing protection, hand protection, protection from heat and cold, hard hats, safety shoes, skin and breathing and lung related protection equipment”. He further explains the need for personal acting to prevent harm equipment when there is any chance of an employee being in contact with a hazardous substance which may cause harm to their health, whether this contact is by skin contact, breathing a contaminated atmosphere or noise levels. Grantham focuses one’s effort his books around the need for breathing and lung related serving equipment.

**Pratt et al., 2001** Washing gloves is not acceptable either and only helps to reduce the something that blocks properties of the glove. Gloves should be thrown out of following each job or episode of care. Gloves contaminated with blood or body fluids should be disposed of as medicine-based waste. Natural rubber latex gloves remain the glove of choice when dealing with blood or body fluids given the level of protection, they offer the user, however, individuals can develop reactions towards the natural proteins/chemical accelerators.

## OBJECTIVES OF STUDY

- To analyze healthcare workers, have health affects of personal experience and Infection through usage of PPE
- To analyse PPE training for healthcare providers
- To analyse satisfaction level of PPE quality, major area improvement also additional prevent harm equipment needs, to have more knowledge about Personal Protective Equipment

## SCOPE OF THE STUDY

In this project I have tried to present detail about the Personal protective equipment used in Meenakshi hospital and analysis the healthcare providers.

- Its helps to prevent the staffs from spread of germs infection, diseases.
- Makes for a safer, secure work environment.
- It helps in providing a good PPE for healthcare providers.
- Improve training practice how to safely put on and remove PPE.

## LIMITATION OF STUDY

1. The sample size is too small to reflect the opinion of the whole organization
2. The answers given by the respondents have to be believed and have to be taken for granted as truly reflecting the perception.

## **STATEMENT OF THE PROBLEM**

Lack of knowledge using PPE: If the training doesn't give clear information, awareness and usage of PPE. So that, the employees would face difficulties in acknowledge, when comparing to practical session.

Training Factors: Provided training shall be clear PPE practice and videotraining must be given to healthcare staff separately. Through proper training will be prevent spread germs infection.

Job Oriented: PPE training shall be based on the staff day to day work factor which help them to grab some easy ways to implement.

## **A. MEANING OF RESEARCH**

Research is a systematic and continues method of defining a problem, collecting and analyzing the facts which reaches to forming generalized conclusion. The systematic and objective identification, collecting, analysis dissemination, and use of information for the purpose of assisting management in decision making related to the identification related to solution to problems and opportunities.

## **B. RESEARCH METHODOLOGY**

Research methodology is a way to systematically solve the research problem and comprises a number of approaches and inter-related and frequently overlapping procedure and practice. Since there are many aspects of research methodology, the line of action has to be chosen from a variety of alternatives.

## **C. RESEARCH DESIGN**

The pure and simple framework or plan for a study that guides the collection and analysis of the data is called research design. The research design is constitution collecting, measuring and analyzing of data.

## **D. TYPE OF RESEARCH**

The research is descriptive in nature. The descriptive research includes survey and fact-finding enquiries of different kinds. The main characteristics of this method is that the research has no control over the variables.

Area of research:Thanjavur

Period of research: The study is conducted from Jan 7 to Feb 8. The total duration of the study is 1month.

Sampling techniques

The sample size for the study was selected on the basis of simple random sampling method. 100 employees are randomly selected as sample.

## **E. DATA COLLECTION**

The task of data collection begins after a research problem is define. The data are collected from the population. The source of data can be either primary and secondary.

1.Primary data

Primary data are considered as the first hand information, the primary data for this study is

collected through questionnaire and answered by the employee of Meenakshi hospital.

## 2. Secondary data

The secondary data is the information that has been gathered from already existing sources

- Journals
- Text books
- Research papers
- Website

## 3. Statistical tool

- Percentage
- Correlation
- ANOVA
- Chi-square test

## 4. Research Instrument

Selected instrument for data collection for survey is questionnaire.

## 5. Sampling design

Simple random sampling method

### **Chi Square Test:**

#### **1.Hypothesis:**

Null hypothesis:

There is no significant relationship between age and infection through usage of PPE.

Calculated value of  $\chi^2 = 10.6205$

Degree of freedom =  $(R - 1) \times (C - 1) = (3-1)$

$\times(5-1) = 8$

The table value of  $\chi^2$  for 8 degree of freedom at 5 per cent level of significance is 15.51

Conclusion:

Calculated value of chi square is less than the table value, so the null hypothesis is accepted. Hence it is concluded that there is a no significant relationship between age and have some infection through usage of PPE.

Chi square test

#### **2.Hypothesis:**

Null hypothesis:

There is a no significant relationship between year of experience and awareness about disposal of waste in appropriate bins.

Calculated value of  $\chi^2 = 16.7507$

Degree of freedom =  $(R - 1) \times (C - 1) = (4-1) \times (5-1) = 12$

The table value of  $\chi^2$  for 12 degree of freedom at 5 per cent level of significance is 21.026

Conclusion:

Calculated value of chi square is less than the table value, so the null hypothesis is accepted. Hence it is concluded that there is a no significant relationship between year of experience and awareness about disposal of waste in appropriate bins.

## ANOVA

Hypothesis:

Null hypothesis:

There is a no relationship between age and never taken post exposure prophylaxis.

Conclusion:

calculated F value is 19.2364 and F critical value 3.89 so calculated value is more than the table value so Null is rejected. hence it is concluded that there is significant relationship between age and never taken post exposure prophylaxis.

## CORRELATION:

Calculation value is 0.361 and so I concluded that there is no significant correlation between age and usage of PPE.

## 3. Findings and Guidelines

### A. Findings

- ✓ Majority of the employees (69%) are female.
- ✓ Majority of the employees (72%) are in the age group between 21 to 31.
- ✓ Majority of the employees (60%) are nursing department.
- ✓ Majority of the employees (34%) are 0 to 1 year of experience.
- ✓ Majority of the employees (51%) strongly agreed that PPE training is essential.
- ✓ Majority of the employees (47%) strongly agreed that fit testing among healthcare workers.

- ✓ Majority of the employees (39%) strongly agreed that knowledge of PPE.
- ✓ Majority of the employees (49%) strongly agreed that provided with good PPE in working area.
- ✓ Majority of the employees (44%) agreed that never using decontaminated things without PPE.
- ✓ Majority of the employees (48%) agreed that health effects of personal experience using PPE.
- ✓ Majority of the employees (47%) agreed that sign board advising the PPE hygiene practices.
- ✓ Majority of the employees (31%) neutral that infection through using PPE.
- ✓ Majority of the employees (44%) agreed that satisfied with availability of clinical personal protective equipment.
- ✓ Majority of the employees (30%) disagree that itching and rashes using PPE.
- ✓ Majority of the employees (28%) agreed that never taking post exposure prophylaxis.
- ✓ Majority of the employees (39%) agreed that wearing and removing PPE interferes with ability to do job.
- ✓ Majority of the employees (40%) agreed that necessary to always using PPE.
- ✓ Majority of the employees (52%) strongly agreed that removing all PPE and put it right place.
- ✓ Majority of the employees (37%) agreed that can reduce risk of catching a disease by wearing personal protection.

- ✓ Majority of the employees (44%) agreed that enough time in my work to use personal protection properly.
- ✓ Majority of the employees (40%) agreed that working place has a functioning joint health safety committee.
- ✓ Majority of the employees (51%) strongly agreed that awareness about disposal of waste in appropriate bins.
- ✓ Majority of the employees (52%) agreed that PPE safety has become a major area for improvement in this situation.

#### **B. Suggestion**

- ✓ Need additional PPE improvement for healthcare workers.
- ✓ Need video training related to germs infection Awareness and PPE functions also how to use personal protective equipment's properly.
- ✓ Give clear PPE training by experts
- ✓ must be taken health checkup overall the departments and daily users of PPE.

#### **4. Conclusion:**

Now a day's personal protective equipment is more important to healthcare workers. This organization provide a good PPE to their employees they are satisfied with the quality of equipment. The employees agreed that PPE important help to meet

there professional and personal objectives. The organization provide correct gloves for specimen handling and N95 respirator mask both PPE equipment their employees and they provide a frequency of PPE training with real time cases to their employees it helps to improve their performance. Separate timeline is allocated to discuss and helps to prevent healthcare workers. so, we concluded that the overall personal protective equipment using methods are satisfaction to the employees.

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