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# Occupational Health Hazards Faced by Healthcare workers in Hospitals

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## **Abstract**

*Health care workers face a number of safety and health related hazards while discharging their duties and responsibilities in hospitals. These include blood borne pathogens, biological hazards, potential chemical, drug exposures, respiratory hazards, ergonomic hazards, laser hazards, workplace violence, hazards associated with laboratories, radioactive material and radiation hazards. These hazards can be managed by appropriate training, education and counseling of healthcare workers, use of protective personal equipment, fixing accountability of the employer and following preventive aspects by the healthcare workers during discharge of their duties in healthcare setting. The paper presents the perception of a medical professional on various health hazard for the hospital workers and suggest prevent measure.*

**Keywords:** *Health Hazard, Safety Measures, Preventive Equipments*

## **Introduction**

The Joint ILO/WHO Committee on Occupational Health, in the course of its first session, held in 1950, gave the following definition: "Occupational health should aim at the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention among workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological equipment and to summarize, the adaptation of work to man and of each man to his job" (Park, K. 2000).

Health care workers face a number of safety and health related hazards while discharging their duties in hospitals. These include blood borne pathogens, biological hazards, potential chemical and drug

exposures, respiratory hazards, ergonomic hazards, laser hazards, workplace violence, hazards associated with laboratories, and radioactive material and radiation hazards etc. Occupational health hazards in hospitals are many and if not managed properly may lead to serious health related issues for hospital personnel.

Broadly, these hazards can be:

- Needle injuries

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- Back injuries
- Infections
- Violence
- Stress
- Allergy – causing substances

1. Physical Health Hazards
2. Chemical Health Hazards
3. Radiation Health Hazards
4. Biological Health Hazards

The occupational health hazards among health care workers in an obstetrics and gynecology units were investigated by the researcher. The common occupational health hazards there were as follows:

- Work-related stress
- needle stick injuries
- bloodstains on skin
- sleep disturbance
- skin reactions and assault from patients and hepatitis.

In a study conducted among healthcare workers in Kampala, Uganda, it was found that about 50% of respondents reported experiencing an occupational health hazard. Out of these 39.5% experienced biological hazards while 31.5% experienced non biological hazards. Reasons for contacting health hazards are the following

- Not wearing the essential personal protective equipment (PPE)
- Working overtime
- Job related pressures
- Working in multiple health facilities (Ndejjo, R., Musinguzi, G., Yu, X. *et al.* 2015)

### Types of Hazards

There are various types of occupational health hazards that hospital personnel are exposed to while working in hospitals. They can be classified into the following types:

### Physical Health Hazards

These are hazards that cause the physical harm to the health of the hospital employee during the course of the discharge of their duties.

Some of these health hazards are listed below:

- a. An injury from needle of a syringe may lead to transmission of infections from patients to nurses and doctors.
- b. Cuts and laceration may be caused by sharps used by healthcare workers.
- c. Health care workers may fall from elevators and stairs.

Nursing staff may develop backache by lifting and moving patients.

### Chemical Health Hazards

These health hazards are caused by the various chemicals used in hospitals. The hospital staff working in various hospital labs such as biochemistry lab, pathology lab etc. may come in contact with the fumes released from various chemicals used there and may develop various lung diseases. Irritation in the larynx, pharynx and bronchioles may occur. Potential chemical exposures that may affect hospital staff include formaldehyde, used for preservation of specimens for pathology; ethylene oxide, glutaraldehyde and paracetic acid used for sterilization and various other chemicals used in hospital laboratories.

### Radiation Health Hazards

These are the health hazards caused by the ionizing radiations. Ionizing radiation is widely used in medicine e.g. X-rays and radioactive isotopes. Important radio-isotopes are cobalt 60 and phosphorus 32. Prolonged

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exposure to radiations may develop carcinomas in health care workers. Hospital staff working for X-ray units is the main target of the radiation contact. The International Commission of Radiological Protection has set the maximum permissible level of occupational exposure at 5 rem (dosage) per year to the whole body (Nagaratnam, A. 1968).

### **Biological Health Hazards**

Biological hazards are caused due to biological agents like bacteria, virus and fungi. Health care workers may get exposed to biological agents and as result may suffer from various diseases. Hospital staff may develop fever, allergies etc. when they come in contact with biological agents.

### **Other Occupational health hazards in hospitals**

- a. Hospital staff may suffer from various infections as a result of poor housekeeping.
- b. Hospital staff may develop psychiatric disorders, stress etc.
- c. Prolonged sitting may cause backache.
- d. Prolonged standing especially amongst Operation Theatre staff may cause problems in foot and legs.
- e. Violence
- f. Stress

### **Musculoskeletal Disorders**

Serious problem among health care workers occur in form of sprain, backache, strain and work injuries. Forceful exertions, awkward postures, standing, neck bending and repeated actions all may lead to musculoskeletal disorders. The nature of work of healthcare professionals is such that it may demand lifting, moving, holding and doing manual work etc. The factors which may complicate it are unconscious, obese and uncooperative patients. Health care workers suffer from problems in neck, shoulders, arms and knees.

### **Prevention**

- a. Adequate rest
- b. Frequent change in positions
- c. Proper training of health care staff

- d. Use of mechanical devices
- e. Ergonomic interventions

### **Health Care Workers**

- a. Should use assistance from devices and workforce.
- b. Stand as close to patient as possible while moving.
- c. Avoid rotating spine.
- d. Use friction reducing device – slip sheets
- e. Use gentle rocking motions.
- f. Encourage patient to move, aid in movement.

### **Latex Exposure**

Health care workers wear latex gloves while clinically dealing with patients. They are low cost, durable and resistant to leakage. Many health care workers may be allergic to latex. Gloves used contain powder as a lubricant which is a potent allergen. When gloves are changed, these powder particles are released in air.

Three effects that can be seen are:

1. Irritant contact dermatitis
2. Allergic contact dermatitis
3. Latex Allergy

### **Prevention**

Use of:

- Non-latex gloves by hospital staff,
- Powder free latex gloves by hospital staff and
- Training of hospital staff on use of gloves and latex allergy.

### **Needle Stick Injuries**

They occur when accidentally needle pricks takes place in health care worker. This may occur while disposing, capping, transferring fluid and manipulating needle in patient. It can also be a result of negligence, increased workload, inadequate staffing and stress.

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## Preventive Measure

- A blood borne pathogens program should be instituted in the hospital.
- Safe elimination of needles as soon as procedure is over should be done.
- Needle destroying devices should be made available by the hospital for safe disposal of needles.
- Exposure Control Plan be formulated, implemented and updated regularly.
- Training of health care staff for proper handling of healthcare equipments.

Potentially dangerous equipments must be identified and reporting of incidents be done with follow up, medical evaluation, standards establishment and further auditing.

## Health Care Workers

1. They should participate in Infection Control Program.
2. They should follow safety protocols.
3. There should be quick and correct disposal of hospital waste by health care workers.
4. There should be reporting of cases of needle stick injuries.

## Employers

Employer should:

1. Implement Infection Control Program.
2. Appoint Infection Control Manager.
3. Carry out training programs of staff related to prevention aspects.
4. Proper Personal Protection Equipment is provided to staff.
5. Training on Universal Precautions be imparted.

## Stress

Stress can be induced in healthcare workers by seeing patients all the time. Also increased work load and time limits may induce stress. Patients and their attendants are always demanding and cost effectiveness needs to be maintained while delivering health care services. Both cooperative and uncooperative patients report to hospital and they need to be managed with calmness and serenity.

Stress can be managed by understanding the nature of work. Safe practices need to be followed. Increased workload should be well divided in shifts and sufficient breaks. There should be well established mechanism of grievance redressal of employees.

## Infection

Infection from hospital is very common. Patients report with different infections to hospitals. If proper infection control is not practiced in hospital it can infect the health care workers too.

## Prevention

1. Health care workers should use gloves and masks.
2. Health care workers should be properly vaccinated.
3. Adequate sterilization of equipments etc. should be done as soon as patient leaves the hospital.

## Employers

1. They should institute sterilization protocol in the hospital.
2. Make vaccination of health care workers mandatory.
3. Make masks and gloves available to health care workers.

## Violence

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Any mishappening in hospital may lead to violence in hospitals. Relatives mainly accuse doctor and other staff for death of family member and may manhandle them.

### Prevention

In such situations:

1. Tactfully handle situation
2. Call Police
3. Inform Manager of the hospital
4. Try to calm patients attendants

### Conclusion

Occupational health hazards in hospitals to health care workers are numerous. They can be managed by appropriate training and education of employees, use of protective personal equipment, accountability of the employer and following preventive aspects by the employees during discharge of their duties.

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