

# Assessment of Occupational Health and Safety in Health Care Workers: A case study in Tertiary Care Hospital

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**Abstract:** This study is based on the research conducted on the health care workers in the tertiary care hospitals. It involves the workers who deals with the patients on regular basis. Occupational health and safety is multidisciplinary approach which concerned with the health and safety of the employees at workplace. Adequate safety at workplace ensures good productivity and good psychological health of the employees. National Institute of Occupational Health (NIOH) in Ahmedabad ensures the provision of health and welfare of the employees. At present, only 15% of employees worldwide have the access to the benefit of occupational health and safety. The aim of the study is to assess the occupational health and safety of the employees in the hospitals. For this purpose, qualitative research approach is accepted and samples are randomly selected. Data is collected through a structured questionnaire and other secondary data and documents. Total number of 100 responses are collected. The conclusion is made from this study is that the occupational health of the employees is an under looked topic in the hospital. Health care workers are not getting proper training as well as any benefits if exposed to any occupational hazards. This study is limited to only three health care professions.

**Key words:** Occupational Health, Occupational hazards, work related diseases, health statistics

## **Introduction:**

Occupational Health is an area of study which works to promote and maintain highest degree of physical, mental and social well-being of workers in all occupations. In the practice of occupational health, it involves various disciplines such as occupational medicine, nursing, ergonomics, psychology, hygiene, safety and others. Primary prevention of hazards which comes under the aspect of health and safety at workplace is being dealt by Occupational health. The health care workers have several risk factors at workplace which leads to cancer, accidents, respiratory diseases, musculoskeletal disorders, stress related disorders, communicable diseases and many others.

Occupational health and safety is a multidisciplinary field concerned with safety, health and welfare of employees at work. Adequate safety at workplace has a positive impact on productivity and development of employees as well as the institution. The major occupational diseases of concern in the health care are needle stick injuries, accidents, nosocomial infections and chemical injuries. Globally, more than 2.78 million people die annually as a result of workplace related incidents or diseases, which leads to one death every fifteen seconds. The quality of occupational safety is characterized by- the indicators reflecting the level of injury, the average number of days of the incapacity of the employee to work, employee's satisfaction with working condition and employee's motivation to work safely.

## **Workplace Hazards**

Workplace hazards present the risk to the health and safety of the employees. These includes, physical, chemical, biological, ergonomic condition and psychosocial factors. Various kind of Personal Protective Equipment can help to reduce the risk of workplace hazards.

Physical hazards include fall, burn, cut by any means of equipment or instruments. Falls on slippery surface are a very common cause of injuries in the health care sector. It also includes noise, vibration and ionizing radiation.

Biological hazards include infectious microorganism, virus, bacteria and toxins produced by organisms. In health care workers, exposure to blood and body fluids which spreads infectious disease by blood borne pathogens are most hazardous.

Dangerous chemicals pose a chemical hazard in the workplace. There are numerous hazardous chemicals such as formaldehyde, glutaraldehyde, nitrous oxide, alcohol and others. They may cause neurotoxicity, asthma, skin irritation and sensitivity.

Psychosocial risk factors include risk to the mental and emotional well-being of workers such as long work hours, shift work, work-life balance and job insecurity.

## **Background:**

Depending on the specific industry and sectors, occupational safety and health risk factors varied. In the healthcare sector, workers expose to plenty of hazards which adversely affect their health and well-being. Some examples of them are long working hours, shift work, physically demanding tasks, exposure to infectious materials and chemicals and stressful environment. To look into the whole, musculoskeletal injury is the most common hazard that the health care worker is facing. According to the Bureau of Labor statistics, US hospitals recorded 2,53,700 work related injuries and illness in 2011, which is 6.8 work related injuries and illness for every 100 full time employees.

National policies formulated by the Labor Ministry on occupational safety and health in factories and docks with advice and assistance from Directorate General of Factory Advice Service and Labor Institutes (DGFASLI) in India. The DGFASLI provides technical support in formulating rules, conducting occupational safety surveys and also for conducting occupational safety training programs.

Currently only 15% of workers worldwide have access to specialized occupational health services. They generally carry out prevention of occupational risks, health surveillance, training in safe working methods, first aid and advising employers regarding occupational health and safety. In India, constitutional provisions form the basis of workplace safety and health laws. It is the duty of the state to implement policies that encourage workplace safety and health of workers.

The National Institute of Occupational Health (NIOH) was established in 1970 at Ahmedabad, Gujarat as a WHO collaborative and reference centre for occupational health and it works with the Ministry of Labor, Health and Family Welfare, Environment and Forest, Agriculture etc. further to serve the southern and eastern region of India, the institution established two Regional Occupational Health Centre (ROHC) at Bangalore in 1977 and in Calcutta in 1980.

According to WHO, there are 100 million occupational injuries causing 0.1 million deaths in the world. It is also estimated that in India, 17 million occupational non-fatal injuries and 45000 fatal injuries occur each year. Out of 11 million cases of occupational diseases in the world 1.9 million cases (17%) are contributed by India and out of 0.7 million deaths in the world 0.12 (17%) is contributed by India.

**Methodology:**

**Aim:**

To assess the occupational health and safety practices in the health care workers.

**Research design:**

The researcher has collected and applied qualitative research approach in order to make the research evaluative.

**Source of data:**

The study used primary and secondary data. Primary data is collected through the use of a structured questionnaire and secondary data is collected by various documents and literature on the subject of concern.

**Sampling method:**

The sampling method used for this study is random sampling. The study used the health care workers working in the clinical settings of the tertiary care hospitals. Total number of questionnaire administered was 100.

**Data collection:**

This is an online survey and data is collected by distributing Google forms with the use of electronic media. In which selected specialties are involved with selected health care professionals.

**Data analysis:**

For data analysis, the researcher used the Statistical Package for Social Science (SPSS).

Questions	Options	Frequency	Mean	Std. Deviation
Sex	Male	53	1.4700	0.50161
	Female	47		
Department	Medicine	27	2.7700	1.64443
	Surgery	28		
	Orthopedics	15		
	Pediatrics	11		
	Oncology	9		
	Radiology	10		
Profession	Doctor	39	1.6800	0.60101
	Nurse	54		
	Technician	7		
Have you been trained for health and safety issue in the institution?	Yes	29	1.7100	0.45605
	No	71		
How often the employers conduct medical test for all staff?	Once a month	6	2.9600	1.00423
	Once a year	34		
	Twice a year	18		
	Not at all	42		
Have you ever exposed to any health hazards?	Yes	62	1.3800	0.48783
	No	38		

Have you ever suffered from an occupational illness while working in the institution?	Yes	45	1.5500	0.50000
	No	55		
If yes, was the treatment paid by the institution?	Yes	14	2.4100	0.72607
	No	31		
	Not applicable	55		
Do you need any protective gear for your job?	Yes	66	1.3400	0.47610
	No	34		
if yes, are you provided with them?	Yes	49	1.8500	0.90314
	No	17		
	Not applicable	34		
Have you ever experienced accident at work?	Yes	40	1.6000	0.49237
	No	60		
What kind of waste do you generate?	Chemical pharmaceuticals	17	2.2800	0.85375
	Sharps	47		
	Human body parts	27		
	Other	9		

Table 1 Frequency Distribution

Above table 1 shows the frequency distribution of the variables used in the study. In this research study, the ratio of male and female participants is 53:47, which means male respondents are little more than the female respondents. In the working specialties, participants from medicine and surgery departments are nearly equal in frequency, which is 27% and 28% respectively. Whereas, there are 15% respondents from orthopedics, 11% are from pediatrics, 9% are from oncology and 10% respondents are from radiology department. To look into the profession, more than half (54%) participants are nurses, while 39% are doctors and 7% are technicians. In the training section, 71% participants are not trained for the health and safety issues, while only 29% are got trained. In the question for medical tests of employees, major portion (42%) of the employees are not get tested regularly. Whereas 6% employers conduct medical tests once a month, 34% of them have medical tests once a year and 18% are tested twice a year for any medical conditions. From the total number of samples, 62% respondents agreed that they are exposed to health hazards at any point of their employment. And 45% employees have been suffered from any kind of occupational illness in their working period in the hospital. From them, only 14% respondents had paid the expense of the treatments from the employers, while others have to pay by their own. From the health care personnel participated in the study, two third (66%) of them need protective gear at the workplace, however from them 49% respondents are provided the personal protective equipment. In the ratio for experienced any accident in workplace, 40% have experienced that while 60% have never had any accident in the health care settings. In the question regarding coming in contact with the hazardous materials, nearly half (47%) respondents have answered sharp materials, 27% have reported body parts, 17% have reported chemicals and 9% have come in contact with other hazards.

Questions	Options	Doctor	Nurse	Technician	Total
Have you been trained for health and safety issue in the institution?	Yes	10	19	0	29
	No	29	35	7	71
How often the employers conduct medical test for all staff?	Once a month	1	4	1	6
	Once a year	13	19	2	34
	Twice a year	8	10	0	18
	Not at all	17	21	4	42
Have you ever exposed to any health hazards?	Yes	27	34	1	62
	No	12	20	6	38

Have you ever suffered from an occupational illness while working in the institution?	Yes	19	23	3	45
	No	20	31	4	55
Do you need any protective gear for your job?	Yes	26	33	7	66
	No	13	21	0	34
Have you ever experienced accident at work?	Yes	15	21	4	40
	No	24	33	3	60
What kind of waste do you generate?	Chemical pharmaceuticals	8	9	0	17
	Sharps	17	28	2	47
	Human body parts	10	12	5	27
	Other	4	5	0	9

Table 2 Cross tabulation of various variables

From the above cross tabulation of profession and the variables, it is clearly seen that the nurses are more prone to acquired occupational illness or injuries because of the engagement with the patients are more with them than other professions.

#### Conclusion:

To conclude the entire situation according to this research study, the hospitals are not much aware about the occupational health and safety of their employees. The availability of training and education amongst the employers are less as well as employees. The perception regarding the occupational health of the employers of the hospitals is not much developed. Use of Personal Protective gears and its availability is also not in appropriate quantity at the workplace. After exposure compensation is also an important factor for the less productivity of the employees which ultimately leads to burnout of employees.

#### Recommendation:

- Awareness programs for the employers as well as employees regarding occupational health and safety.
- Periodical implementation of training programs and health checkups for the health care workers.
- Implementation of employee compensation act in the hospital.

#### Limitation:

The study does not involve all the specialties as well as health care workers. It also does not involve the subjective matters in data collection.

#### Funding:

Nil

#### Conflicts of Interest:

There is no conflict of interest.

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9. Annexure 1

#### Questionnaire for health care personnel

Dear respondents,

You have been randomly selected to answer the questionnaire for the assessment of occupational health and safety in the hospitals. This research is being conducted solely for the purpose of study and it will only be used for the academic purpose and all the information given will be treated as confidential.

**Question 1:** Sex:

1. Male
2. Female

**Question 2:** In which department you are working?

1. Medicine
2. Surgery
3. Orthopedics
4. Pediatrics
5. Oncology
6. Radiology

**Question 3:** What is your professional capacity?

1. Doctor
2. Nurse
3. Technician

**Question 4:** Have you been trained for health and safety issue in the institution?

1. Yes
2. No

**Question 5:** How often the employers conduct medical test for all staff?

1. Once a month
2. Once a year
3. Twice a year
4. Not at all

**Question 6:** Have you ever exposed to any health hazards?

1. Yes
2. No

**Question 7:** Have you ever suffered from an occupational illness while working in the institution?

1. Yes
2. No
3. Not applicable

**Question 8:** If yes, was the treatment paid by the institution?

1. Yes
2. No

**Question 9:** Do you need any protective gear for your job?

1. Yes
2. No

**Question 10:** If yes, are you provided with them?

1. Yes
2. No
3. Not applicable

**Question 11:** Have you ever experienced accident at work?

1. Yes
2. No

**Question 12:** what kind of hazardous exposure do you have at workplace?

1. Chemical pharmaceuticals
2. Sharps
3. Human body parts
4. Other