



Occupation Health By Using Data Analysis And Statistics In An Industry

**Sandeep Yadav * Sachin Karma

**Assistant Professor, Department of Fire Technology & Safety Engineering IES IPS Academy, Indore, India

*M Tech Scholar, Department of Fire Technology & Safety Engineering IES IPS Academy, Indore, India

Abstract – Occupational Health aims at the promotion and maintenance of physical, mental and social well being of workers in all occupations. It includes medical examination of workers, their health records and placement according to health condition and adjusting man to his work. Further in this paper we studies about the mode, effects and consequences of environmental hazards like chemical, physical, biological and ergonomics hazards and their ill effects on human health. More emphasis is given on the medical remedies to remove occupational illness or disease and to improve the health of workers.

Keywords – Occupational Health, Hygiene , Environment, Workers, Disease, Hazards

I. Introduction

Occupational Health is a branch of preventive medicine which examines the relationship between work and health and effects of work on the health of the worker. Occupational Health includes all factors relating to work and working conditions, methods and environment, that may cause diseases, injuries or deviation from health. It implies not only health protection but also health promotion for improving the health and working capacity of the worker. Occupational Health was defined by ILO/WHO committee as "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 ability".

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II. Different Types of Occupational Health Hazards

Mostly the workers health was considered in relation to work only but in the modern concept the use of term Occupational Health covers the hazards, their effects, controls and preventive measures. The range of occupational health was limited to occupational disease or injuries concerned with the work, the working condition or the working environment but now in recent trends emphasis is given more on protection of health of workers working in dangerous situation.

A. Non Occupational Hazards

It includes air, water, food clothing, housing, personal habits, climate which has no adverse effect on human health. But if not taken seriously can lead to hazard. The non occupational hazards do not have any toxic or poisonous gases in it.

B. Instrumental Hazards

It includes where no proper instrument is used and no control over the instrument. Sometimes using faulty instrument providing no interlocks, no alarms. The instrument can trip also when we are not using any auto control system in it and when we are not checking the process carried out in it.

C. Mechanical Hazards

It includes when using machinery without guards, where no fencing is provided on the machine and not using any safety devices. Using unsafe machine, equipment, instrument etc can lead to mechanical hazard.

D. Electrical Hazards

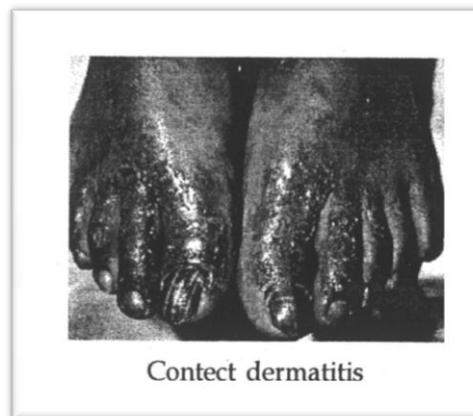
It includes current leakage, short circuit, open wire, faulty design, using non flame proof fitting or equipment.

E. Ergonomics Hazards

It includes wrong design or layout of machinery, poor housekeeping, no man job alignment, improper design. Selection of wrong tools and working in awkward position.

III. Hazard their effects and controlling measures

1. **Heat & Cold** – heat causes burns, exhaustion, stroke, cramps, fatigue decreased efficiency, pain, discomfort, systemic disorders, skin disorders and tendency to cause accidents. Acclimatization to high temperatures requires reduction in heart rate and internal body temperature at the expense of increased sweating. The cold causes chilblains, shivering, frostbite, trench foot, vasoconstriction, hypothermia.
2. **Air pressure** – abnormal air pressure can cause decompression sickness known as Bends which means dull throbbing pain in joints or deep in muscles and bones.
3. **Light & Color** – improper and insufficient illumination causes eye strain, eye fatigue, headache. Glare or excessive brightness causes visual discomfort and fatigue, tiredness and irritability.
4. **Noise & Vibration** – noise too high or too low causes ear strain or pain. Auditory effects are temporary or permanent hearing loss. Non auditory effects cause nervousness, fatigue, difficulty in conversation, decreased efficiency, annoyance and psychological and systemic effects. The degree of injury depends on intensity and frequency of noise, exposure time duration and individual susceptibility. Vibrations causes injury to joints, elbows and shoulders.



CRAIG SINCLAIR'S THEORM

This theorm is based on cost of accidental injuries having three parts like fatalities, serious injuries which occurred in 1 month and other injuries. We can write the expression in following manner

$$AC = RD (AS_d + AO_d) + RS (AS_s + AO_s) + RO(AS_o + AO_o)$$

Where

AC – annual Accident Cost per worker

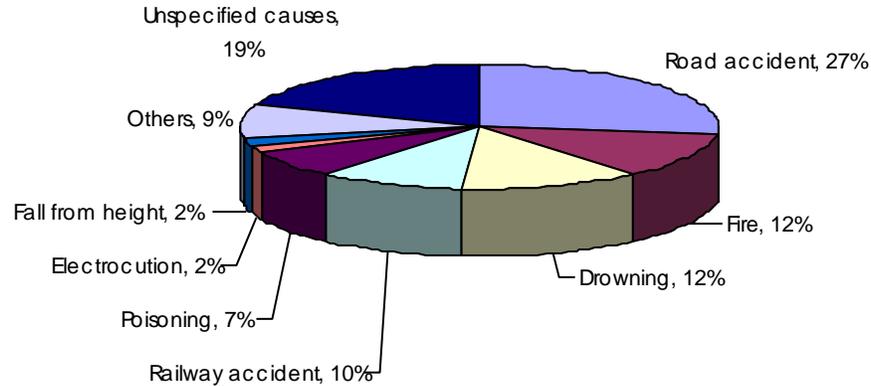
RD – annual Risk of Death per worker

RS – annual Risk of Serious injury per worker

RO – annual Risk of Other injury per worker

AS – Subjective element of cost

AO - Objective element of cost with second subscript



Fatal Accident In a Year

Management Information System (MIS) for Industry

This system has become a powerful tool for industry in the recent trends. It is user friendly and easy to understand. The area of safety, health and environment has also been delighted by the use of MIS System. There should be effective MIS between safety department and the top management of the company to appraise the work being done by the department. This system shall also been developed for bottom line management and the outside authorities to provide quick and systematic information in wide areas of health, safety & environment.

IV. CONCLUSION

In this paper different types of hazards their ill effects and controlling measures have been discussed. Some guidelines and formula is given for determining accidental cost correctly.

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