TODAY'S INDUSTRY NEED: OCCUPATIONAL HEALTH AND SAFETY

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ABSTRACT: *A well developed and continually improving health and safety measures in industry is very much important now days. It is a shared obligation of each and every employee and, in return, all of them will be benefited from a safe working environment. The main reasons identified for occupational incidents were lack of attention at work, repetitive motions in long working hours, and workers poor compliances in wearing personal protective equipments. Number employees had experienced aggravations of ill health conditions due to wrong work postures. Employee stress, previous incidents, working section, attitude towards own health and safety, and type of employment were the personal factors that had contributed to the safety practices. Employees were sufficiently aware of correct ergonomics, yet they were reluctant to change certain practices. Occupational health and safety system of a company is a joint responsibility of the management and employees. There were many factors affecting on the employee's safety behavior. To ensure worker's active participation in health and safety issues in industry. Training on health and safety showed higher variations within sections. Some time it has seen those sections that were highly susceptible to accidents and health problems were the least considered sections for awareness programs. Addressing those with priority needs of health and safety awareness will eliminate poor attitudes and miss-behaviours of employees.*

This study is focus on issues related to occupational health and safety which impact on long term progress of organization and employee's health.

Keyword: Human Behavior, Worker's Health, Worker's Safety, Work Place, Safety Practices.

1. INTRODUCTION

An employee spends near about eight hours at the work place during any working day. He must be provided with such types of facilities which will maintain employee's health, wealth & keep him interested in his work. It helps to increase the production & profit of the organization. If workers health is good, they can work with full swing and efficiency and if the workers work efficiently, it will help to increase the profit of the organization. So that organization achieves its desired goals. It will happen only when employees have sound

health and they work with full devotion. For those employees financial condition must be good. When the organization is in profit then it provides good wages and other welfare facilities to the employee. Hence employee's health, safety & welfare are correlated to each other. Safety measures are part of welfare services provided by the organization to the worker.

When an accident happens with any worker then that worker and his family suffers from pain and lots of problems. Such accidents impact on employee's as well as organization's financial growth. So that industrial accidents, worker's health and his safety are major issues in an organization. Organization provides welfare facilities to the employee to keep their motivational and satisfaction level high. Safety welfare promotes the efficiency of employee so that they work effectively. The basic purpose of employee welfare is to enrich the life of employees and to keep them happy and conducted which helps for development of organization. Every organization should take care of employee's health by providing proper safety measures. The aim of this research is to know about industrial accidents and effectiveness of health, safety measures provided at factory and its impact on industrial productivity. The objectives of some laws related industries was to ameliorate working conditions and to provide with effective measures of safety of the workers from accidents causing partial or total disablement and sudden misfortunes affecting the victims and their dependents. The factories act 1948 deals with such security and safety measures under its some chapters. There have been made significant amendment in the provisions dealing with safety so as to make the measures more effective and appropriate. It would be desirable to discuss these safety measures. A well developed and continually improving health and safety system is not merely a responsibility of few employees. It is a shared obligation of each and every employee and in return all of them will be benefited from a safe working environment. An industrial accident gives not only rise to pain for victim and his family but also effect on industrial productivity which in turn affects the economy of an organization and country. It results in financial loss for the employees as well as the company.

2. RESEARCH AIM AND OBJECTIVES

In spite of all the modern technology and all the systems of controls coming into wide spread use and due to this numbers of accidents in the industries are raised. Workers still remain the most important factor in the production process. But the life of industrial workers is full of risks and hazards. Keeping this in view, the Researcher focus on various issues related to

industrial accidents and remedial measures provided by the organization to the workers to keep minimum level of accidents.

    a.   To focus on present conditions of industrial health and safety in industry.

    b.   Study the safety measures in manufacturing sector which improves industry health.

3. LITERATURE REVIEW

M. Spilka, A. Kania (March, 2010), Influence of management system on the safety issues in the chosen enterprise. The effects of the occupational health and safety management system on industrial operations were studied. The necessity of threats monitoring and preventive treatments were showed. The implementation of the occupational health and safety management system brings profits as reducing of heavy and fatal accidents index. Also in enterprises observed minimizing of negative health effects caused by industrial accidents.

K.L, Chan (2011), Understanding of industrial safety signs has studied. Industrial safety signs are implemented in various industries and work environments for create awareness in workers. Safety officers, especially those who work in the construction industry need to play a more prominent role in ensuring workplace safety, and in transferring safety knowledge to the workers. There is a need to enhance risk perception and to increase awareness of the importance of safety signs through training programs, so as to improve workplace safety and organizational safety culture. The safety signs need to be launch for public education program.

Steven Yuleand Rhona, Flin Andy Murdy (2007), the role of management and safety department in preventing risk-taking at work. The safety climate is a leading performance indicator that can provide insight into safety performance before accidents have occurred. Managerial variables have emerged as a primary determinant of safety climate in progressive industry. In this paper investigate the relationship between management commitments and worker risk-taking.

Ali A. K. Mohammed Ali, Rahim K. Jassim, Adnan G. Abuarafah (2010), Industrial Safety Training of Line Management: A step ahead towards successful industrial safety deals with how to prevent injuries and accidents that occur in the organizations. These injuries and accidents have major cost to the organization. Therefore safety should be in the forefront of any manager's thinking and a priority in the organization's strategy. It is the manager's

responsibility to see that he does everything within his power to provide a safe working environment for his workforce.

Nongiba A. Kheni, Andrew R.J. Dainty and Alistair G.F. Gibb (2005), (Health and safety management practices of small subcontractors), In this paper focus on effective management practices can significantly improve health and safety in the construction industry. The UK Government's health and safety executive has demonstrated that improved management can prevent around 70 per cent of accidents on site. Unfortunately, small subcontractors are constrained by lack of access to technological, financial and management expertise when devising their health and safety management plans. Arguably, they require effective health and safety management measures and evaluation tools that allow disclose and remove weaknesses in their operations. Such tools would provide a basis for continuous improvement in the health and safety management practices of organizations.

R. Muthuviknesh, K. Anil Kumar (2014), The Effect of Occupational Health and Safety Management on Work Environment: It is necessary to encourage the employees in various ways in an organization. The goal of occupational health and safety system include fostering a safe and healthy work environment, occupational and non-occupational safety and includes safety for activities outside of work. The main objective of this paper is to analyses the effect of industry management on work environment and health.

Gary CH Ma, Fenkins LY Chow and Jonathan F Chung (2009) (Minimum effort and shortest development time to safety and health management system), in this enacted the Factories and Industrial Undertakings (Safety Management) Regulations which requires the organizations to implement for ensure the worker's safety and health. The traditional top-down approach to develop safety management system has been found time consuming and ineffective. The organization might have developed a sound policy, and have devoted heavy resources and manpower but the workers are still taking risks in their works. The objectives are to shorten the development time, to reduce the effort and to safeguard the employees even on the first day of the company's operation.

Zhipeng ZhouYang Miang GohQiming Li (2015), Overview and analysis of safety management studies in the industry: the analysis focused on organizational level, project phase, project type, innovative technology applicatio n in industry. Three groups of safety research were identified. The first group of research is conducted from the perspective of safety management process, such as safety assessment and safety program. The second group aims to explore the impact of individual and group characteristics in relation to safety, such

as worker behavior, perception, and safety climate. The third group utilizes accident/incident data to improve safety performance.

Huinee Auyong, Suhaiza Zailani, Lilis Surienty (2011), Safety and health management in logistics: the concept of occupational safety and health management is increasingly drawing the attention of researchers and practitioners. The concepts of occupational safety and health vulnerability and its managerial counterpart, occupational safety and health management are still in their infancy. There are not many research articles that provide an overview of occupational safety and health in logistics. This paper assesses the impact of occupational safety and health measures in logistics. It analyses a body of literature on occupational safety and health issues in logistics.

4.   FACTORS AFFECTING ON THE HEALTH AND SAFETY BEHAVIOR OF INDUSTRIAL WORKERS

Occupational health and safety literature suggests that, effective worker participation depends upon a number of variables. Management cooperation and commitment, the presence of government in ensuring the organizational compliance with workers' rights and legal protections, training, and access to information offered by unions are the factors identified by Ochsner and Greenberg (1998); for workers' active role in health and safety.

Following factor are affects on industrial safety and health

a) Knowledge and Awareness: Safety experts, Fleming, and Lardner (1999) have discovered the personal factors contribute to 80 – 90% of all industrial accidents. The main reason found was incorrect procedures in conducting jobs.

b) Work related Stress: The main causes for work related stress are work tasks, career concerns, management style, interpersonal relationships, environmental conditions, and home work interface (Koh et al., 2005).

c) Worker's Attitude: Accidents are caused by human element and human error (Atherley, 2002). These two can be reduced by changing worker's attitude and behavior.

d) Influence of the working environment

Supervisor as the immediate position for the worker, play an important role in company health and safety practices. Majority of safety procedures, monitoring means which come from the senior management are implemented by supervisors. The study conducted on

employee attitudes towards safety, Cheyne, et al. (2002) found that physical working environment as a key factor contributing to safety activities of organizations.

e) Demands of the Job

Certain jobs require long hours due to the labor shortage and purposeful layoffs etc. On set of fatigue is the result of working for long hours. It directly affects the safety behavior. Studies have shown that health effects arise with over 50 work hours a week. Numerous problems associated with stress such as gastrointestinal disorders, musculoskeletal disorders, etc., may also be associated with long working hours (Spurgeon et al., 1997).

Employees showed a moderate level of contribution to workplace safety practices. Few variables indicate about workers contribution towards workplace safety. They were repetitive injuries, reasons for previous incidents, accident preventive steps taken by workers, innovative methods of risk reduction, upward safety communication, safety practices, and aggravations of health problems. The reasons for unsafe working conditions are defective plants, tools, machines, and materials, improper guarded equipment's, defective equipment's, faulty layout and location of plant, inadequate lighting arrangements and ventilation, unsafe storage, inadequate safety devices, etc. Various studies show that psychological, mental and emotional imbalances are the root of several accidents. The psychological factors associated with accidents are fatigue, tiredness, overwork, monotony, boredom, lack of self-confidence etc. The some other causes are unsafe situational and climatic conditions and variations. These may include excessive noise, very high temperature, humid conditions, bad working conditions, unhealthy environment, slippery floors, excessive glare, dust and fume, arrogant behavior of supervisors and worker etc.

5. ACCIDENT PREVENTION TECHNIQUES

a) Plant safety inspection: - It helps to determine the prior measures necessary to guard against hazards. Detecting unsafe conditions and correcting them promptly is one of the best ways of accident prevention. There should regular site safety inspection.

b) Job safety analysis:- It is a procedure of analyzing jobs, for the specific purpose of findings the hazards in each step in the job and developing safety precautions to be adopted.

c) Management system:- The root causes often relate to the management system and other operational problems. They may be due to management policies, procedures, supervision and its effectiveness training.

d) Accident investigation: - Accident investigation should not be a fault- finding exercise but a fact finding one. There are discovering accidents, recording of all the facts concerning each accident, analyzing and tabulating the same.

e) Machine, Tool Inspection: - Inspection of all the tools, equipment's, machines etc. at regular intervals to avoid accidents.

f) Environment Causes Controlling:- It consists of checking of plans, blue prints, purchase orders, proper maintenance, correction of defects, formulation of safe procedures, suitable layout and equipment for good housekeeping, improvement of illuminatio n and ventilation safe dress or apparel or personal protective equipment's.

g) Behaviourist causes controlling: - It deals with psychological factors such as job analysis, job training, supervision, discipline, personal work, physical examination, proper placement of workers etc.

h) Put signs and slogans, exhibition and films, radio/T.V. etc.

i) Employee participation in safety campaigns and contests, safety meeting and safety stunts, first aid training, safety committees, safety suggestion etc.

j) Standardization of safety activities like laying down or official, semi-official and unofficial standards for safe construction and maintenance of certain types of industrial equipments, hygienic practices, personal protective devices and codification of safety rules and regulations.

k) Safety education through audio visual aids like newspapers, posters, bulletin boards etc. and safety training courses for top and middle management executives, supervisory personnel, trade union officials and for the rank and file workers.

l) Research in technical, medical, physiological and statistical aspects of safety to find the effect of psychological, physiological, environmental and technological factors on health and safety.

m) Assigning and publishing the responsibility and duties of the employees related to management of safety inplant.

n) Investigate of all the accidents whether it is small or big.

o) Studying the significant safety incidents which have happened in other similar type of plants and learning from the same.

p) Maintain the register of the significant incidents and their cause.

q) Publish the safety investigation results and the obtained experiences.

r) There will be regular shop review meetings regarding status of safety in the shop as well as monthly review meeting at the chief executive level.

s) Conduct emergency mock safety drills.

t) Conduct regular safety audits to find out unsafe areas and ensure corrective actions. Safety audits can also help in early detection of the equip ment deterioration and the deviations and procedures that can degrade or deteriorate then safety levels

Company may conduct seminars on the safety policies to make all the employees be aware of it. As the accidents occur during welding, cutting, polishing, painting, drilling, the company may provide the proper training about work and precaution techniques to the employees in risky job. The company should provide safety measures to workers in shop floor and where it required. There should be fine for workers who do not use safety measures. Safety measures should be revised from time to time.

6. SURVEILLANCE OF THE WORKING ENVIRONMENT

To ensure a healthy working environment there must be monitoring at the workplace. This involves systematic surveillance of the factors in the working environment and working practices which may affect workers' health, including sanitary installations, canteens and housing, where these facilities are provided by the employer, as well as ensuring the working environment complies with safety and health standards. The employer or management people should be actively involved in the surveillance of the working environment. Basic surveillance is carried out by simple observation, and every worker, from shop floor to senior administration, should be trained to identify those factors (potential or actual) which may affect workers' health. Such training is necessary to enable the worker to report immediately

to his or her direct supervisor any situation which can reasonably be thought to present an imminent and serious danger to life or health. In such a situation, the employer cannot require the worker to return to work until any necessary remedial action is taken. Simple a walk-through survey of work processes and the working environment is the first step in any surveillance. Such observation may be sufficient in some cases to detect a lack of adequate control measures and exposure of workers to risk. An evaluation based on this type of observation may justify the recommendation of control measures without the need for any more sophisticated determination of the level of exposure. Repeat visits to the workplace and walk-through observation are also necessary to provide an assurance that no deterioration has occurred at workplaces initially evaluated as satisfactory.

7.   EMPLOYER AND EMPLOYEES RESPONSIBILITIES

Because occupational hazards arise at the workplace, it is the responsibility of employers to ensure that the working environment is safe and healthy. This means that they must prevent, and protect workers from, occupational risks. But employer's responsibility goes further, entailing knowledge of occupational hazards and a commitment to ensure that management processes promote safety and health at work. For example, an awareness of safety and health implications should guide decisions on the choice of technology and on how work is organized. Training is one of the most important tasks to be carried out by employers. Workers need to know not only how to do their jobs, but also how to protect their lives and health and those of their co-workers while working. Within enterprises, managers and supervisors are responsible for ensuring that workers are adequately trained for the work that they are expected to undertake.

8.   GOVERNMENT'S DUTIES

Governments are responsible for drawing up occupational safety and health policies and making sure that they are implemented. Policies will be reflected in legislation, and legislation must be enforced. But legislation cannot cover all workplace risks, and it may also be advisable to address occupational safety and health issues by means of collective agreements reached between the social partners. Policies are more likely to be supported and implemented if employers and workers, through their respective organizations, have had a hand in drawing them up. This is regardless of whether they are in the form of laws, regulations, codes or collective agreements. The competent authority should issue and periodically review regulations or codes of practice; instigate research to identify hazards and to find ways of overcoming them; provide information and advice to employers and workers;

and take specific measures to avoid catastrophes where potential risks are high. (Benjamin O. Alli, 2010)

9.   SAFETY TRAINING

The education and training are maintaining safety consciousness and thereby preventing accidents and property damages. The safety department determines the need for education and training as well as knowledge base for different level of employees who are working in various areas. The department heads and safety committee members also give their views in training needs to the safety department. The basis of evaluation of training need is by analysis of causes of injuries and property damage incidents, findings of safety surveys, feedback from department heads and safety committee members. Based on identified needs, the safety department in consultation with training department design and conducts suitable training programs for the identified group of employees. The services of in-company as well as external faculty are sought as the need may be. The safety department also makes presentations on different aspects of safety periodically.

10.   CONCLUSION:

Safety behavior of the employees was highly dependent upon many factors. Executives and the company management were found to have a high contribution towards the employee's behavior in the health and safety context. Employee stress, previous incidents, working section, attitude towards own health and safety, and type of employment were the some personal factors that had contributed to the safety practices. It is little depend on the worker's education, working experience, age, gender etc. Stressed employees had the least attention at work and contributed very small to the health and safety system of the company.

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