



SAFETY AND HEALTH ENVIRONMENT OF WORKFORCE IN INDIAN PUBLIC SECTOR UNITS - AN INJECTION FOR OCCUPATIONAL HEALTH HAZARDS

T. N. Murty^a, and T. Abhinov^b

^aDirector, Nimra College of Business Management,
Vijayawada, India

thamminaina@yahoo.com

^bStudent of MBBS (Final), Shadan Institute of Medical Sciences,
Hyderabad, India

abhithamminaina@gmail.com

Abstract

Physical Working environment influences to a greater extent of the health of workers. Hygienic environment is an important requisite for maintenance of good health. The pre-employment interview with the doctor, nurse or welfare officer gives an opportunity for hints on personal hygiene. The fundamental conditions of a healthy working environment must be maintained in every factory for keeping the workers in good health conditions. In this connection, proper ventilation assumes as important, in keeping the air fresh and free from germs. Fresh air and light are healthier than the air-conditioning and artificial lighting. To reduce the risk of direct infection, workers should be so spaced that they do not have to inhale each other's breath. Cleanliness in the shop is necessary to prevent the foresting of germs, which tend to settle in dust particles or walls, floors, machines, etc. The Study is aimed a). to study work environment of the workforce and its impact on the employees' hygiene, b). to know the safety and health environment provision as welfare amenity being provided by selected Indian Public Sector Units, and, c). to make appropriate suggestions to policy makers for the improvement of hygienic health and medical facility in order to maintain healthy work environment of workforce in selected Indian Public Sector Units by preventing occupational health hazards.

Keywords: Motivation; Occupational Health; Work Environment; Safety

1. Introduction

H R Capital plays a crucial role in the growth and prosperity of any industry of any nation. The workers can be motivated and their productivity can be increased only when a conducive and hygienic physical work environment is created an adequate health and medical facility is provided by the management of irrespective of the sector. The occupational health service at work should vary according to the size of the work group, hazards involved, the location of the plant, and many others factors. The object should be to set-up a preventive occupational service tailored to the needs of the factory and its particular hazards. Occupational health covers a very wide field and calls for specialized knowledge from many disciplines such

as medicine, engineering, chemistry, toxicology, physiology, statistics, etc., and above all a close interdisciplinary team work. After independence, the Government of India passed several Acts, like the Factories Act, 1948; the Employees State Insurance Act, 1948; the Minimum Wages Act, 1948; the Payment of Wages Act, 1936; and the Industrial Dispute Act, 1947 to ensure a fair deal to employees in various aspects of their jobs. According to Chapter – III under Section 11 of the Factories Act, 1948 every factory shall be kept clean and free from effluvia arising from any drain privy, and also to sweep on floors, benches and work spot. etc., daily. The maintenance of cleanliness at work spot is the responsibility of every employer.

1.1 Issue and Significance of the Study

The mixed economic system of India is characterized by the existence of public, private and co-operative sectors. It is obvious that the three sectors of mixed economy play a crucial role in industrial development of a country. A large number of well-motivated workforces is essential for an industrial organization of such nature and magnitude to maintain good industrial relations which lead to high morale, commitment and productivity. And the workforce can be motivated by way of undertaking various welfare, Safety and Health measures and providing amenities to the workforce.

The need for Safety, Health and Physical work environment and Employee welfare in all sectors-Public, Private, and Co- operative is clearly mentioned in the Directive Principles of State Policy. The high rate of absenteeism and turnover in Indian Industries is indicative of the lack of commitment on the part of the workers, for they want to escape from their environment whenever possible. The absenteeism and turnover can be reduced by the provision of good housing, health and family care, canteens where healthy balanced diet is made available in congenial surroundings. Good education and training facilities for workers are also very necessary in India Industries because of the high rate of illiteracy and lack of proper education background among them. These facilities will help in decreasing industrial accidents and increasing the workers' efficiency. Keeping the importance of Health and Physical work Environment and Industrial Safety in view, the researchers/authors propos to study Safety and Health Environment of Workforce in Indian Public Sector Units.

1.2 Research Background

There have been very few comprehensive studies in the field of physical work environment, industrial safety and labour welfare and less concentration on the provision of welfare facilities and amenities provided by Government and Managements of the undertakings as well. However, surprisingly, no attempt has been made by any researcher to study the extent of employee safety, health and welfare activities in public sector units in India. By comparison across the sectors with what is existed, the study shows the gap and also furnishes the reasons between the practice and precept.

Significance of the studies of this type gets greatly enhanced as they clearly show the lacunae and also what could be done to improve the situation. Keeping this in view to fill the gap a modest attempt has been made to study Safety and Health Environment of Workforce in Indian Public Sector Units and also to make pertinent suggestions for the improvement of the same in the units.

2. Review of the Literature

The review of the literature has been done in order to assess the extent and quality of Safety and Health Environment to the employees provided by various organizations in various industries in various nations.

There have been a number of studies conducted so far in this area. However, a few studies of importance have been presented here.

Rizwana Ansari (2011) found out in her study physical environment and employee industrial safety, a remarkable improvement of employee performance. It is found that One fourth of Employees in public power sector unit are dissatisfied with provision of safety and health amenities to the workforce. Maja Djikic (2008) in his study on physical environment an expanded model of job satisfaction concludes with positive correlation. The impact of personal, organizational, and economic factors on nurses job satisfaction have been studied extensively, but few studies exist in which the effect physical work environment including perceptions of architectural, interior design and ambient features on job satisfaction are examined. The purpose of this study was to examine the effect of perceived physical work environment on job satisfaction, adjusting for 43 multiple personal, organizational and economic determinants of job satisfaction.

Kudchedkar (2008) differentiates between the labour welfare activities and the personnel functions and gives some suggestions for better working and living standards. Morris (2008) describes industrial history of Bombay and gives the growth of labour force, work regulation, wages, discipline, trade unions and arbitration between 1854-1917 in the Cotton Mills of Bombay. It is found that the Bombay Mills Association Voluntarily appointed personal officers to look into the matters on safety, welfare, health and other personnel matters. Saxena (2000) gives socio-economic background of workers in the five selected units in Meerut district and discussed promotion policies, training, transfers, welfare measures, bonus, remuneration and the functioning of the trade unions. It is found that the personnel policies on promotion, training, internal mobility, wage and welfare are created health work environment in the units in Meerut (India).

Narayana Murty (2000) has studied socio- economic profile of the workforce and employee welfare activities in Indian Industrial Organizations. It is found that all almost all the employees in Private and co operative sector units and majority of the employees in public sector unit are satisfied with the facilities of labor welfare, safety, health, etc. in their respective units. Rebecca R. Kehore and Patrick. M. Wright (2010) a study conducted on the Impact of High Performance HR Practices on Employees' Attitudes. It is found that the discussion reviews the implications of these results and suggests future directions for research in this vein.

Human Resource Management (HRM) do not identify one unified specific framework for research and scholarly investigation of working mothers' formal workplace social networks, while presenting a conceptual model grounded in Gilligan's (1982) principles appears to be a good fit for enhancing the understanding of the phenomenon. Sandra Watson and Gillian A Maxwell (2007) conducted a research on HRD From a Functionalist Perspective: The Views of Line Managers Based on a sample of 328 line managers from the Hilton hotel group in the United Kingdom; this article considers line managers' understanding of their HRD roles and responsibilities, the key HRD activities they engage in, and the challenges they face in relation to their HRD roles. It concludes that line managers appear to have embraced their HRD roles, with support from HRD professionals.

Gilad Chen and Richard J Klimoshi (2007) Management and Organization Department, Robert H. Smith School of Business, University of Maryland, College Park, USA have studied on Training and development of human resource. It is observed that the skilled workforce after training and development

have expressed positive feelings about their job satisfaction on safety provision. Nancy E. Waldec_ and Zachary M. Leffakis (2005) conducted a study relating to HR Perceptions and the provision of workforce training in an Advanced manufacturing technologies (AMTs) environment: the study indicates that the perceptions of HR managers regarding technology-driven workforce need to explain a large portion of the variance for both individual and process development activities.

All these studies help the management, unions and government to improve the existing state of affairs mainly by emphasizing on functional areas of Human Resources Management and existing welfare, medical, safety and health amenities in a single unit or two units or more with a comparative study in the same sector like private or public or co-operative. There have been very few comprehensive studies in the field of work environment and less concentration on the provision of welfare, medical, safety and health facilities/ amenities provided by the Government and the management of the undertakings as well. However, surprisingly, very few attempts have been made by the researchers to study the extent of Safety and Health Environment to the employees of any unit. The study shows the gap and also furnishes the reasons between the practice and precept.

2.1 Objectives and Hypothesis of the Study

Objectives of the Study

- a. To Study work environment of the workforce and its impact on the employees' hygiene,
- b. To Know the safety and health environment provision as welfare amenity being provided by selected Indian Industrial Units, and
- c. To make appropriate suggestions to policy makers for the improvement of hygienic health and medical facility in order to maintain healthy work environment of workforce in selected Indian Industrial Units by preventing occupational health hazards.

Hypotheses

1. *Null Hypothesis : 1*
There is no relationship between Health Services and Healthy Work Environment of the workforce.
2. *Null Hypothesis : 2*
There is no influence of Safety and health environment and welfare facilities on the employee job satisfaction.

3. Methodology And Selection Of The Study

Selection of the Unit

The study is conducted by using both analytical and descriptive type of methodology. The study depends on primary and secondary data. By using Pilot Study, the filled up Questionnaires are collected from 46 respondents and Cronbach's Alpha Criterion is applied to test the reliability. The value determined is 0.914 proving reliability of the instrument. Based on the pilot study, questionnaire is modified suitably to elicit response from the sample group.

Sampling Size and Design

The primary data are collected through survey method. Survey is conducted using well formulated Questionnaire. Random Sampling is applied for generating data. Samples for the purpose of the study are

selected systematically. The workforce in selected state owned public sector unit is 3771 employees. Totally 377 Questionnaires are distributed and 350 are collected, out of which 312 completed questionnaires are found usable.

Secondary Data

The Secondary data are collected from Journals, Magazines, Publications, Reports, Books, Dailies, Periodicals, Articles, Research Papers, Websites, Company Publications, Manuals and Booklets.

Tools for Data Analysis

The processing, classification, tabulation and interpretation and analysis of data are done with the help of SPSS software package. Major Statistical and Mathematical Techniques- Factor analysis, one sample t-test and paired sample t-test and K-means cluster analysis have been employed depending on the nature of the data collected from the respondents.

4. Occupational Health – An Analysis

Health and medical provision is neither philanthropy nor charity. It is a method of creating more satisfactory working conditions for men and women employed in an industry. This welfare measure would greatly reduce turnover and absenteeism among workers and improves workers efficiency to a greater extent and also create a permanent settled labor force by making service attractive to the labor. A large number of well-motivated workforces is essential for an industrial organization of such nature and magnitude to maintain good industrial relations which lead to high morale, commitment and productivity. And the workforce can be motivated by way of undertaking good Safety and Health Environment (SHE) and preventing occupational health hazards to the workforce.

In this regard, general propaganda by means of posters, notices on works and office board, articles and magazines, and lectures can help to make the factory workers health-minded. Generally, the firms issue handbooks on hygiene to new employees, which contain hints on food, exercise, personal hygiene, and the seeking of medical advice. A good example of which opens with the sentence “Health is won by a way of life rather than a bottle of medicine.” Any company setting-up a new occupational health program can profitably utilize qualified hygienist to make a through survey of hazards requiring control or elimination.

Human beings have been subjected to some occupational health hazards or the other from the very beginning of human civilization. In fact, no occupation is free from hazards. In the recent past as a result of rapid escalation of industries, the health hazards in industry have greatly increased. The Government of India became concerned about the occupational health problems in the country after the recommendations of the Royal Commission on Labor in 1931. The occupational health service in an industry should aim at:

- a) Protecting the workers against health hazards which may arise out of their work or the conditions in which it is carried on, and
- b) Contributing towards the workers physical and mental adjustments and maintenance of the highest possible degree of physical and mental well being

The role of occupational health service should be essentially preventive. Its functions should be: a). to identify occupational hazards and suggest measures for their control, b). to detect occupational or other diseases and give initial treatment, c). to render advice about the placement of people in suitable work, d).

to provide necessary advice relating to the supervision of conditions at work which may influence health and general sanitation, and e). to undertake the health education.

A large number of employers on globe do not provide occupational health care for their employees. A very small percentage of employers have their own occupational specialists to ensure healthy working conditions at the work-place. The situation in the small and medium size industries is deplorable. There is no machinery to take care of the health of the unorganized labor like those engaged in road-building, stone-pressing, quarrying, construction work, private transport, agriculture, etc. There should be a growing realization that occupational health is the responsibility of management and not the Employees State Insurance Corporation, which renders curative but not preventive services. The unions are also indifferent towards the health of their members. The management and the unions must try to keep their employees healthy, free from not only occupational hazards and diseases but also from infections, communicable diseases, psychosomatic diseases, because they have a great influence on their work performance. In this context a study has been made on the provisions of the health in the selected units India.

5. Results and Discussions

The prevalence of job satisfaction varies from person to person and from time to time within the same company in any nation. This is mainly due to the presence of various factors relating to both the job and the individual within the organization. The following are the integrated elements of Safety and Health Environment (SHE) of the workforce.

First Aid Box

According to the Chapter – V under section 45 of the Factories Act, 1948, every factory should be provided and maintained on First-Aid Box for every 150 workers. First Aid should be given to the workers as soon as the accident occurs. In most of the case accident assumes serious proportions as first aid being neglected. First Aid Box provision would be helpful immediately to the injured workers. Sickness and ill-health are the most wide spread causes of absenteeism, lower morale and tardiness.

The National Commission on Labor in India felt that the last two should be left to the process of evolution, whereas primary importance should be given to the first. It further observed that protection of health requires provision of both preventive and curative measures. Curative measures consist of pre-employment medical examination, removal of health hazards, and imparting of training in first aid and hygiene, etc., The curative aspects begin when a worker suffers from ill health and disease.

The workers may face accidents during the work of loading, unloading, metal breaking, metal handling, metal carrying, welding, weighing, mechanical, metallurgical, electrical and some other operations which are of hazardous nature. For this, keeping first aid box at the place of work is very essential. The Public Sector Units in India had provided sufficient and adequate number of First Aid Boxes, which are containing the necessary items at every work spot inside the plants. There are well-equipped hospitals in the vicinity of Public Sector Units in India.

The Computed Data shows information on the opinion of workers in the selected unit of the study on the awareness and availability of First Aid Box at their nearest places of work spot. It is evident from the data that almost all the workers are known about the first aid box facility in Public Sector Units in India. It is

also clear from the data cent percent of the workers in Public Sector Units in India had expressed positive opinion on the maintenance of first aid box inside the plants. Thus, it can be concluded that majority of the workers on an average in the unit felt happy with First Aid Box facility Public Sector Units in India.

Crèche

Crèche is a welfare facility, which is provided for women workers. A crèche is a place where babies of working mothers are taken care of while the mothers are at work. Section 48 of the Factories Act, 1948 requires that a crèche must be maintained in every factory, where more than 50 women workers are ordinarily employed for the use of children under the age of 6 years of such women. Very few female workers are working in the selected public sector unit in India. With forward looking the management of Public Sector Units in India has been maintaining crèches in the adjacent side of the factory premises for the purpose of women employees.

Medical Facilities at PSU

Normally, the health of workers in any organization is affected due to bad climatic conditions, so it is the primary responsibility of every company to protect the health of workers and their families. The importance of industrial health and care in general has been emphasized by the International Labor Organization since 1919. The Royal Commission on Labor in 1931 and Labor Investigation Committee in 1936 also emphasized the necessity of providing basic health and medical facilities to the industrial workers since it will help to reduce the incidence of sickness, absenteeism among them, and to increase productivity. In view of significance of safeguarding the workers' health an attempt has been made here to study various medical facilities provided by the management of Public Sector Units in India.

Public Sector Units in India take care of medical needs of the employees and their dependents. Public Sector Units in India have been maintaining full-pledged hospitals in their Township with adequate medical and Para medical staff for the benefit of employees residing in township and surrounding areas. Round the clock hospitals, medical attendance are provided in the Public Sector Units in India besides equipped with Laboratory, X-ray, Operation Theatre, Eye clinic, 24 hours available Ambulance, Part-time specialists in various disciplines of medicine. For the welfare of the employees, who are residing in town area away from the reach of the township dispensary, have appointed panel doctors including lady doctors to take care of clinic and obstetric cases of lady employees and dependent family members of the employees. Management is also referring cases to specialists and out-station treatment when the specific specialist's treatment is necessary which is not available in the dispensary. The above medical facility is subject to the ESI exemption. An amount of USD 2 Billion per annum is the expenditure on the provision of medical facilities to its employees of selected Public sector Units in India.

Medical Check-Up

Management of Public Sector Units in India conducts medical check-up to all employees in a year free of cost. In case of detection of any serious disease during the check-up such employees will be given proper medical care and specialists' attention at company's expenditure.

Public Sector Units in India have been providing medical aid to the employees and their dependents. These medical facilities are not only applicable to the residents of township, but also applicable to the employees who are living outside the township. The management of Public Sector Units in India made payment of

medical advances to the employees who are getting out- patient medical treatment. The management is giving bank drafts in favor of liaison officers as medical advances to the employees of Public Sector Units in India. The medical reimbursement policy is not applicable to the person who recovers from his/her sick at home.

Opinions of the Workers on Medical Facilities in PSU

Table 1 presents the views of the workers on medical facilities available in the selected public sector unit. The data reveals that 43.59 percent of workers had expressed good opinion and the remaining 56.41 percent of them were expressed satisfactory opinion about medical facilities. It is observed that almost all the workers were satisfied with the medical facilities provided by Public Sector Units in India.

TABLE 1 Respondents' Opinion on Medical Facility in Psu

| OPINION | GRAND TOTAL |
|--------------|--------------|
| Good | 136 (43.59) |
| Satisfactory | 176 (56.41) |
| Poor | - |
| TOTAL | 312 (100.00) |

NOTE: Figures in Parentheses are Percentages

Safety Working Conditions

According to the section 12, 16 and 17 of the Factories Act, 1948, the management of every industrial organization should provide good working conditions at the work-spot. Assurance of safety working conditions is again the job of Safety Engineer and Welfare Officer. Accidents could be avoided by providing adequate lighting and ventilation to the workers at their workplaces. Extreme heat and cold and successively altering temperature are harmful to human health. Therefore these should be controlled by modern scientific devices and humidity and temperature should be adjusted to suit the working conditions.

Illumination

Day light is the best illumination for work. In the absence of day light, artificial light is needed. A situation where illumination covers the total work environment rather than concentrating on a single aspect of the work areas is better. In the case of the latter, whenever the visual field is shifted to a properly illuminated surrounding, it dilutes the workers. Excessive papillary activity causes fatigue and eye-strain.

Ventilation

Adequate ventilation is another aspect of working conditions. In every factory, there should be proper arrangement for adequate ventilation by the circulation of fresh air. It is mainly provided by windows and ventilators etc.

Lighting

Adequate and suitable lighting at work places protects the eye-sight of the employees and increases their output. Natural lighting may be derived from roof windows. Artificial lighting may be had through electricity, kerosene or petro max lamps.

Sanitation

Sanitation means cleanliness inside the factory. There should not be accumulation of dirt and dust. The floor should be cleaned; walls should be painted and varnished. Besides, there should be effective arrangements for the disposal of wastes and effluents.

Cleanliness

According to Section 11 of Factories Act, 1948, the management of Company has to be maintained work spot very cleanly. The work spot should be made elegant and attractive, as far as possible. A cheerful and moderately artistic work environment will be conducive to the toning up of morale, spirits and energies of the workers.

Table 2 shows extent to which the workers are utilizing working conditions available at work spot inside. It is clear from the data that on an average about 87 percent of the workers had satisfactory opinion on illumination, ventilation, lighting and sanitation available in Public Sector Units in India.

Table 2: Respondents' Opinion on Physical Work Environment in PSU

| OPINION | ADEQUATE | IN-ADEQUATE | GRAND TOTAL |
|--------------|------------|-------------|-------------|
| ILLUMINATION | 273(87.50) | 39(12.50) | 312(100.00) |
| VENTILATION | 273(87.50) | 39(12.50) | 312(100.00) |
| LIGHTING | 260(83.33) | 52(16.67) | 312(100.00) |
| SANITATION | 273(87.50) | 39(12.50) | 312(100.00) |

NOTE: Figures in Parentheses are Percentages

It is obvious that Public Sector Units in India have been maintaining satisfactory level in illumination, ventilation, lighting and sanitation at their work spots.

Noise/Sound

Noise is generally considered a distracter, when the noise level is high, an employee has to concentrate more or exert greater efforts to perform. In fact, the consistency of noise reduces its distracting character and the person adopts himself to it more easily. Noise will lead to increased muscle tension and metabolic rate.

Table 3 shows the opinions of respondents on noise inside selected unit for the study. It is also clear from the data that 12.50 percent of the workers in Public Sector Units in India expressed their feeling about the sound / noise inside their respective units is unbearable.

Table 3: Respondent's Opinion on Noise / Sound in PSU

| OPINION | GRAND TOTAL |
|--------------|--------------|
| Bearable | 273 (87.500) |
| Un- Bearable | 39 (12.50) |
| TOTAL | 312 (100.00) |

NOTE: Figures in Parentheses are percentage.

Shift System

The shift system is a common feature of modern industrial organization in all organized industries. It is necessitated by more demand for production, and has become possible through the modern industrial system. The shift system is an advantage if it makes fuller utilization of machinery which reduces standing expenses in terms of output. The shift system provides leisure time to the employees to look after their families' welfare also.

Spittoons

It has also been laid down in the Act that in every factory there shall be a sufficient number of spittoons at convenient places and maintained in a clean and hygienic way. The management has to maintain sufficient toilets accommodation at convenient places accessible to workers, while they are at the work place.

Temperature

Temperature and humidification are also important aspect of the working conditions. The climatic conditions especially in summer make physical work unpleasant due to high temperature. As the nature of the work in a company it requires high temperature, workers should be protected against it by separating the process, which produces such temperature, from the workroom or by some other methods. The recommended comfortable temperature in india is 69° to 80°F. Under Section 13 (B) of the Factories Act, 1948 the effective and suitable provision of temperature shall be made in every factory for securing and Maintaining in every work room/spot to the workers.

Table 4 shows the data on respondents' opinion on temperature at work-spot in the selected unit. The data indicates that about 51 percent of the workers had expressed their feeling about temperature at work spot was normal and remaining percentage of the workers (49) felt that the temperature at work-spot in Public Sector Units in India was hot.

Table 4: Respondents' Opinion on Temperature at Workspot in PSU

| OPINION | GRAND TOTAL |
|---------|--------------|
| HEAT | 153 (49.04) |
| NORMAL | 159 (50.96) |
| COOL | - |
| TOTAL | 312 (100.00) |

NOTE: Figures in Parentheses are percentage.

It is found from the foregoing analysis that most of the employees in Public Sector Units in India are working high temperature conditions.

Safety Tools and Equipment

The Factories Act, 1948 laid down in Sections from 21 to 41 certain standards of safety, to be adopted by factories covered under it. The management of plant has to be provided several protective measures like safety shoes, supplied twice in a year in addition to the uniform, belts, chest-guards, helmets, goggles, aprons, gloves, rain coats and face shields etc. as per the nature of job.

Maintenance of men and machines is an important object of every management. Most of the industrial organizations are Vulnerable for industrial accidents. While accidents are costly to the employer, they are something personal to the employee, resulting in some damage to his body. In India, the accident rate is higher where the workers are drawn from rural areas with a low literacy rate and on an average 547 persons are killed per year in Industrial accidents. Hence, the employer must assume the responsibility for providing safe working conditions to workers.

Table 5 presents the opinion of workers on supply of protective devices / safety tools by unit. It is clear from the table that out two-fifths of the workers in Public Sector Units in India had expressed good opinion, 48.08 percent of them expressed satisfactory opinion and 12.50 percent of them were not satisfied with supply of safety tools / protective devices by management of Public Sector Units in India. It is found from the foregoing analysis that majority of the workers in Public Sector Units in India were satisfied with supply of protective devices.

TABLE 5 Respondents' Opinion on Supply of Protective Devices in PSU

| OPINION | GRAND TOTAL |
|--------------|--------------|
| Good | 123 (39.42) |
| Satisfactory | 150 (48.08) |
| Poor | 39 (12.50) |
| TOTAL | 312 (100.00) |

NOTE: Figures in Parentheses are Percentages

It is also observed that the functions like safety, training and apprentice comes under the department of HRM in Indian Public Sector Units. It result that there is difficult to concentrate to educate the workers in the use of safety tools and protective devices.

Application of Quantitative Analysis on the Factors of Employee Job Satisfaction with main emphasis on Working Conditions

Predominant Factors of Job satisfaction and Demographic Variables relating to both the job and individual within organization is as follows. This section deals with association between demographic variables (Six) - gender, level of education, age, length of service, salary and nature of employment and clusters of predominant sub-factors of job satisfaction factors (Ten) - Job requirement, Relations with staff, Company and management, Reasonable pay, Working conditions, Innovative learning, Empowerment, Grievances handling procedure, Opportunity for growth, Living conditions and finance.

The study has determined popular environmental factors which have a great influence on constitution of employee job satisfaction. The application of Factor analysis by principal component method shows the importance of such factors in job satisfaction and the data pertaining to the popular factors and sub-factors influencing job satisfaction. Cluster analysis has revealed the classification of the samples selected into 3 clusters namely strong cluster, moderate cluster and weak cluster on the basis of the mean value scores of the various factors of job satisfaction. Factor-wise results of the formation of 3 clusters of employees have been found as under:

Working environment: Regarding Working environment, it is found that the workers display more job satisfaction towards the sub-factor of working conditions prevailing in the Working environment followed by another sub-factor namely comfort and safety. It has been found that the strong cluster of 24.68 % of respondents feel that the working conditions are excellent, moderate cluster of 62.82 % are of the opinion that the working environment gives them moderate satisfaction and the weak cluster of 12.50 % says that they need some improvement in the maintenance of the working environment.

6. Major Findings Of The Study

1. It is found that majority of the workers had positive opinion on maintenance of first aid box facility inside the plant.
2. It is found that management of Public Sector Units in India maintained a crèche for the purpose of women employees as a welfare family.
3. It is found that the Public Sector Units in India have been maintaining the satisfactory level in illumination, ventilation, lighting and sanitation at their work spots.
4. It is also clear from the data that 12.50 percent of the workers in Public Sector Units in India expressed their feeling about the sound / noise inside their respective units is unbearable.

5. It is found that majority of the workers in Public Sector Units in India were satisfied with the supply of protective devices by management.
6. It is found that most of the employees in Public Sector Units in India are working with high temperature conditions.
7. It is also observed that there is no separate department for the functions/ activities like safety, training and apprentice. So it is difficult to concentrate to educate the workers in the use of safety tools in Public Sector Units in India.
8. It is observed that almost all the workers were satisfied with the medical facilities provided by Public Sector Units in India even the ESI facility is not applicable to the factory because of the nature of ownership is Government.
9. Regarding Working environment, it is found that the workers display more job satisfaction towards the sub-factor of working conditions prevailing in the Working environment followed by another sub-factor namely comfort and safety. It has been found that the strong cluster of 24.68 % of respondents feel that the working conditions are excellent, moderate cluster of 62.82 % are of the opinion that the working environment gives them moderate satisfaction and the weak cluster of 12.50 % says that they need some improvement in the maintenance of the working environment.

6.1 Testing of Hypothesis

Testing of Hypothesis through the use of statistical and mathematical techniques reveals the following:

Hypotheses (HO₁): There is no relationship between Health Services and Healthy Work Environment of the workforce.

It is rejected. *There is a relationship between Health Services and Healthy Work Environment of the workforce.*

Result: It has been found that there is no supportive evidence to accept the hypothesis that there is no significant difference among the various elements/ factors of health services and healthy work environment of the workforce. Hence, the hypothesis is rejected and this study shows clearly that there is a significant difference among the popular elements/ factors of health services and health work environment which influence job satisfaction among the employees.

Hypothesis (HO₂): There is no influence of Safety and Health Environment and welfare on the employee job satisfaction.

It is rejected. *There is an influence of Safety and health environment and welfare on the employee job satisfaction*

Result: The study has revealed that the Safety and Health Environment (SHE) of employees have a great influence on the determination of employee job satisfaction.

6.2 Suggestive Injection for Prevention of Occupational Health Hazards

1. It is suggested that Government should implement the uniform working conditions to benefit the employees of all Public Sector Enterprises through a legislative measure as desired by most of the respondents.
2. It is suggested that the management of Public Sector Units in India should mitigate the dissatisfied workers by improving healthy physical work environment, since the workers and the employers are affected very much physically and psychologically.
3. It is suggested that the management of Public Sector Units in India should provide more protective devices to their employees to save from the sound and noise problem during their shifts as per the nature of job and to relieve their psychological and physical burdens to perform their job in their units effectively.
4. It is suggested that the workers who are working in high temperature conditions in the unit should be protected against it by providing protective devices in the working place.

5. Maintenance of good working conditions has the effect of increasing job satisfaction and hence, the management must try to achieve this goal by improving the safety and health environment system and upgrading the technologies and expertise in various areas of activities involving production operations.
6. It is suggested that the management of Public Sector Units in India should provide more protective devices as there is every need to provide and educate in the use of safety tools and equipment at their work spot.
7. It is suggested that the management of Public Sector Units in India should take all the necessary steps to mitigate the rest of dissatisfied workers in the provision of First Aid Boxes.
8. It is suggested that the management of Public Sector Units in India should be made elegant and attractive as far as possible at their work spot and to mitigate the dissatisfied segment of the workers and should maintain a cheerful and moderately artistic work environment for the toning up of the morale, spirits and energies of the workers.
9. It is further suggested that the management of Public Sector Units in India may be segregated the safety and training function from HRD department.
10. It is suggested that the management of Public Sector Units in India should maintain the working conditions for their better performance. All sections of employees may be treated alike and clear instructions may be given to the workers regarding the results expected of them on their work. Some drawbacks in the organization of work may be removed and suitable work program and action plan for the work to be performed in each department may be revised.

6.3 Scope For Further Research

The study can be extended to the related business in private, co-operate, service, educational, BPO , health care, pharmaceutical, medical , engineering industries in India and as well as in international countries and similar studies can be conducted on other type of industries. Society comprises of the workers, management, Government and general public. The present study is of much relevance from the point of view of the society. The Central and State Government are enabling several labor legislations and adopted a policy to create better safety and health environment to the employees.

7. Conclusion

On the basis of the results obtained in the study, it is observed that the safety and health environment to employees in the units prevailing have deep impact on workers' psychology and the presence of such factors always motivate the workers towards their job in a laudable manner. It has also been found that the concept of health services facility assumes immense importance in the present business scenario which requires highly skilled and competent human resources for the transformation of traditional economies into the modern and industrial economies.

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