

# SIGNIFICANCE OF HEALTH AND SAFETY MANAGEMENT IN HEALTHCARE SERVICE PROVIDERS

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## Abstract

*The study aims at analysing the occupational health and safety of Health Care Service Providers by the information collected on policy, organisation and administration, waste management, motivation, leadership and training, hazard control and risk analysis, safety management, Fire control and industrial hygiene, monitoring, statistics and reporting, welfare facilities and hazardous activities. Questionnaires were used for data collection. Health care industry is a sector in which occupational health and safety has to be given more importance, but the study shows that the level of occupational health and safety is very less in the Health care industry. The collected data are analyzed by D&S method and graphical method.*

**Keywords-** Healthcare Industry, Occupational Health and Safety, Hazard, Accident, Safety Management

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## 1. INTRODUCTION

According to the study done on Healthcare Industry it was found that all industries in this sector do not have an occupational health and safety management system. Only some of the healthcare industries are able to implement and manage the occupational health and safety management system effectively and efficiently.

The main causes of ineffectiveness of occupational health and safety management system is the lack of awareness on the employees and the lack of management commitment. Many of the health care industries are giving least importance on occupational health and safety management.

Since healthcare industry deals with health of the public, the level of occupational health and safety should be well maintained in order to increase the performance and efficiency of the industries. Most of the hazardous activities are handled by nurses and medical attendants who are unaware of the hazards and are untrained.

The information for policy, organisation and administration are collected on policy, communication, responsibility allocation, documentation and management review. Hazard reporting, hazard identification, risk assessment, determination of control measures, implementation of risk assessment, record keeping and emergency action plan are considered as the factors on hazard control and risk analysis.

The data for motivation, leadership and training are collected on training, motivation, education. The information on monitoring statistics and reporting are collected by considering proactive monitoring, reactive monitoring, incident investigation, corrective action and preventive action.

Fire prevention plan, fire protection equipments, fire control procedure, fire detection system, cleanliness, drinking water, ventilation and temperature, sanitation and food hygiene are considered as factors on fire control and industrial hygiene. The information on welfare facilities are collected by considering washing facilities, canteen, facility for sitting and facility for storing.

The data for safety management are collected on housekeeping, floor conditions, stairways and aisles, drug fridge, electrical safety, personal protective equipments, work equipment, manual handling, display screen equipments and security system. Waste management policy, waste collection, waste segregation, waste treatment and waste disposals are considered as the factors on waste management.

The most used chemicals in the healthcare industry are disinfectants, medicines, cleaning chemicals and laboratory agents.

## 2. LITERATURE REVIEW

Occupational health and safety in hospitals can be improved by providing information, training and creating awareness [7]. A safety and health management system helps in developing a safety culture in hospitals, which benefits both worker and patient safety [8]. The scope and duties of authorities which are directly related to patient safety have to be clearly defined [5]. All hospital workers are to taught and trained in safety measures[7]. To maintain patient safety, National evidence-based guidelines of best practice are to be integrated into local practice [3]. The employer has the responsibility to provide a health and safety workplace in hospitals as per the international and national rules and regulations [7]. By implementing appropriate fire protection systems and suitable fire safety management measures the

level of fire safety can be increased [4]. It is important that characteristics of preventable adverse events are to be known by the healthcare professionals, managers and researchers [6]. The supervisors are to be trained to equip them with skills to identify, analyse and eliminate different occupational hazards in hospitals [7]. As the hospital boards are responsible for the quality of care, it is essential for the boards to know how to achieve it [2].

### 3. METHOD

#### 3.1 Questionnaire Development

The questionnaires were developed on policy, organisation and administration, waste management, motivation, leadership and training, hazard control and risk analysis, safety management, Fire control and industrial hygiene, monitoring, statistics and reporting, welfare facilities and hazardous activities. The questions are developed in such a way that it is capable of ensuring the level of occupational health and safety management system in the industry.

#### 3.2 Walk through Survey

The relevant data are collected with the help of framed questionnaires by Walk through Surveys. It provides a better view of the actual conditions and situations inside a health care industry. The walk-through survey will provide direct observations

#### 3.3 Mail Questionnaires

The prepared questionnaires are mailed to various healthcare industries. The mails are forwarded to the Health Safety and Environment Managers, Safety Officers, Safety Committee Members, Human Resource Managers.

#### 3.4 Data Analysing

The data which have been gathered from the framed questionnaires are analysed by using D&S method, graphical method, means and percentages.

##### 3.4.1 D&S Method

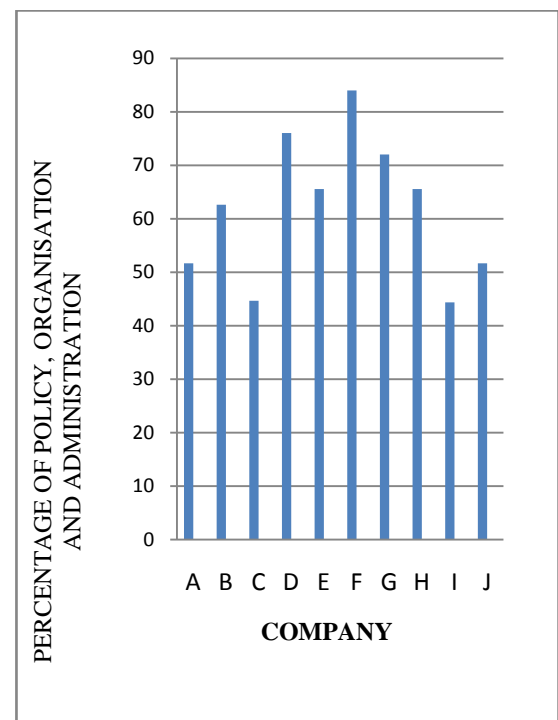
It is a method used for measuring and analysing the quantity and quality of the safety activities inside an organisation or an industry[9]. The method was developed by Diekemper and Spartzin 1970. Latter the method was modified by Uusitalo and Mattila in 1990, again this method was modified by ArtoKuusisto in 2000. The activity areas under this method are Policy, Organization & Administration, Hazard control and Risk analysis, Motivation, Leadership and Training and Monitoring, Statistic and Reporting with corresponding weighted values as 20,40,20 and 20 respectively. Table1 shows the categories and D&S values. The safety management system in an enterprise was assessed by using modified D&S method [1].

**Table-1:** The categories and values of D&S method

Sl.No	Category	D&S value
1.	Hazard control and Risk analysis	40
2.	Monitoring, Statistic and Reporting	20
3.	Policy, Organization & Administration	20
4.	Motivation, Leadership and Training	20
5.	Total (%)	100

### 4. RESULTS AND ANALYSIS

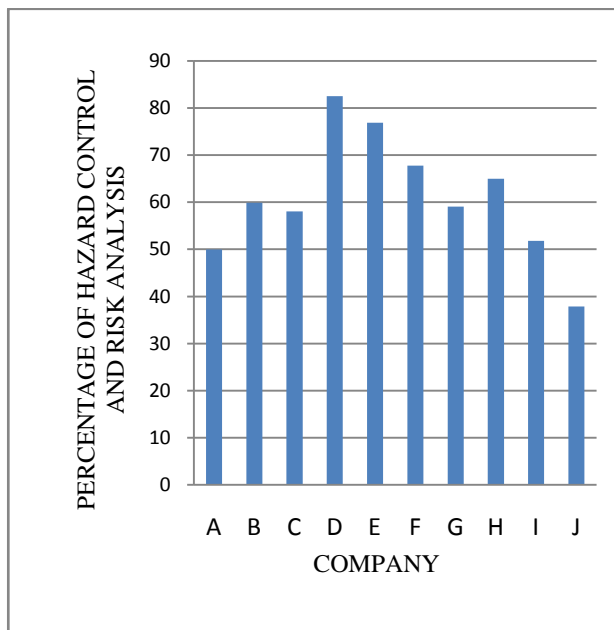
#### 4.1 Policy, Organisation and Administration



**Chart-1:** Representation of Policy, Organisation and Administration.

Most of the healthcare industries are having a better policy, organization and administration system, which is the key factor for a strong health and safety management system. By considering the following factors the result has been analysed and the average percentage of the values of each factor. The factors and the corresponding average values are policy 60, communication 54.9, responsibility allocation 61.42, management review 67.77 and documentation with 65. The overall percentage of organization and administration is 63.01(Chart-1). The major source of information on occupational health and safety is by seminars, workshops, training, mass media, safety committee meetings, internet and bulletin boards.

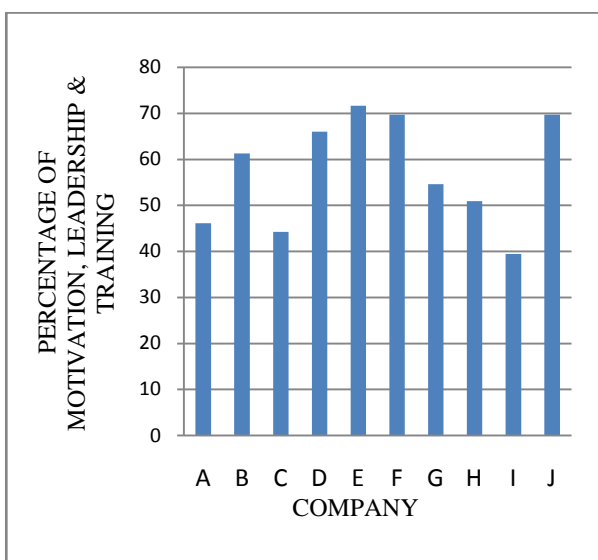
## 4.2 Hazard Control and Risk Analysis



**Chart-2:** Representation of Hazard Control and Risk Analysis.

The result analysed by the data collected on hazard control and risk analysis shows that most of the Healthcare Industries are having hazard control and risk analysis procedure which helps in reducing the hazards at workplace. The factors which has been considered for analysing the hazard control and risk analysis in healthcare sectors with their average value (percentage) are hazard reporting 61.65 hazard identification 57.11, risk assessment 65.54, determination of control measures 62.0, implementation of risk assessment 62.81, record keeping 69.06, emergency action plan 66.25. The overall percentage for hazard control and risk analysis is 63.48(Chart-2).

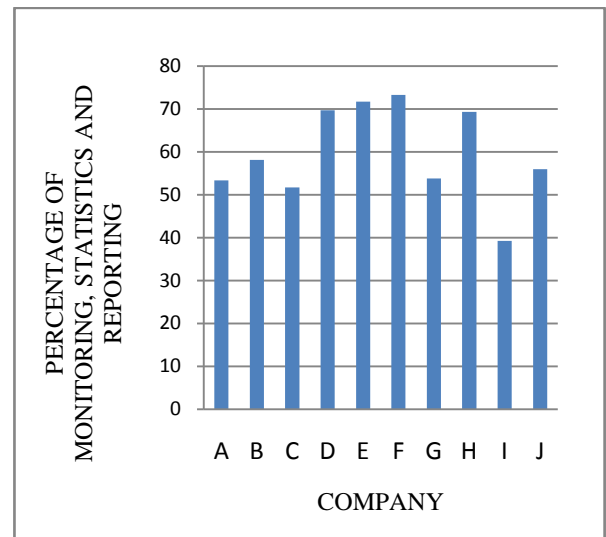
## 4.3. Motivation, Leadership and Training



**Chart-3:** Representation of Motivation, Leadership and Training.

The factors considered for evaluating motivation, leadership and training with their corresponding average values(percentage) are training with 48%, motivation with 58.5% and education with 65.54%. The overall percentage of Motivation, Leadership and Training is 57.34(Chart-3).

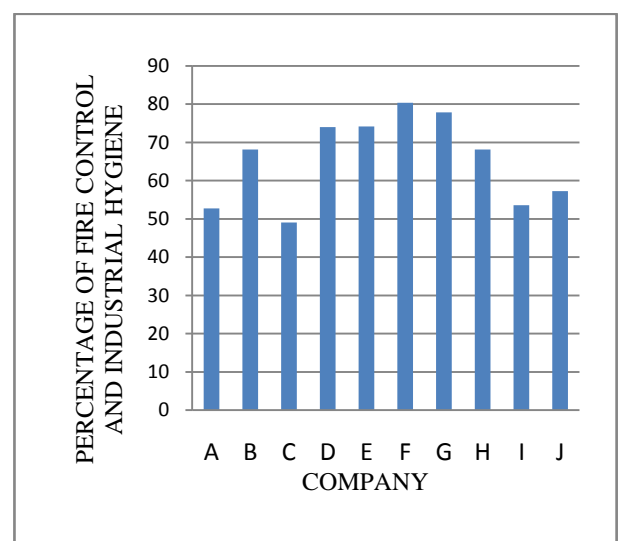
## 4.4 Monitoring, Statistics and Reporting



**Chart-4:** Representation of Monitoring, Statistics and Reporting

The data collected on monitoring, statistics and reporting shows that the Healthcare industries are having a better system, which helps in increasing the safety level in the industry. The factors with their average values (percentage) are proactive monitoring 54, reactive monitoring 65.59, incident investigation 66.66, corrective action 58.75 and preventive action 55.69. The overall percentage for monitoring, statistics and reporting is 60.138(Chart-4).

## 4.5 Fire Control and Industrial Hygiene

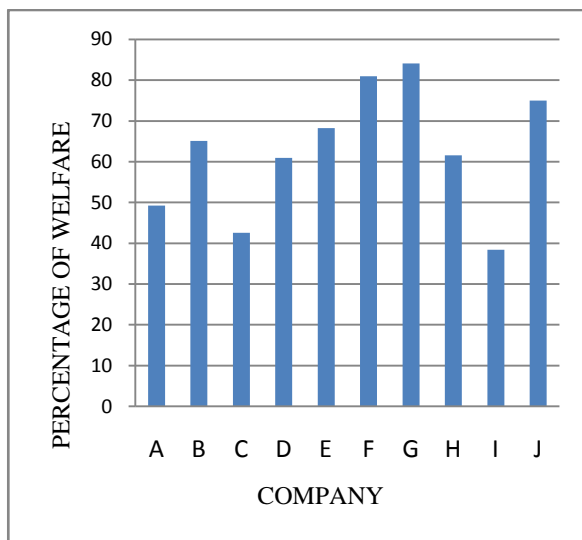


**Chart-5:** Representation of Fire Control and Industrial Hygiene

The factors considered for evaluating fire control and industrial Hygiene with their corresponding average values(percentage) are fire prevention plan 56.66, fire protection equipment 61.25, fire control procedure 66.25, fire detection system 69.99, cleanliness 65.69, drinking water 74.06, ventilation and temperature 64.01, sanitation 63.75, food hygiene 68.88. The overall percentage for fire control and industrial Hygiene is 65.61(Chart-5).

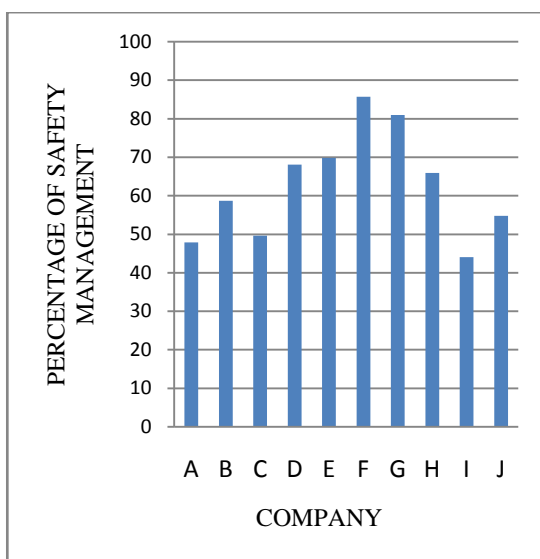
#### 4.6 Welfare Facilities

Most of the healthcare industries are taking good care on ensuring sufficient welfare facilities for the workers. The result has been made by considering washing facilities, canteen, facilities for sitting and facility for storing. The average values for the factors are washing facilities 64.26%, canteen 60%, and facilities for sitting at 58%, facility for storing 59.99% respectively. The overall statistics of welfare facility is 60.56 % (Chart-6).



**Chart-6:** Representation of Welfare Facilities.

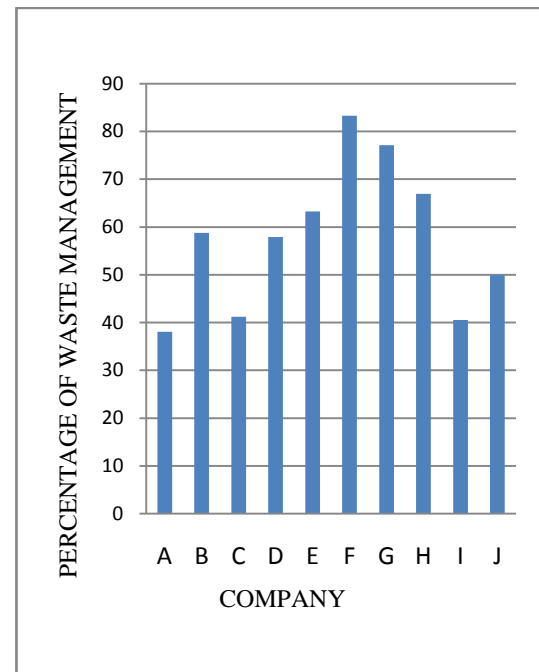
#### 4.7 Safety Management



**Chart-7:** Representation of Safety Management.

The statistics shows that most of the healthcare enterprises are giving importance on implementing, coordinating and maintaining the safety within the industry. The statistics gives an overall percentage in safety management as 62.56 (Chart-7).

#### 4.8 Waste Management



**Chart-8:** Representation of Waste Management

Most of the healthcare industries have a waste management system, but the efficiency and effectiveness of the system is not enough to meet the requirement. The factors considered for analysing the waste management with their average value (percentage) are waste management policy 54%, waste collection 56.66%, waste segregation 54%, waste treatment 61.39% and waste disposal 62.5%. The overall percentage of waste management is 57.57(Fig.8).

#### 4.9 D&S Method

D&S method is used for analysing the data collected and the overall percentage for each industry is also calculated (Table-2A, Table-2B). According to D&S method industry I is having a least value of 45.32 percentage and industry D with 75.33 percentage, which shows that industry D is having a better health and safety management system.

**Table -2A:** Calculated D&S values

Category	D&S stand ard value	Calculated value of D&S				
		A	B	C	D	E
Hazard control and risk analysis	40	19.99	23.96	23.22	33.00	30.76
Monitori	20	10.	11.	10.	13.	14.35

ng Statistics and Reportin g		67	63	33	93	
Policy, Organiza tion and Administ ration	20	10.34	12.52	8.93	15.20	13.11
Motivati on Leadersh ip and Training	20	09.22	12.25	08.84	13.20	14.32
Total (%)	100	50.22	60.36	51.32	75.33	72.54

A, B, C, D, E, F, G, H, I, J represents each healthcare industry

**Table -2B:** Calculated D&S values

Category	D&S stand ard value	Calculated value of D&S				
		F	G	H	I	J
Hazard Control and Risk Analysis	40	07.12	23.62	25.99	20.70	25.55
Monitori ng Statistics and Reportin g	20	14.66	10.76	13.86	07.85	12.19
Policy, Organiza tion and Administ ration	20	16.80	14.41	13.11	08.88	10.34
Motivati on Leadersh ip and Training	20	13.94	10.92	10.17	07.89	13.94
Total (%)	100	52.52	59.71	63.13	45.32	62.02

A, B, C, D, E, F, G, H, I, J represents each healthcare industry

#### 4.10 Hazardous Activities

It is found that nurses and medical attendants handle most of the hazardous activities. The hazardous activities are patient caring, injection, wound dressing and cleaning. They are also prone to hazards like chemical burns, contact with body fluids and blood, injury by needle, injury due to surgical tools. Less experienced nurses are highly prone to accidents (Table-3).

**Table-3:** Accident statistics for nurses

Sl.no	Experience	Probability of accident
1	Less than 1 year	Very high
2	1 to 3 year	High
3	3 to 5 year	Less
4	Above 5 year	Very less

## 5. CONCLUSIONS

A study on health and safety management system in healthcare industry are done by considering policy, organisation and administration, waste management, motivation, leadership and training, hazard control and risk analysis, safety management, Fire control and industrial hygiene, monitoring, statistics and reporting, welfare facilities and hazardous activities. It is found that the level of health and safety management system is low with a least value of 57.34% on motivation, leadership and training and a highest value of 65.61% on Fire control and industrial hygiene.

There is a need for adequate and continues training to the employees in healthcare industries on occupational health and safety management, separate training has to be given to those who are directly involved in hazardous activities.

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