

A STUDY ON HEALTH AND SAFETY MEASURES IN CHEMICAL INDUSTRIES - WITH SPECIAL REFERENCE TO MADURAI CITY

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ABSTRACT

Due to rapid industrialization, industrial workers are exposed to several types of hazards and accidents. Every year lakhs of workers are injured due to mechanical, chemical, electrical and radiation hazards and it leads to partial or total disablement. So in recent years, greater attention is given to health and safety due to pressure from government, trade unions, labour laws and awareness of employers. Effective workplace health and safety programmes can help to save the lives of workers by reducing hazards and their consequences. Health and safety programmes also have positive effects on both worker morale and productivity, which are important benefits

This study highlights the health and safety measures for the employees provided by the chemical industries.

Keywords- *Human resources, employee health, safety requirements.*

I. INTRODUCTION

In order to develop a successful health and safety programme, it is essential that there be strong management commitment and strong worker participation in the effort to create and maintain a safe and healthy workplace. An effective management addresses all work-related hazards, not only those covered by government standards. All levels of management must make health and safety a priority.

They must communicate this by going out into the worksite to talk with workers about their concerns and to observe work procedures and equipment. In each workplace, the lines of responsibility from top to bottom need to be clear, and workers should know who is responsible for different health and safety issues.

II. OBJECTIVES OF THE STUDY

- Identify the existing health and safety measures provided by the organization
- Find out the expectations of employees towards the available provisions
- Measure the effectiveness of health and safety provisions given by organization.
- Analyze the gap between existing and required health and safety measures

III. REVIEW OF LITERATURE

Tompa, Emile PhD; Dolinschi, Roman MA; de Oliveira (2009), we reviewed the **occupational health and safety intervention** literature to synthesize evidence on financial merits of such interventions. A literature

search included journal databases, existing systematic reviews, and studies identified by content experts. We found strong evidence that ergonomic and other musculoskeletal injury prevention intervention in manufacturing and warehousing are worth undertaking in terms of their financial merits. The economic evaluation of interventions in this literature warrants further expansion. The review also provided insights into how the methodological quality of economic evaluations in this literature could be improved.

IV. RESEARCH METHODOLOGY

This study has undergone with descriptive research type and the primary data has been collected from 60 respondents of Madurai fireworks industries employees used by simple random sampling method. Questionnaire was used to collect the fresh data and it carries 30 questions framed with both open ended and closed ended. The statistical tools used for analyzing the data are mean, percentage and Karl Pearson's correlation method.

V. ANALYSIS AND INTERPRETATION

TABLE 1: Cleanliness in the organisation

CLEANLINESS	NO.OF.RESPONDENTS	PERCENTAGE(%)
Excellent	22	37
Better	9	15
Good	29	48
Poor	0	0%
TOTAL	60	100

The above table shows that 37percentage of the employees feel that the organizations provide excellent cleanliness.

TABLE 2: Various Medical Camp Organisedby the Organization

MEDICAL CAMPS	NO.OF.RESPONDENTS	PERCENTAGE(%)
Master check up	43	72
Malnutrition	0	0
Pregnancy Check up	0	0
Child beneficial health camp	0	0
Others	17	28
TOTAL	60	100

The above table shows that 72% of respondents that have master checkup.28% of respondents have other kind of check-up like blood check-up, eye check-up, ear and skin check-up etc.

TABLE 3 Satisfaction of health and safety measures vs experience of the respondents

Satisfaction of Health and Safety and Experience	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly DisSatisfied	Total (x)
0-3years	12	10	0	0	0	22
4-7years	4	16	0	0	0	20
7-10years	8	2	0	0	0	10
10-15years	2	3	0	0	0	5
Above 15years	2	1	0	0	0	3
Total (Y)	28	32	0	0	0	60

X- Experience of the respondents

Y- Satisfaction of health and safety Measures

SOLUTION

X	Y	Xy	x ²	y ²
22	28	616	484	784
20	32	640	400	1024
10	0	0	100	0
5	0	0	25	0
3	0	0	9	0
60	60	1256	1018	1808

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}}$$

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$$r = \frac{5(1256) - (60)(60)}{\sqrt{[5(1018) - (60)^2][5(1808) - (60)^2]}}$$

$$r = \frac{6280 - 3600}{\sqrt{[1490][5440]}}$$

$$r = \frac{2680}{2847.0}$$

$$r = 0.94$$

From this analysis, it is clear that the experience of the respondents and satisfaction of health and safety measures in organizations is neutral positively correlated since the correlation value is 0.94.

TABLE 4: Health problem in workplace vs experience of the respondents

Health problem in work place and Experience	Yes	No	Total (x)
0-3years	0	22	22
4-7years	2	18	20
7-10years	1	9	10
10-15years	0	5	5
Above 15years	0	3	3
Total (y)	3	57	60

X- Experience of the respondents.

Y- Health problem in work place.

SOLUTION

X	Y	Xy	x ²	y ²
22	3	66	484	9
20	57	1140	400	3249
10	0	0	100	0
5	0	0	25	0
3	0	0	9	0
60	60	1206	1018	3258

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}}$$

$$r = \frac{5(1206) - (60)(60)}{\sqrt{[5(1018) - (60)^2][5(3258) - (60)^2]}}$$

$$r = \frac{6030 - 3600}{\sqrt{[1490][12690]}}$$

$$r = \frac{2430}{4348.3}$$

$$r = 0.55$$

From this analysis, it is clear that the experience of the respondents and the worker suffer any health problem in organizations is neutral positively correlated since the correlation value is 0.55.

VI. FINDINGS

The firework industries maintain the safety and health records and also they provide Proper ventilation, no broken/damaged floors, no wet areas including toilet, fire extinguishers, secured safety facilities like shoes, hand gloves, safety glasses, face shield, emergency warning bell, emergency exit doors and signals. But they are not providing the awareness of occupational health and accidents.

VII. SUGGESTION

The industries may conduct seminars on the safety policies so as to make all the employees be aware of it. They may take some precautionary steps to reduce the accidents occur during welding, cutting, drilling, polishing. They may provide insurance facilities to employees in case of any bad events occurs especially the employees who work under risky.

VIII. CONCLUSION

Health and safety measures are very important and it is the joint responsibility of all the government, the employer and the worker. This study has proved that the chemical industries in Madurai city provide sufficient health and safety measures to their employees. The employee's working in the organization are satisfied with the health and safety measures provided by the organization.

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