

Occupational Health and Safety of Workers in Pharmaceutical Industries, Himachal Pradesh, India



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Abstract: In this research paper a comparative study on occupational health and safety of workers has been done for two pharmaceutical companies in and around the city of Solan in Himachal Pradesh, India. The results show that more workers have accepted that workers have been provided with appropriate procedures and instructions before completing the task. Therefore, it can be concluded that management takes it seriously that workers understand the exact course of action before carrying out the task so that it is safer for workers to carry out the operations. At the same time, some employees denied that they had proper procedures and instructions. This may be due to a lack of employee awareness. The majority of employees agreed that companies regularly follow the procedures for documenting the investigation of incident, and employees appear to be contented with this provision. Thus, it can be concluded that administration appropriately reviews each incident that occurs during the execution of the task and follows the correct documentation system to determine the real cause for the incident. It is noted that most employees have accepted that companies have followed the proper procedures for inspecting and assessing equipment hazards and that workers are satisfied with them. It can therefore be concluded that the organization has recognized the need to review and investigate the risks to facilities that exist or may exist in the facilities in order to affect workers' health.

Keywords: Comparative Study, Occupational Health, Safety, Workers, Pharmaceutical Companies.

I. INTRODUCTION

Employees are the foremost valuable assets for a corporation as they contribute the most towards the success of a company. The achievement of a corporation depends on the essential skills of its human resources. However, this human capital thus far needs consideration to be paid to the health and safety of employees within the geographic point. However it's unhappy to mention that the operating conditions of workers face several issues.

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The share of accidents occurring within the producing industries was above in different sectors. Frequency is high due to poor or under-respected standards, regulations and activity safety and health records. Therefore, to supply workers with a safe and healthy work environment, a well-organized and acceptable safety and health system is of predetermined significance. Activity safety and health principles are intended to make available the minimum supply to the minimum safety level that can be given to each employee in terms of operating conditions and therefore the risk of injury, malfunction or death arising from his or her efficient activity.

II. REVIEW OF LITERATURE

A literature search is a fundamental section of the complete research procedure and makes an important contribution to nearly every operational step. In his study, Achalu (2000) concluded that work-related health problems can be defined as any work-related disorder affecting workers' physical, intellectual and social well-being. In general, the introduction of OSH in industry and other professions could benefit everyone, in particular the management, employers and workers. When the workers were physically, emotionally and mentally fit, the working environment became stimulating, calm and smart. competence increases, society is enhanced for development. Heron and Pickering (2003) concluded in their study that protecting employees from the potentially dangerous effects of drugs poses a major confront for the pharmaceutical industry, as the chemicals produced are biologically active. Even though there is little epidemiological proof of improved mortality and morbidity in this population, contact to medicines such as corticosteroids, sex hormones and antibiotics may be detrimental unless thorough hazard assessments and control actions are taken. Shikdar and Sawaqed (2003) carried out a study on labour productivity and safety and health issues at work in Muscat. They found that basically no ergonomics training was offered to employees. Managers have acknowledged complaints from workers about exhaustion, back pain, headaches and upper body. These physical issues have highlighted ergonomic deficiencies in the occupation structure. Deprived ecological situation, such as clutter and high temperature, have prevailed, and organizations reporting more managerial problems have also experienced more performance problem.

To deal with these issues, administration needs to be informed about the reimbursement of ergonomics and injury preclusion because of the ergonomic design of the workstation. Workers must be systematically taught in ergonomics to get better not only productivity, but also safety at work. This would be beneficial for employees and management.

Strategies should be formulated and implemented by systematically introducing ergonomics through ergonomic programs in the industry to improve productivity, worker safety and health, and the environment. In their study, Jilcha and Kitaw (2017) concluded that innovations in health and safety at work lead to sustainable development by creating healthy people, safer jobs, reduced accident costs, better health and safety. Better controlled environmental risks, controlled accidents at work and enhanced safety. Most responses indicate that workplace innovation is an element of sustainable development, but their companies have not used these elements to improve their organization. After reviewing the literature, many studies on workplace safety have been conducted in various pharmaceutical companies. They all focused on labour productivity, health and safety at work in industry, and the health effects of extended stays in industrial jobs. The rationale of this research was to emphasize the awareness and training agenda undertaken by companies regarding the health and safety risks of workers with regard to their mode of operation. Harris et al. (2003) have shown in their study that in order to effectively prevent and manage worker health problems, specific wellbeing management strategies and measures must be developed to congregate the occupational health needs of this group. Lamm et al. (2006) found that there was growing evidence that a healthy and safe work environment could increase labor productivity and, hence, corporate profits. Greef and Broek (2004) show that safety and health measures not only have a positive impact on the safety and health performance, but also on the productivity of the company. However, recognizing and quantifying these effects is not always easy. Even though experience show that in many cases proof of viability can be provided, in some cases it can be difficult to provide solid evidence. Kaynak et al. (2016) recommended that OSH practices such as safety procedures and risk management, first aid support and training, safety and health regulations and organizational safety support reduce alienation, while first aid support and training increase worker hostility. Mavis et al. (2015) noted the importance of ensuring that health risk exposures are synchronized and well controlled to endorse security and health in the place of work. This is essential because the country's workplaces are subject to the phenomenon of globalization with the latest technologies, occupation organizations, work procedures and materials. Karkoszka and Szewieczek (2007) found that the implementation of health and safety policy at work using health and safety possibility consideration leads to the development of the procedure observed by prevention and, consequently, the reduction of risk at work to an acceptable level.

RESEARCH METHODOLOGY

A research model is a set of conditions for collecting and analyzing data, so as to combine relevance with the purpose of the research. In this study, the descriptive research design was adopted to achieve research objective. It describes the characteristics of data about the population being studied. Descriptive research answers the questions who, what, where, when and how. Thus, the research designs were appropriate for the present study. The population of the research study consists of staff members working pharmaceutical companies. The sixty employees were selected after considering time and cost involved in the survey. The well designed questionnaire was used as instrument for data collection. The collected data has been analyzed by using percentage analysis.

III. RESULTS AND DISCUSSION

The intend of this chapter was to observe the health and safety of employees in two pharmaceutical companies in and around the city of Solan. Data were collected using a questionnaire from a sample of 60 respondents i.e. 30 workers from each of the selected companies. To assess employee satisfaction with Occupational Safety and Health measures, the mean difference between the two pharmaceutical companies was examined.

A. SOCIO-DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Socio-demographic profile shows various demographic variables of the respondents. The Table 1 showed the socio-demographic profile of the respondents.

B. EMPLOYEES' RESPONSE TO OCCUPATIONAL SAFETY MEASURES

Employees' responses to health and safety procedures at pharmaceutical organizations are examined and the results are discussed below:

1) Composition of table on the basis of documented health and safety policy

Table 1 Showing documented occupational health and safety policy

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	27	90.00	28	93.33
No	2	6.67	2	6.67
Not Known	1	3.33	0	0
Total	30	100.00	30	100.00

Source: Field Survey, 2019

Table 2 show the company's response to the documented health and safety plan. The information observed that of 30 respondents from Alchemist Ltd., 90% of respondents said that there is a documented health and safety plan. However, 6.67% of respondents denied having documents on health and safety at work and 3.33% did not know it.

Whereas, in Corona Ltd., 28 respondents, or 93.33%, agreed on the presence of a documented occupational health and safety policy in their company, while 2 respondents, i.e. 6.7% have denied having it.

Table 2 Socio-demographic profile of the respondents

S. No.	Factors	Categories	No. of Respondents	Percentage
1.	Gender	Male	38	63.33
		Female	22	36.67
		Total	60	100.00
2.	Age (Years)	21-30	33	55.00
		31-40	18	30.00
		41-50	5	8.33
		51-60	4	6.67
		Total	60	100.00
3.	Marital Status	Married	41	68.33
		Unmarried	19	31.67
		Total	60	100.00
4.	Monthly Salary (Rs.)	0-5000	1	1.67
		5000-10000	31	51.67
		10000-15000	17	28.33
		15000-20000	11	18.33
		Total	60	100.00
5.	Education	Up to Senior Secondary	19	31.67
		Graduation	20	33.33
		Post-Graduation	9	15.00
		Diploma	12	20.00
		Total	60	100.00
6.	Experience (Years)	Below 2 years	13	21.67
		2-4 years	32	53.33
		4-6 years	15	25.00
		Total	60	100.00

2) *Composition of table on the basis of Manual / Plan of the management system in the companies associated to health and safety at job*

Table 3 Showing manual / plan of the management system in the companies associated to health and safety at job

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	25	83.33	25	83.33
No	5	16.67	5	16.67
Not Known	0	0	0	0
Total	30	100.00	30	100.00

Source: Field Survey, 2019

Table 3 described the percentage of responses to the manual / plan of management system associated to health and safety at work. The results observed that 83.33% of respondents, i.e. 25 employees of both companies agreed, and 16.67%, or 5 employees, disagreed that a manual on health and work was available.

3) *Composition of table on the basis of Occupational health and safety responsibility of the personnel*

Table 4 observed employees 'views on responsibility for health and safety at work. The data showed that at Alchemist Ltd. the majority of respondents 83.33% confirmed that responsibilities for health and safety at work are visibly defined for each level of staff, while 13.33% of respondents have denied it. Another 3.34% of respondents were unaware of this responsibility. Whereas, at Corona Remedies Pvt. Ltd. 87.67% said that responsibilities for health and safety at work were clearly defined for all levels of staff and 10.00% of respondents rejected it. Another 3.34% of respondents were unaware of this responsibility.

Table 4 Showing occupational health and safety responsibility of personnel

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	25	83.33	26	87.67
No	4	13.33	3	10.00
Not Known	1	3.34	1	3.33
Total	30	100.00	30	100.00

Source: Field Survey, 2019

4) Composition of table on the basis of Safe operation or instructions

Table 5 illustrates the responses of employees related to a healthy working environment and the information revealed that 53.33% of respondents responded to Alchemist Ltd. has a good operating system and it provides important safety instructions for the company's operations while 36.67% of respondents felt that the safety and security guidance was not enough for the company's operations. The other 10% of respondents did not know anything about safety procedures and guidelines. At Corona Ltd., 46.67% of respondents admitted that they have a safe operating system and it provides essential safety instructions for the company while 40.00% of respondents feel that safety procedures and safety guidelines are inadequate for the company's operations. The remaining 13.33% of respondents did not know about safe operating procedures and instructions.

Table 5 Showing safe operating procedure or instructions

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	16	53.33	14	46.67
No	11	36.67	12	40.00
Not Known	3	10.00	4	13.33
Total	30	100.00	30	100.00

Source: Field Survey, 2019

5) Composition of table on the basis of work permit

Table 6 lists the answers respondents provide for work permit. The data showed in the case of Alchemist Ltd. that of the 30 respondents, 56.67% agreed of having permit to work system, while 40.00% of respondents said they had no permit to work system. 3.33% were unaware of this type of permit. However, In Corona Ltd. out of 30 respondents 46.67% were respondents that agreed of having permit to work system but 36.67% of respondents disagreed about having work permit. Another 16.66% were unaware of this type of permit.

Table 6 Showing permit to work system

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	17	56.67	14	46.67
No	12	40.00	11	36.67
Not Known	1	3.33	5	16.66
Total	30	100.00	30	100.00

Source: Field Survey, 2019

6) Composition of table on the basis of documentation of the incident investigation procedure

Table 7 Showing documentation of incident investigation procedure

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	17	56.67	16	53.33

No	10	33.33	10	33.33
Not Known	3	10.00	4	13.34
Total	30	100.00	30	100.00

Source: Field Survey, 2019

Table 7 shows the employees response related to the procedure documenting of investigation regarding incident. The result of Alchemist Ltd. revealed that the majority of respondents i.e. 56.67% of respondents approved that there is an adequate procedure to document investigations of an incident. However, 33.33% of respondents believe that such procedure is not properly followed in their organization, and 10.00% of respondents knew nothing about the documentation of the incident investigation procedure. While at Corona Ltd., 53.33% of respondents settled that there was an adequate procedure to document investigations related to an incident. However, 33.33% of respondents believe that such procedure is not properly followed in their organization, and 13.34% of respondents did not know the documentation of the incident investigation procedure.

7) Composition of table on the basis of procedures for inspection and assessment of plant hazards

Table 8 Showing procedures for inspection and assessment of plant hazards

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	19	63.33	20	66.67
No	9	30.00	9	30.00
Not Known	2	6.67	1	3.33
Total	30	100.00	30	100.00

Source: Field Survey, 2019

Table 8 showed the opinions of employees regarding the method for inspection and assessment of plant hazards. Alchemist Ltd. data exposed that 63.33% of respondents approved that there were methods for inspecting and assessing plant hazards in company however, 30% denied having any such procedures in their company. The other 6.67% of the respondents were unaware of the existence of any such procedures. Whereas, at Corona Ltd., 66.67% of the respondents stated that there were methods for evaluating and assessing plant risks to companies while 30% denied of having any such methods at their company. The other 3.33% of the respondents were unaware of the existence of any procedures.

8) Composition of table on the basis of storage and handling of hazardous substances

Table 9 Showing storing and handling of hazardous substances

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	22	73.33	18	60.00
No	3	10.00	7	23.33
Not Known	5	16.67	5	16.67
Total	30	100.00	30	100.00

Source: Field Survey, 2019

Table 9 presents the data regarding to the proportion response of employees regarding storage and handling of hazardous substances. It was observed from the data that at Alchemist Ltd. 73.33% of respondents approved that facility for storage and managing hazardous materials were there in the company while, 10% of respondents disagreed of having adequate processes for storage and managing hazardous materials in their company. The other 16.67% of the employees were unaware of any such facility. However, in Corona Ltd., 60.00% of respondents agreed that the company have proper facilities for storing and handling hazardous substances whereas 23.33% of respondents said there were not enough actions for storage and managing hazardous materials in the company. The other 16.67% of the employees were unaware of any such facility.

9) *Composition of table on the basis of occupational safety training*

Table 10 Showing occupational health and safety training

Response	Alchemist Ltd.		Corona Ltd.	
	No. of Respondents	Percentage	No. of Respondents	Percentage
Yes	23	76.67	18	60.00
No	7	23.33	8	26.67
Not Known	0	0.00	4	13.33
Total	30	100.00	30	100.00

Source: Field Survey, 2019

Table 10 summarizes employees' opinions regarding health and safety training at work. Alchemist Ltd. data reported that 76.67% of the respondents approved that health and safety training at work was provided by the company while 23.33% of the respondents declined such training. However, at Corona Ltd., the data observed that 60% of respondents acknowledged that health and safety training at work was provided by the company, while, 26.67% of respondents denied of having such training. The other 13.33% of the respondents were unaware of any such training.

IV. CONCLUSION

This chapter has attempted to summarize the above discussion of data on OSH of employees in chosen pharmaceutical organizations, as well as employee satisfaction with facilities. The following chapter lists the results and draws conclusions from them.

- From the data of the socio-demographic profile of respondents, it appears that the majority of respondents were men, i.e. 63% and most of the employees were between 21 and 30 years of age group i.e. 55%. The results of the age of respondents show that companies prefer young workers. Family data showed that the majority of respondents were married, i.e. 68.33% of all respondents. The monthly salary data showed that the majority of employees of both companies received a salary between Rs.5,000-10,000. Most of the employees were graduates. And the empirical data showed that the majority of employees have experience between 2 and 4 years.
- The data show that the most of workers agreed that the organizations had written OSH and OSH manuals. However, few workers deny that there is a written

declaration in this regard. Hence, it can be said that management has recognized the significance of occupational safety and well-being of employees.

- The results showed that most workers felt that responsibilities for health and safety at work were clearly defined for all levels of staff and those employees were very satisfied with it. Thus, it can be said that administration takes the schemes to sensitize employees to the tasks that at last affect their safety and health at work.
- The results show that more workers have accepted that workers have been provided with appropriate procedures and instructions before completing the task. Therefore, it can be concluded that management takes it seriously that workers understand the exact course of action before carrying out the task so that it is safer for workers to carry out the operations. At the same time, some employees denied that they had proper procedures and instructions. This may be due to a lack of employee awareness.
- The majority of employees agreed that companies regularly follow the procedures for documenting the investigations of incidents, and workers seems to be contented with this service. Hence, the conclusion can be made that administration correctly reviews each incident which occurs during the execution of the work and follows the correct documentation procedure to determine the actual reason for the incident.
- It is noted that most employees have accepted that companies have followed the proper procedures for inspecting and assessing equipment hazards and that workers are satisfied with them. It can therefore be concluded that the organization has recognized the need to review and investigate the risks to facilities that exist or may exist in the facilities in order to affect workers' health.

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