

Occupational Health and Safety of Workers in Pharmaceutical Industries



Shivani Khanna, Geeta Kumari, Hemant Bhanawat, K. M. Pandey

Abstract: Workers are the most significant resources for an association as they contribute the most towards the accomplishment of an association which relies upon the basic abilities of its human capital that pays to the occupational safety and health of employees in the work environment. The present study is led with the objective to highlight occupational safety and health actions for the employees and their satisfaction level accompanied occupational health and safety services provided by the chosen pharmaceutical organizations. It additionally highlighted the awareness and training program undertaken by the organizations. The analysis of the current study has been done by suitable mathematical and statistical tools consisting of percentage analysis, mean (average), standard deviation, and correlation and regression analysis depending upon the objectives of the study. The outcomes demonstrated that the representatives of both organizations are genuinely happy with the continuous training program on risk of health and safety of workers. With regard to health and safety at work, the chosen pharmaceutical companies offer their employees with numerous facilities. Likewise, the fulfillment level of the employees by means of these measures is high, which is a decent picture of a balanced relationship between the management and the employees.

Keywords : Pharmaceutical organizations, Human Capital, Hazards, Occupational Health and Safety, workplace.

I. INTRODUCTION

Health and safety at work are one among the foremost vital aspects of human concern. It aims to adapt the operating atmosphere to employees for the upliftment and prolongation of the very best level of mental, physical and social wellbeing of employees. Occupational Health and Safety (OHS) or Workplace Health and Safety (WHS) are two localities involved with the security, health, and well-being of individuals involved in work. Safety and health programs at

work embrace making a secure and healthy work atmosphere. As per the definition of the World Health Organization (WHO), "occupational health deals with all aspects of health and safety at the workplace and places a powerful stress on primary hindrance of risks". Health has been explicated as "a condition of complete physical, mental and social prosperity and isn't merely the non-existence of un-wellness or infirmity". The research study identified health risks and outlined awareness of work-related health risks for pharmaceutical workers. This included evaluating health risks for workers, assessing health risks for workers and possible control to prevent and mitigate the impact of hazards on workers' health and well-being. General health risks within the pharmaceutical business embrace exposure to dirt and noise, repetitive motion disorders, methanol exposure, and ultraviolet illumination exposure.

A. Objective of the Study

The main aim of this study is to have a comparative study of employee satisfaction level with respect to the occupational health and safety measures in pharmaceutical industries.

II. LITERATURE REVIEW

A literature search is a fundamental section of the complete research procedure and makes an important contribution to nearly every operational step. Cooper and Phillips (2004) analyzed the importance of knowledge and understanding of the link and contact between work and health in the exercise of health and safety at work. The working environment and working conditions can have a positive or negative impact on the safety and health of employees. Workers' health can also affect their routine and performance, depending on environmental factors and the nature of industrial organization and policies. Poor health affected workers' productivity and productivity. Haldiya et al. (2005) have shown that it is important to have good safety precautions for salt production, as salt production involves several stages and the entire process is work-oriented. The masks must be of higher quality and handy handling, the filter need to be expanded and forestall the terrible scent of plastic and fabric, the glasses ought to be of desirable exceptional at low cost. Workers should be aware of the results on their physical and mental health when working in the salt industry, so that they can follow the protection measures to accurately guard themselves from hazardous diseases. Karkoszka and Szewieczek (2007) concluded that the implementation of the occupational safety coverage primarily based on the assessment of the OSH danger leads to an enhancement of the analyzed procedures via the prevention measures and for that reason to a discount of the OSH risk to an suited level.

Manuscript published on November 30, 2019.

* Correspondence Author

Shivani Khanna*, Department of Management, Eternal University, Himachal Pradesh-173101, India. Email:Shivanikhanna768@gmail.com

Geeta Kumari, Department of Management, Eternal University, Himachal Pradesh-173101, India. Email: geekumari@gmail.com

Hemant Bhanawat, Department of Commerce, Eternal University, Himachal Pradesh-173101,India.Email:hemanthbhanawat@rediffmail.com

K. M. Pandey, Department of Mechanical Engineering, National Institute of Technology Silchar, Assam-788010, India. Email:kmpandey2001@yahoo.com

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](https://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC-BY-NC-ND license [http://creativecommons.org/licenses/by-nc-nd/4.0/](https://creativecommons.org/licenses/by-nc-nd/4.0/)

The draftsman concluded that all measures taken in the corporation ought to be systematized to ensure secure and hygienic working conditions for employees and to facilitate this thru the introduction of the OSH administration system. The simple device of the gadget is a expert threat evaluation that consists of the recognition and classification of threats, the definition of occupational hazard and the assessment of its acceptance. Yusof (2008) concluded in his find out about that manufacturing contributes to the country's financial increase and gives a number of employment opportunities. New technologies and newer machines are also being installed in offices the place occupational security and health must be ensured in order to stop similarly accidents at work. Wigmore (2009) found that the exceptional way to stay away from the problems is to eliminate dangerous substances and use available substitutions (choice of protected or least toxic substances). The pharmaceutical business is exclusive in that its employees deal with hazards that may have biological impact. Large scale pharmaceutical agencies have equipped numerous safety and fitness applications that focus on both private and corporate responsibility. They also extend a categorization module, called a tamper strip, to categorize the chemical and biological hazards in their facility. Katsuro et al. (2010) examined the effect of health and safety at work on labor productivity in Zimbabwe in the industrial food industry and concluded that a lack of expertise on OSH practices causes such problems. It is therefore recommended that factories in the food industry improve their safety at work through coaching programs and use today's devices. Leilanie (2011) analyzed the fitness and safety of girl workers in production line in the Philippines and stated that a true indicator of the monetary and social inclusion of female need to be available and available to workers. Paid employment gives women a structure of autonomy. Necessary techniques and packages should consequently be formulated or tailored in the place of work in order to promote the rights and well-being of girls workers. Makori et al. (2012) conducted a find out about on the have an effect on of OSH applications on the overall performance of manufacturing groups in Kenya and mentioned that corporate governance should include policies and constructions to enhance OSH. Organizations set up lively fitness and security committees, which should be mandated to put in force their recommendations. Mavis et al. (2015) examines OSH and working conditions management in the safety-certified and non-certified car industry and notes the importance of regulating and controlling health-risk exposure in order to promote protection and health in the workplace. This is vital because the jobs in the United States are uncovered to the phenomena of globalization via the initiation of new technologies, work organizations, work procedures and substances. Kaynak et al. (2016) examined occupational protection practices in 5 elements, d. H. Health and Safety Regulations, Accident Prevention, Safety Procedures and Risk Management, First Aid Assistance and Training, and Organizational Safety Assistance.

III. RESEARCH METHODOLOGY

The methodology begins with the study design having the main objective to determine the satisfaction of employees of selected pharmaceutical companies with occupational safety measures. The study area of the present study was conducted at two selected pharmaceutical companies Alchemist Ltd. and

Corona Ltd. in Solan town, Himachal Pradesh and its vicinity. The sampling design can be described as the selection of a part from a combination or a whole from which a judgment of the whole is made. The sampling method for this study was convenient sampling which comprises of population segment that are selected for sampling based on easy access or that are comfortably available. The sample size is explained as the number of factors that must be selected from the universe to shape a sample. The sample size is selected as 30 employees from each company as needed that means total sample size is 60 employees.

Data for the research purposes are collected from various sources. The study is performed with primary and secondary data. Primary data is the new source from which researchers collect data directly by using several methods like a close-ended questionnaire, observations and personal interviewing, etc. Secondary data is the source that contains data collected and collected for other purposes, such as: census reports, annual reports and company accounts etc. Secondary data for this study has been gathered by previous surveys, books, periodicals, articles, research and web sites. Then the data collected from various sources was arranged and tabulated as per the requirements of the study. The examination of the present study was conducted using appropriate statistical and mathematical tools, including percent, mean, correlation, standard deviation, and regression analysis, depending on the objectives of the study. The data of the present study were processed with the latest statistical software, i.e. With SPSS version 20 academic version.

IV. RESULTS AND DISCUSSIONS

As per the accessing of employee job satisfaction level, with respect to the occupational health and safety measures, it was given on the basis of mean values of the respondents response of various employee satisfaction dimensions, namely occupational health and safety policy, periodic medical check up, state operating procedure or specific safety instruction, training program conducted for occupational, training program for occupational health and safety measure, participation in decision making,, first-aid and ambulance services, occupational health and safety management and system recording and analyzing the health and safety performance statistics.

A. A Comparative analysis of employee satisfaction level between Alchemist Ltd. and Corona Remedies Pvt. Ltd.)

Table 1 showed the mean standard deviation difference analysis among both the companies pertaining to the different statements (variables) on occupational health and safety measures. The findings revealed that the comparatively highest mean value for majority of the statements is obtained by Corona Remedies Pvt. Ltd. i.e. The occupational health and safety management that is proceeding in the company (M=3.500) and (SD=0.200), the system that records and analyze the health and safety performance statistics (M=3.333) and (SD=0.922).

Figure 1 shows the mean values of satisfaction level of employees with respect to documented occupational health and safety policy of Alchemist Ltd. and Corona Remedies Pvt. Ltd.

The results reveal that the higher mean value i.e. 2.767 lies in Corona Remedies Pvt. Ltd. which means employees of are comparatively more satisfied with the documented policy of occupational health and safety.

However, the employees of Alchemist Ltd. are comparatively less satisfied with the documented occupational health and safety policy because the mean value of Alchemist Ltd. is 2.367.

Table 4.1 Comparative analysis of employee satisfaction level between Alchemist Ltd. and Corona Remedies Pvt. Ltd.)

Sl. No.	Variables of Employee satisfaction dimension	Alchemist Ltd. Sample size N=30		Corona Remedies Pvt. Ltd. Sample size=30	
		Mean (M)	Standard Deviation(SD)	Mean(M)	Standard Deviation(SD)
1	The documented occupational health and safety policy.	2.367	1.066	2.767	0.774
2	Periodic medical checkup.	2.400	0.932	2.767	1.040
3	The safe operating procedures or company-specific safety instructions for operation.	2.667	0.758	2.967	0.764
4	Training program conducted at company for health and safety measures related to occupation.	2.900	0.803	2.800	0.714
5	Involvement of workers in decision-making on health and safety issues at work.	3.100	0.923	3.133	0.776
6	The ambulance and first- aid services provided at the workplace.	3.100	0.995	3.133	0.776
7	Health and safety management in the workplace.	3.133	0.973	3.500	0.820
8	A system that records and analyzes performance data for health and safety.	3.267	1.112	3.333	0.922

Source: Field Survey, 2019 results

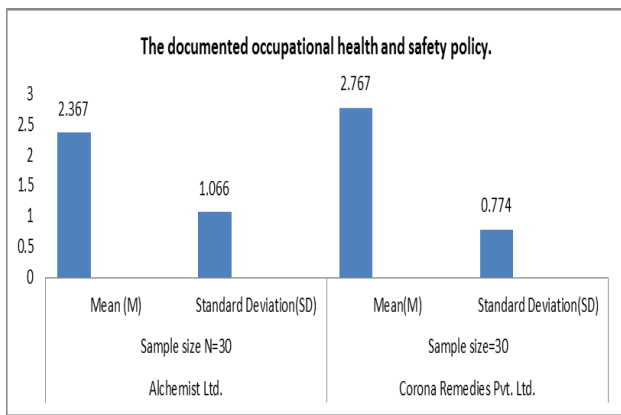


Figure 1 The documented occupational health and safety policy.

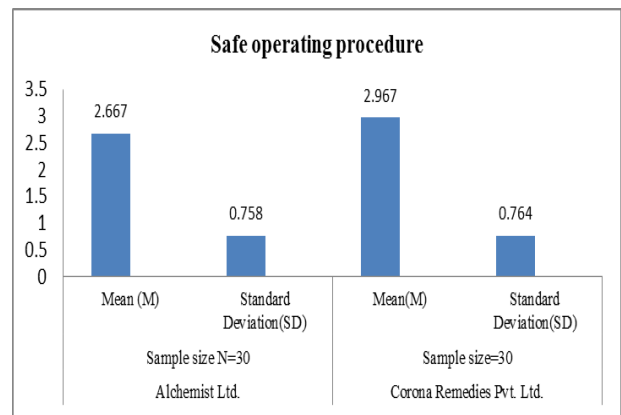


Figure 3 Safe operating procedures

Figure 3 illustrates the safe operating procedures or company-specific safety instructions for operation. The comparative higher mean value i.e. 2.967 lies in Corona Remedies Pvt. Ltd which shows that employees of that very company are more satisfied with safe operating procedures. However, comparatively lower mean value i.e. 2.667 lies in Alchemist ltd.

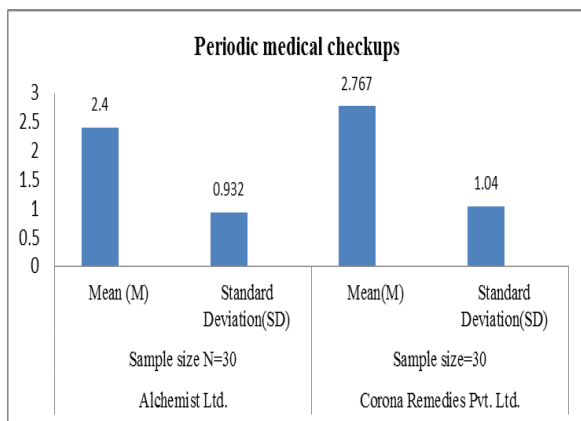


Figure 2 Periodic Medical Checkups

From figure 2 the mean values of periodic medical checkups of employees can be observed. The results showed that the employees of corona ltd. are more satisfied with the periodic medical checkups as comparatively higher mean value i.e. 2.767 lies in Corona Remedies Pvt. Ltd.

Whereas, the mean value of Alchemist Ltd. is 2.400 which is comparatively low.

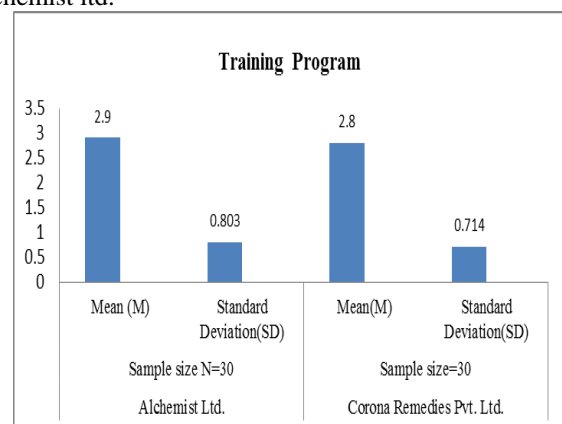


Figure 4 Training Program

Figure 4 observed the data related to the training program conducted at company for health and safety measures related to occupation. The results showed that the higher mean value i.e. 2.9 lies in Alchemist Ltd. which signals that the employees of Alchemist Ltd. are more satisfied with the training program as compare to the responses of Corona Remedies Pvt. Ltd where mean value is 2.8.

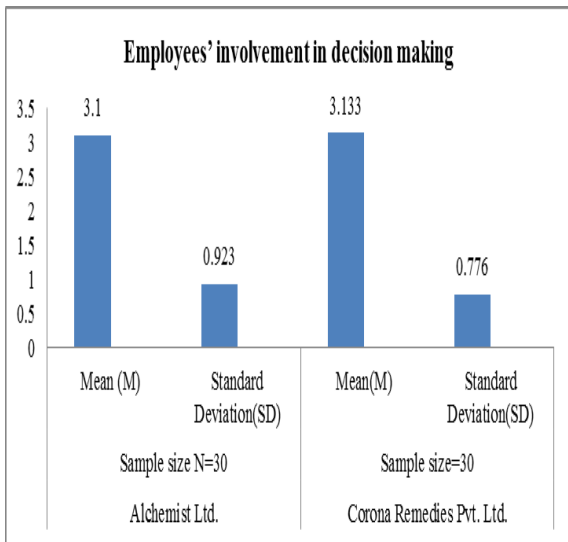


Figure 5 Employees' involvement in decision making

Figure 5 illustrates the involvement of workers in decision-making on health and safety issues at work. The results are almost same of both the companies there is a slight difference in the mean values i.e. 3.1 for Alchemist Ltd. and 3.133 for Corona Remedies Pvt. Ltd. which shows the employees of both the companies are equally satisfied with their involvement in decision making.

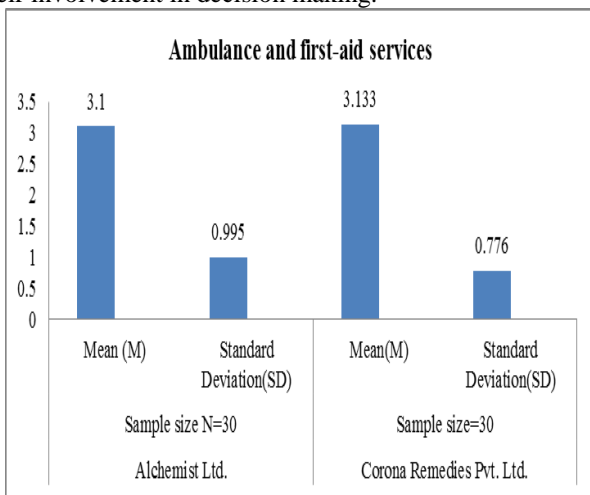


Figure 6 Ambulance and first-aid services

Figure 6 showed the ambulance and first-aid services provided at the workplace. The results are almost same of both the companies there is a slight difference in the mean values i.e. 3.1 for Alchemist Ltd. and 3.133 for Corona Remedies Pvt. Ltd. which shows the employees of both the companies are equally satisfied with ambulance and first-aid services.

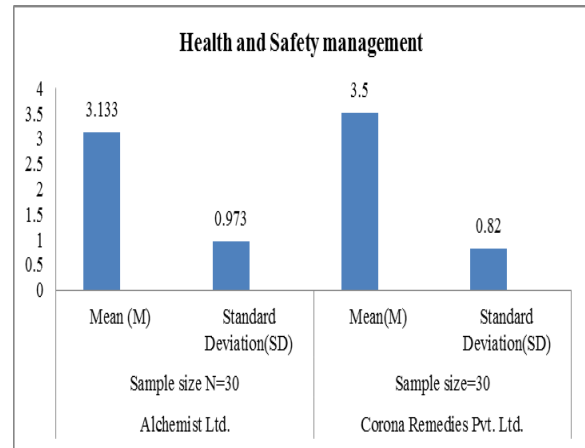


Figure 7 Health and safety management system

Figure 7 illustrates the health and safety management in the workplace. The results showed that the higher mean value i.e. 3.5 lies in Corona Remedies Pvt. Ltd. which shows that the employees of that company are comparatively more satisfied with the health and safety management system. Whereas, the mean value of Alchemist Ltd. is 3.133 which is comparatively low.

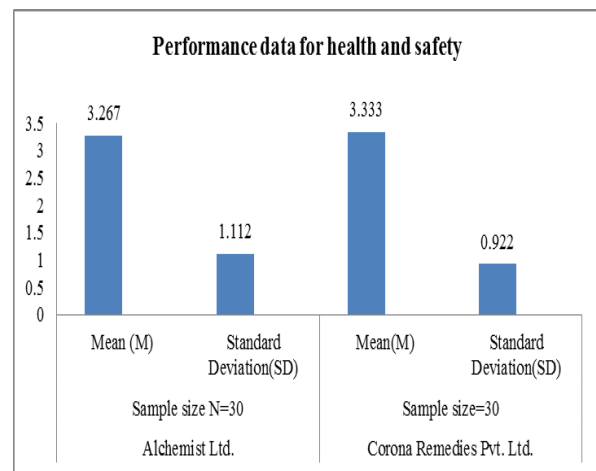


Figure 8 Performance data for health and safety

Figure 8 revealed the mean values related to the system that records and analyzes performance data for health and safety. There is very slight difference between the mean values of both the companies i.e. 3.267 for Alchemist Ltd. and 3.333 for Corona Remedies Pvt. Ltd. which means the employees of both the companies are equally satisfied with the system that records and analyzes performance data for health and safety. It can be noticed that Alchemist has emerged highest on the statements, the system that records and analyze the health and safety performance statistics (M=3.333) and (SD=1.112), the occupational health and safety management that is proceeding in the company (M=3.133) and (SD=0.973). Irrespective of the companies the results also pointed out that all the employees are least satisfied with the written occupational health and safety policy i.e. for Alchemist (M=2.3667) & (SD=1.06620) and Corona Remedies Pvt. Ltd. (M=2.7667) & (SD=1.04000). Results show that employees are pleased with periodical health and safety inspections in the job place, while some of them reject such practices.

Therefore, it may be said that senior managers regularly monitor employees to determine the health status of their current employees. The results show that a relatively large number of workers have agreed to use a standard checklist for health and safety inspections to conduct OSH inspections, while there are few workers who do not have this equipment in the workplace. It can be deduce that the organization has taken the right steps to manage the standard checklist in the organization.

All the workers agreed that companies provide a facility in which every worker has the right to report hazards at their workplace. It can therefore be concluded that senior management would also like to take the initiative to report to senior management if it feels insecure or vulnerable in one area. The results showed that a relatively large no. of workers felt that there was a health and safety committees in the companies. It can therefore be concluded that the assessment and emphasis on worker safety and health appear to be orderly and systematic. A large number of workers accepted that they were included in decisions related to health and safety at work. Only a few employees have rejected such employee participation. Therefore, it can be concluded that employee participation is good in the companies. Most of the workers agree that health and safety representatives are elected, and employees are more satisfied with this aspect. It can be concluded, therefore, that elected officials act as health and safety inspectors. All employees agree that their company has not been found responsible for workplace safety mistakes. It can be deduced that the management adheres to various principles regarding health, safety and health. Regardless of the companies, the result also shows that most of the employees are dissatisfied with the rules set out for health and safety in the workplace. High values were obtained for several observations from Corona Remedies Pvt. Ltd.

V. CONCLUSION

From the finding it was concluded that the employees are pleased with periodical health and safety inspections in the job place, and the senior managers regularly monitor employees to determine the health status of their current employees. The finding also revealed that a relatively large number of workers have agreed to use a standard checklist for health and safety inspections to conduct OSH inspections, while there are few workers who do not have this equipment in the workplace. It can be deduce that the organization has taken the right steps to manage the standard checklist in the organization. All the workers agreed that companies provide a facility in which every worker has the right to report hazards at their workplace. It can therefore be concluded that senior management would also like to take the initiative to report to senior management if it feels insecure or vulnerable in one area. The results showed that a relatively large no. of workers felt that there was a health and safety committees in the companies. It can therefore be concluded that the assessment and emphasis on worker safety and health appear to be orderly and systematic. A large number of workers accepted that they were included in decisions related to health and safety at work. Only a few employees have rejected such employee participation. Therefore, it can be concluded that employee participation is good in the companies. Most of the workers agree that health and safety representatives are elected, and employees are more satisfied with this aspect. It can be

concluded, therefore, that elected officials act as health and safety inspectors.

All employees agree that their company has not been found responsible for workplace safety mistakes. It can be deduced that the management adheres to various principles regarding health, safety and health.

Regardless of the companies, the result also shows that most of the employees are dissatisfied with the rules set out for health and safety in the workplace. High values were obtained for several observations from Corona Remedies Pvt. Ltd.

REFERENCES

1. Cooper, M. D. and Phillips, R. A. (2004). Exploratory analysis of the safety climate and safety behaviour relationship. *Journal of Safety Research*; 35:497-512.
2. Haldiya, K. R., Sachdev, R., Mathur, M. L. and Saiyed, H. N. (2005). Knowledge, attitude and practices related to occupational health problems among salt workers working in the desert of Rajasthan, India. *Journal of occupational health*, 47(1):85-88.
3. Karkoszka, T. and Szwieczek, D. (2007). Occupational risk assessment in the process of continuous steel casting. *Journal of Achievements in Materials and Manufacturing Engineering*, 24(2): 207-210.
4. Yusof, I. M. (2008). Application Occupational Safety And Health In Industry Case Study: CCM Fertilizers SdnBhd (Doctoral dissertation, UMP).
5. Wigmore Dorothy. (2009). Occupational health and safety hazards for women working in the pharmaceutical industries. *Women and Health Protection*, 8:10-40.
6. Katsuro, P., C. T. Gadzirayi, M. Taruwona and Suzanna Mupararano (2010). Impact of occupational health and safety on worker productivity: A case of Zimbabwe food industry. *African Journal of Business Management*, 4(13): 2644-2651.
7. Leilanie J. (2011). Occupational health and safety of women workers: Viewed in the light of labour regulations. *Journal of International Women Studies*, 12(1):1-12.
8. Makori, E. M., Thuo, J. K. and Wanyama, K. W. (2012). Influence of occupational health and safety programmers on performance of manufacturing firms in Western Province, Kenya. *African Journal of History and Culture*, 4(4):46-58.
9. Mavis, I, Rahman, A. A. and Tamrin, S. B. H. M. (2015). Occupational hazards and work environment management among Osh certified and uncertified automotive parts manufacturing industry workers. *Middle-East Journal of Scientific Research*, 23(2): 160-164.
10. Kaynak, R., Toklu, A. T., Elci, M. and Toklu, I. T. (2016). Effects of occupational health and safety practices on organizational commitment, work alienation and job performance: Using the PLS-SEM approach. *International Journal of Business and Management*, 11(5), 146-166.

AUTHORS PROFILE



Shivani Khanna is pursuing MBA in Human Resource Management from Department of Management, Eternal University, Baru Sahib, Himachal Pradesh. Currently, She has submitted MBA thesis and awaiting for viva-voice. She did Bachelor degree in Business Administration (BBA) from University College of Business Studies, Shimla, Himachal Pradesh, India.



Geeta Kumari is working as Assistant Professor, in Management Department at Eternal University, Baru Sahib, Himachal Pradesh, She has submitted Ph.D thesis in the area of Human Resource Management from Jharkhand Rai University. She did M.Phil in Management in the year 2010 from Chaudhary Devi Lal University, Sirsa Haryana, India.

Occupational Health and Safety of Workers in Pharmaceutical Industries

She did Master in Business Administration (MBA) in Human Resource Management in the year 2007 from Punjab Technical University, Jalandhar, India. She also did M.Sc in Chemistry from Department of Chemistry, Assam University, Silchar, Assam. She is having teaching experience of more than six years. She has more than 30 publications in International and National Journals and Conferences.



Dr. Hemant Bhanawat has completed his PhD in Commerce in 2017 from Pacific Academy of Higher Education and Research (PAHER) University, Udaipur, India. Prior to this he has done his Masters in Commerce with specializing in Accountancy and Statistics from Mohan Lal Sukhadia, University, Udaipur in 2012 and he has also done Master degree in General Commerce from Janardan Rai Nagar Rajasthan Vidyapeeth (Deemed to be University), Udaipur in 2018. He has also completed Master in Business Administration from Sikkim Manipal University (Distance Education) in 2012. The research and teaching interests have been fostered by 4 years of post-graduate teaching He has published more than 25 research papers in International Journals and Conference. Currently, He is working as Assistant Professor in Finance and Accounting at Birla School of Commerce, Bhubaneswar, Odisha, India.



Prof .K .M. Pandey did Ph.D in 1994 from Department of Mechanical Engineering IIT Kanpur, India in 1994. Currently he is working as Professor of Mechanical Engineering at National Institute of Technology, Silchar, Assam in India since May 2006. He obtained B. Tech in Mechanical engineering from BHUIT Varanasi in 1980 and M. Tech in Heat Power engineering in 1987 from the same Institute. He has authored more than 115 research papers in Scopus indexed Journals and Conferences. He has also authored 6 books and 9 book chapters. Currently he is working in the area of CFD analysis of combustion phenomena in Scramjet Engines and CFD analysis of heat transfer in nuclear reactors. He has also served as seconded faculty consultant at CPSC, Manila, Philippines in 2002. He has served NIT Silchar as Dean Faculty welfare and Dean Research in the year 2011 and 2012. He has served as Head of Department for two terms of 3 years. He is taken as member of BOG, NIT Silchar twice. He is fellow of Institution of Engineers India and member of ASME. He is life member of Welding Society of India and life member of Fluid Mechanics and Fluid Power Society of India.