A Study on Work Safety among Lab Employees in One of the Leading Hospitals, Gobichettipalayam

Ms. Suji U.[1] Ms.Rubika.S[2]
[1]Assistant Professor [2]Student
[1,2]Dr.NGP Arts and Science College, India

Abstract— For both lab workers and the patients they treat, protecting laboratory employees from workplace injuries and illnesses is vital. Healthy and well-rested lab personnel are crucial for ongoing monitoring, compassionate patient care, and effective advocacy. In laboratory settings, there are a variety of workplace stressors that can lead to illnesses and injuries. Throughout the day, lab personnel must meet significant physical and psychological demands, as well as work in a potentially hazardous setting. Working in a lab can be hazardous to one's health in the short and long term. Among the health impacts include musculoskeletal injuries and disorders, other injuries, infections, mental health changes, cardiovascular, metabolic, and neoplastic diseases. The goal of this paper is to investigate the workplace safety of lab workers in the chosen location. A questionnaire was framed and circulated to the employees of that hospital in order to study the extent of work safety among Lab employees. The expected outcome of this paper is the improvement in already existing workplace safety for lab workers in the hospital. The findings are also expected to pave the way for future research work.

Keywords: Work, Health, Sleep, Risk, Care

I. INTRODUCTION

Lab staff' safety from workplace-related accidents and diseases is crucial for both lab employees and the patients they serve. To provide vigilant monitoring, empathic patient care, and aggressive advocacy, lab personnel must be healthy and well-rested. In lab work environments, there are numerous workplace stressors that can cause diseases and injuries. Factors relating to the immediate work context, organisational features, and changes occurring outside the company but throughout the health care industry are among the stressors.

A. Long Work Hours and Shift Work

Shift work, according to researchers, has negative consequences by disrupting circadian rhythms, sleep, and family and social life. Circadian rhythm disturbances can lead to shorter and shorter days.

B. Sleep, Drowsiness, Performance, and Security

Long-term insomnia and excessive sleepiness were reported by 32 percent of night workers (the majority of shift hours between 9 p.m. and 8 a.m.) and 26 percent of rotating shift workers (shifts that change periodically from days to evenings or nights) who were unable to adjust their sleep adequately on these shifts, according to Drake and coworkers.

C. Musculoskeletal Accidents

Few businesses in the United States have witnessed more dramatic transformations than health care in the last decade. Health-care reforms, such as restructuring and redesign, have put more pressure on lab workers and other health-care professionals. Musculoskeletal injuries and disorders have been linked to extended schedules and higher work tempo, as well as greater physical and psychological demands (MSD).

D. Medications

Many drugs and chemicals used in personal care products have been linked to serious health problems. Daughton and Ternes reviewed them thoroughly and provided a detailed assessment of the evidence of environmental and human dangers connected with these substances. Although numerous medications can be hazardous to workers, antineoplastics and anaesthesia are the most widely identified as being hazardous to health care employees. Anesthetic gases have been highlighted as a specific source of concern since they can escape into the air and be swallowed by employees.

II. REVIEW OF LITERATURE

According to Abdulkarim Hasana, Osama Abbadic(2020), laboratory employees handled more than 80% of the forms within 24 hours, posing a high risk of viral transmission. It is suggested that paper-based request forms be replaced with electronic requests that can be printed in the lab if necessary. Another alternative is to disinfect received documentation to safeguard laboratory personnel's safety. More research is needed to establish the stability of SARS-CoV-2 on various surfaces and the risk of COVID-19 transmission through paper.

According to Sai Sudha Mahajan, Abilasha Ramasubramanian, Pratibha Ramani(2021), numerous sorts of hazardous occurrences occur on a regular basis in a pathology lab, therefore developing a risk management system to control exposure to risks in the lab is critical.

The purpose of this study, according to Silvia González(2021), was to investigate the prevalence of work-related musculoskeletal complaints in laboratory technicians, their relationship to personal and organisational characteristics, and the lack of specific training on work-related risks. Methods. A sample of 460 Spanish laboratory technicians completed a standardised Nordic questionnaire tailored to the Spanish population, as well as a survey of sociodemographic characteristics and organisational elements.

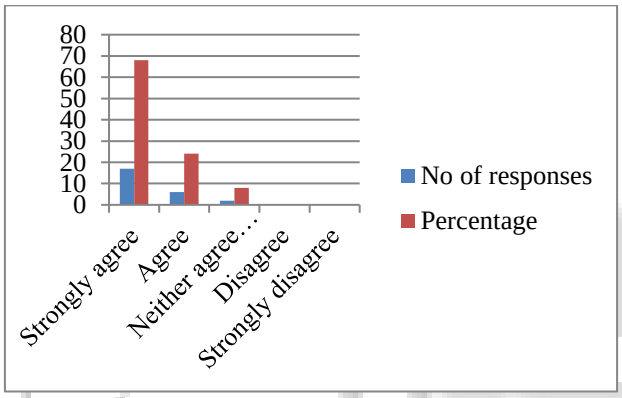
According to Khadija Tahira, Khunsa Junaid, Hassan Ali, and Saira Afzal (2020), the current study showed a significant prevalence of several forms of occupational hazards. Laboratory workers were frequently injured by needles and were exposed to HBC and HCV infections. As a result, a monitoring system should be in place to provide accurate information about occupational dangers and needle stick injuries. Important stakeholders must be consulted.

III. METHODOLOGY

This is an experimental study that focuses on the lab workers at the chosen hospital and their workplace safety knowledge. To acquire data, simple random sampling is employed. There were about 25 lab employees at the hospital, and 25 data points were collected using Morgan's table with95% confidence and 5% error. A questionnaire was constructed for this purpose, ensuring that the research questions appropriately reflect the researcher's objectives and providing direction and structure to the investigation. As a result, the survey instrument is a two-part structured questionnaire. The first section contains demographic questions such as gender, experience, and designation, while the second section contains sixteen questions that assess the lab employees ' knowledge of workplace safety.

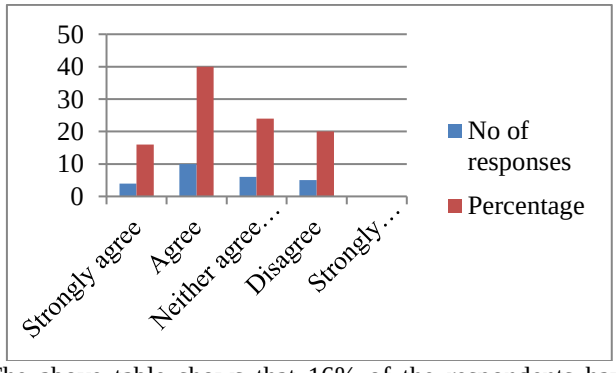
IV. ANALYSIS

A. Chart showing the respondent's opinion towards statement "Proper training has been given to handle with all chemicals"



The above table shows that 68% of the respondents have graded as strongly agree for the statement that Proper training has been given to handle with all chemicals, 24% of the respondents have graded as agree and 8% of the respondents have graded as Neither agree nor disagree.

B. Chart showing the respondent's opinion towards statement "Personal work space is available for each person in the laboratory"



The above table shows that 16% of the respondents have graded as Strongly agree for the statement that Personal work space is available for each person in the laboratory, 40% of the respondents have graded as somewhat agree, 24% of the respondents have graded as neither agree nor disagree and 20% of the respondents have graded as disagree.

V. CORRELATION

		Proper training has been given to handle with all chemicals	Persona work space is available for each persons in the laboratory
Proper training has been given to handle with all chemicals	Pearson Correlation	1	.002
	Sig. (2-tailed)		.719
	N	24	24
Persona work space is available for each persons in the laboratory	Pearson Correlation	.002	1
	Sig. (2-tailed)	.719	
	N	24	24

The above table shows the correlation value is 0.002, hence positive correlation is found and alternative hypothesis is accepted

VI. MAJOR FINDINGS & RECOMMENDATIONS

1) Among the laboratory employees 16%of the respondents have graded as Strongly agree for the statement that Personal work space is available for each person in the laboratory, 40% of the respondents have graded as somewhat agree, 24% of the respondents have graded as neither agree nor disagree and 20% of the respondents have graded as disagree.
2) Among the laboratory employees 48% of the respondents have graded as strongly agree for the statement that Chemical containers are kept with adequate protection in the laboratory, 28% of the respondents have graded as agree, 20% of the respondents have graded as neither agree nor disagree and 4% of the respondents have graded as disagree.
3) Among the laboratory employees 56% of the respondents have graded as strongly agree for the statement that Proper training has been to deal with chemicals and equipment, 36% of the respondents have graded as agree, 4% of the respondents have graded as neither agree nor disagree and 4% of the respondents have graded as disagree.

VII. SUGGESTIONS

1) Make sure that everyone in the lab is up to date on all protocols and rules. To examine potential safety threats, use a checklist like this one from the Association of Public Health Laboratories. It's more important than ever to review your lab's safety policies. Update your lab's protocols if they need to be modified, whether it's due to the novel coronavirus or just because it's time.
2) Laboratory management should keep an eye on any workplace aggression directed at lab employees by

coworkers or patients. Ascertain that employees are informed of company policies and rights so that they can utilise them if necessary.

3) Locate safety showers, eyewash stations, and fire extinguishers throughout the laboratory.
4) Long hair and loose clothing must be pulled back and secured from entanglement or potential capture.

VIII. CONCLUSION

This study demonstrates the need of combining occupational health and safety concerns, work-life balance, and job transitions to reduce attrition and promote laboratory employee health and safety. The advantages of improving lab worker safety are significant, both in terms of maintaining current lab staff and attracting new lab workers. Excessive work hours, for example, can harm lab personnel' health, which can have a negative impact on patient treatment. Many facilities are making significant financial and system-level investments to improve patient safety, therefore it's critical to use these efforts to improve worker safety as well. In the long run, these advancements will help patients as well, as they will increase lab safety.

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