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Knowledge and Practice of Lab Technicians regarding Universal Work Precaution in a Tertiary Care Centre

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ABSTRACT

Introduction-The workers in laboratories are faced with many occupational risks and hazards as they are exposed to many pathogens and his or her health may be severely affected if adequate preventive or protective measures are not taken. They handle blood or any biological sample and maybe at risk for accidental injury or exposure.

Aim and Objectives-To study about knowledge and practice of lab technicians regarding universal work precaution. This study was conducted at our tertiary centre at N.K.P. Salve Institute of Medical Sciences & Research Centre and Lata Mangeshkar Hospital Digdoh Hills, Hingna Road, Nagpur between March 2020 to June 2020.

Materials and Methods-45 participants had filled the study questionnaire comprising of 10 questions each with response rate of 94%.

Result- Our study was successful as majority of technicians were aware and followed universal work precautions diligently.

Conclusion-We concluded from the study that technicians were well aware of universal work precautions and if given proper training in regard to universal work precaution in the form of CME and by providing them books that encapsulate the above topic they will be more benefitted.

KEYWORDS: occupational risks, questionnaire, CME, hazard, pathogens, tertiary centre.

CITATION OF THE ARTICLE



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I. INTRODUCTION

Biosafety is important concern especially in developing countries where Standard operating procedures [SOPS] are lacking. There are different sources and actions in labs that can lead to biological and chemical hazards including exposure to aerosols, spills, splashes, acid, needle prick, cuts from sharp objects. Biosafety during work and handling laboratory materials is important for prevention of laboratory acquired infection^[1] Without laboratory standard precautions and proper training of hospital staff the lab environment can be hazardous^[2]. Although awareness among health workers in developed countries is increasing the situation is quite different in developing countries^[3]. The lack of knowledge of biosafety issues leads to improper handling and practice during sample collection processing and discarding potentially exposing staff to pathogens^[4]. Further more such practices reduce the quality of laboratory services. Previous reports in developing countries showed poor awareness and practices of biosafety^[5]. Ours is a tertiary level centre and due to large number of patients in our hospital we want our technicians to be experts in knowledge and practice of universal safety as they are exposed to many infectious materials. Studies on this subject are conducted are very less so we decided to conduct this particular study .

II. METHODS

A descriptive cross sectional study was conducted among all lab staff (n=45) who were involved in processing laboratory samples. They were also scored on biohazards and biosafety. Their knowledge was tested by improving their vision concerning this subject as knowledge of universal work precaution is responsibility of all doctors, lab technicians, management and administrators of the institution.

Central pathology lab of NKP SIMS and RC was chosen where large number of technicians work and a questionnaire of 10 questions on the above subject was given to them after taking consent . All technicians answered to the questionnaire given. All returned Questionnaire were analyzed in computer using Epi-Info software.

III. DATA

Collected between march-june 2020 using self administered semi structured questionnaire. We distributed the questionnaire to the participants, collected necessary data and reviewed the completed questionnaire. Informed consent was obtained from all the participants. Closed ended questions were given to them. 45 lab technicians were included in the study.

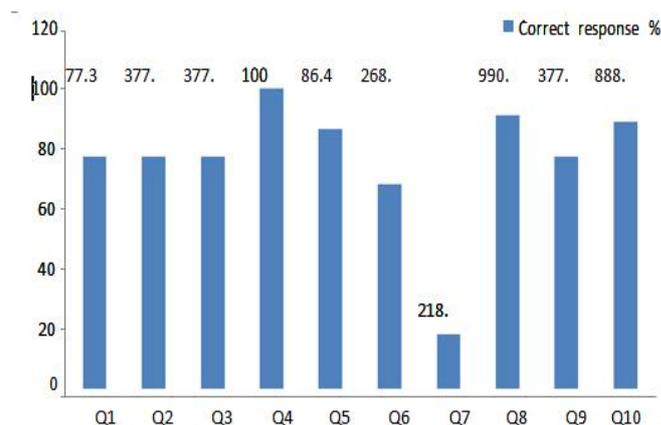
The questionnaire was first tested on 5 respondents who were not included in the study and necessary changes were made. Question 1 and 2 included lab safety outside lab and about the protective clothing.

Question 3 and 4 included physical hazards and knowledge about causes of fire in lab, next question included what things are included in PPEs.

Their theoretical assessment was done by question 6 and 9 which was regarding material safety data sheet. Whether all specimens should be treated as potential hazards in lab was included in question 7, whether they experienced torn gloves was included in 8th question and training of fire extinguisher was included in question 10th.

One questionnaire included all the answers was given. The questionnaire was developed on available guidelines, standard practices and also based on literature .The items included handling of infectious wastes and managing of contaminated waste. Data was entered in an excel sheet.

Each correct answer was given 1 point and 0 for wrong answer or I don't know answer. The total score on 0 to 10 was calculation of percentage who answered correctly was derived. 77.3% answered Q1,Q2,Q3 correctly, 100% answered Q4 correctly,86.4% answered Q5 correctly,68.2% answered Q6 correctly.,18.2 % answered Q7 correctly ,90.9% answered Q8 correctly ,correct response for Q9 was by 77.3 % . After that statistical analysis is done.



IV. STATISTICAL ANALYSIS

Result-The Results were very promising and most of the technicians were well aware of the practices regarding universal work precaution as seen above .

V. DISCUSSION

As pathology lab is an important section any hazard requiring assessment should be identified. From the above study it was seen that lab technicians had a good knowledge of the safety precautions. They took good care about the universal precaution which have to be followed due to which they are protected from infectious diseases and also from accidental injuries such as fire, electrical burns. Due to their awareness they follow safety rules and update themselves with latest knowledge about lab safety and universal work precautions. Though they had good knowledge of the above subject their knowledge needs to be upgraded by providing them literature on the subject and sensitizing them by holding talks on the above subject. Our study was contradictory with similar study Knowledge, attitudes and Practices of laboratory technicians regarding universal work precautions by Jitendra Zaveri. This study had concluded that the Knowledge, attitudes perception with universal work precaution among laboratory technicians is low. In this study 81.5% wore single pair of gloves and 82% did not feel use of masks is necessary. We thought that we need to upgrade their knowledge on handling of samples as some technicians thought they needed to be handled carefully but was not a potential hazard. Some were confused about the books which needed to be referred for their practices and we thought we needed to make them aware in this field. They were cautious about the use of gloves which was a good thing. They very well knew the physical hazards and also about the causes of fire in lab and also about the fire extinguisher. They always put on a white coat due to which they are protected from spillage, and other hazards. We were also concerned about the lack of knowledge of some of them in regard to lab safety which starts before entering lab and starting lab work. We are satisfied that they are equipped with good knowledge as it is a vital component necessary to effectively carry out their work. We are also aware that they upgrade their knowledge by reading books.

VI. CONCLUSION

From the above study we concluded that majority of lab technicians in our hospital were equipped with good knowledge of attitudes of lab technicians in regards to universal work precautions. But they should adopt innovative strategies to upgrade their knowledge. This study demonstrates a positive perception of lab technicians regarding universal

work. It is the need of the hour that we lend them whatever help they need in this matter.

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