



UNIVERSAL WORK PRECAUTIONS AMONG HEALTH WORKERS IN PRIVATE INSTITUTES.

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ABSTRACT

Objective: Aim of the present study was to evaluate the awareness of health workers about universal work precautions and implementation of their knowledge in private institutes of Latur. Methodology Cross-sectional study of health workers was conducted using a self-administered questionnaire, which enquired about knowledge, attitude and practices of universal work precautions. Results: 210 questionnaires were sent to health workers and 150 of them were returned giving a response rate of 72%. 96% of the participants were aware of universal work precautions. Out of 150 participants 53.33% were injured while working and 68.75% of them used the first aid box. All the participants wore gloves during laboratory work but 53.43 % wore a single pair. 47.94 % of the participants claimed to know what to do if exposed to infection. 5.33% of the participants ate in the laboratory, 2.22% of them stored foods and water in the refrigerators, 2.22% of them put on cosmetics in the laboratory. 61.33% were immunized against hepatitis B virus (HBV). 47.94% of them did take shower immediately after laboratory work. 58.0% of the participants did not feel that the use of masks is necessary at the place of work. Conclusion: The knowledge, attitude and practical implementation of universal work precautions amongst health workers is poor.

KEYWORDS: Universal Work Precautions, Health workers, knowledge, attitude and Practices.



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INTRODUCTION

The Centers for Disease Control (CDC) has published recommendations for preventing HIV (and other blood borne pathogens) transmission in health-care settings, commonly called as "universal precautions"^[1]. This approach emphasizes the consistent use of blood and body fluid* precautions for all patients because the infectious potential for blood and other body fluids is not always known. The following recommendations have been developed for use in health care settings. Many of these recommendations are also applicable in research labs where work with blood or other body fluids is being conducted. Generally, the workers in laboratories are facing many occupational risks at work and his/her health and safety should be maintained by taking adequate preventive protective measures. These hazards can be physical, chemical and biological. To prevent these occupational hazards in laboratories it requires a thorough knowledge of the risks and practical measures to be taken. Laboratory workers should be familiar with "universal work precautions," defined by Center for Disease Control. Universal work precautions apply to blood, other body fluids containing visible blood, semen and vaginal secretions. Universal work precautions also apply to tissues and to the following fluids: cerebrospinal, synovial, pleural, peritoneal, pericardial and amniotic fluids. Universal work precautions do not apply to nasal secretions, sputum, sweat, tears, urine and vomitus unless they contain visible blood. Universal work precautions involve the use of protective barriers such as gloves, gowns, aprons, masks, or protective eyewear, which can reduce the risk of the health workers. In addition, it is recommended that all the health care workers should take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices. Jitendra zaveri et al have brought forth the universal work

precautions in lab.^[2] Laboratory technicians are exposed to a large pool of specimens from patients suffering from infections such as HBV and HIV^[3,4] However, they seem to have a poor perception of the risk of infections and are not aware with the basic principles of universal work precautions^[5,6] The purpose of this study was therefore to assess the knowledge about and compliance with universal work precautions amongst health workers in private institutes situated in Latur city of Maharashtra(INDIA).

MATERIALS AND METHODS

This cross-sectional study of health workers was conducted at private institutes of Latur(one medical college and five laboratories.) Only health workers directly involved with the work were participated in the study. Institutes were selected considering feasibility and response from the management. Total 210 questionnaires were sent to health workers.150 questionnaires were sent to health workers of medical college and 60 questionnaires were sent to other 5 laboratories. Only 110 questionnaires from medical college and 40 from five laboratories were returned. Self-administered questionnaire was prepared by using guidelines on universal work precautions. This was used to collect data for the study. Information sought included socio-demographic characteristics such as name age, sex, duration of working experience and background on biohazards. Attitude and practices of participants were included in the study. Participants were also scored on some items on biohazards and biosafety. Furthermore, participant's knowledge on the subject was sought by inquiring what they would do if they sustained injuries in the laboratory. The Hepatitis B status for vaccination was determined. All the returned questionnaires were analyzed by sorting

them separately for each question. This was totally done manually. The percentages were calculated by using calculator.

RESULTS

Total 210 questionnaires were sent out and 150 of them were returned (110 from medical college and 40 from private laboratories) giving a response rate of 72%. 95 male and 55 female participated in the study. The mean age was about 34 ± 8.5 and a mean working experience of 9.2 ± 5.85 . 62.66 % of the participants had worked for less than 10 years. Regarding awareness about Universal work precautions, Table 2 shows that 95.33% (n=143) of the participants had heard of about the awareness. 53.33% (n=80) of the

participants had injury . The current study shows that only 68.75% of the victims make use of first aid after injury. 66.66% of the participants wear gloves during laboratory work but 53.43% wear a single pair. Of these, 56.17% had experienced torn gloves and claimed that they were changed as soon as they were noticed. Total 62 (41.33) health workers used mask while 72 (47.94) health workers used white coats regularly. 100% of the participants were aware of the risk of being infected with blood born infections after injury in laboratory and could recognize HBV and HIV as potential workplace exposures. Importance of prophylactic measures to be taken on the event of injury was known to only 47.94% participants. Results are shown in table 1 and table 2

Table 1
Demographic characteristics of health workers

Demographic characteristics	Number (%)
Age (years)	
20-29	78 (52)
30-39	37 (24.66)
40-49	33 (22)
50-59	02 (1.33)
>60	00 (0)
Sex	
Male	95 (63.33)
Female	55 (36.66)
Work experience in laboratory (yrs)	
1-10	94 (62.66)
11-20	49 (32.66)
21-30	07 (4.66)
>30	00 (00)

Table 2: Awareness of health workers about universal precautions.

Occupational hazards and preventive Measures.	Numbers (%)
Aware of Universal Work Precaution	143 (95.33)*
Immunized against Hepatitis B	92 (61.33)
Injury while working	80 (53.33)
Used first aid after injury	55(68.75)**
Wearing of gloves For all procedure	100 (66.66)
Wearing Single pair of gloves	80 (53.43)
Experienced torn gloves	84 (56.17)
Awareness of the risk of being infected	150 (100)
Eating in Laboratory	8 (5.33)
Storage of food and water in refrigerator	4(2.22)
Putting on of cosmetics in laboratory	4 (2.22)
Smoking in Laboratory	0 (0)
Cutting the fingernails with teeth in lab	0 (0)
Take shower immediately after lab work	72 (47.94)
Put on face masks	62 (41.33)
Put on white lab coat	72 (47.94)
Knowing that prophylaxis measures to be taken in the event of injury or exposure	72 (47.94)

*Only 41% of these could correctly state its objective.

** Percentage of those who had cuts while working.

DISCUSSION

The health workers are not totally aware of the universal work precautions. This awareness is 95.33%, which is 20.8% in the study of Jitendra zaweri et al. But the implementation of preventive measures was poor. The attitude and practice of the laboratory health workers towards universal precaution is not serious. Immunization against hepatitis B was 61.33% in our study, which was 8.5% in the study of Jitendra zaweri et al. Out of 150 participants, 80 were injured while working, but only 55 (68.75%) of them used the first aid box, while in the study of Jitendra zaweri et al 28.78% participants used it. The reasons proffered for the under utilization of the first aid boxes are that they are mere window dressings and as such they are ill equipped, poorly managed . 66.66% health workers use gloves for all

procedures and 53.43% use single pair of gloves. In the study of Jitendra et al 100% workers use gloves for all procedures and 81.27% participants use single pair of gloves. This is an interesting finding that being aware of knowledge, the implementation of it in practice was poor in our study. Torn gloves were experienced by 56.17%. Awareness of risk of being infected was 100% in our study, still attitude was not serious. 5.33%of health workers ate in the laboratory. Jitendra et al study shows that 45.6% of health workers ate in the laboratory and this is comparable with 41.0% rate observed amongst laboratory scientist in Ibadan, Nigeria^[7] and greater than 5.6% amongst workers in Lagos State Emergency Services (LASEMS) in Lagos. Use of refrigerator for storing water and food was observed in only 2.22%

participants, while no one smokes at work place; which is 47%,31.5%and 12.07% respectively in the study of Jitendra zaveri et al. The ultimate responsibility for laboratory safety within an institution lies with its Superintendent, who, along with all immediate associates should have a continuing, overt, commitment to the safety program. It has been shown that perception of senior management support for safety programmers was the most significant factor influencing compliance with infection control and reducing exposure incidents^[8,9,]. On oral information, we observed that 20% of them were knowledgeable about post exposure prophylaxis, which is comparable with 17.5% in the study of Jitendra et al, with 8.0% as obtained amongst British surgeons ^[10] and 10% as recorded at LASEMS in Lagos. It has been reported that health workers are generally not aware of what form of prophylaxis measures to be taken in the event of exposure to blood and body fluids. Many needle and sharp injuries can be avoided with proper knowledge and good practice. The incidence of infection with HBV has declined in health care workers in recent years, largely due to the widespread immunization with hepatitis B vaccine. In many health facilities, even though the personnel are vaccinated, the seroconversion status after vaccination is not assessed. The CDC recommendation is to test for antibody after completion of three injections of HBV vaccine, and if negative, give a second three dose vaccine and test again anti-HBsAg antibodies. If there is no antibody response, no further vaccination is recommended. If an employee has a blood exposure to a patient known or suspected to be at high risk of HbsAg sero-positivity, he should be given HBIGx2 (one month apart) or

HBIG and initiate revaccination. It has been reported that health workers are generally not aware of prophylactic measures to be taken in the event of exposure to blood and body fluids. The study of K.VAS, D. McGrowder et al shows positive results^[11]. In their study, majority of health care workers were aware of universal work precautions and their implementation. Dr.B BRewari has mentioned about universal work precautions and post exposure prophylaxis^[12]

CONCLUSION

Health worker's knowledge and compliance with universal work precautions is poor. Suggestions to improve deficiencies identified include, elaborate training on universal work precautions, commitment to safety work practice by hospital management. Vaccination of staff against hepatitis B should also be done while guidelines for post prophylaxis should be widely disseminated. In spite of the sufficient knowledge, one lacks serious attitude towards the problem at times. So a part of training should include, how to make a proper change in attitude. Change in attitude is must, otherwise it will increase the risk of spreading infection not only to health workers themselves but also to others.

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