Original Research Article

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A study on awareness of universal precautions among house surgeons

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ABSTRACT

Background: Health-care workers are at risk of many infections at their workplace through airborne, blood borne, fecal-oral transmission and direct contact. Universal precautions are not well understood or implemented by health care practitioners. The knowledge and understanding of UPs among HCWs in developing countries is inadequate. The study was done to assess the awareness of universal precautions among the house surgeons and knowledge about precautionary measures.

Methods: The present questionnaire based cross sectional study was carried out on the house surgeons who were posted in the department of community medicine, KLE University's J N medical college, Belagavi. A total of 136 house surgeons were interviewed. Pretested, pre designed multiple response type questionnaire were administered to them

Results: Out of 136 study participants, 118 (87%) have heard about the term universal precautions, 118 (87%) self protection against body and blood fluids. 113 (83.1%) have correctly answered about precautionary measures for internal body fluids. Disposal of sharp items, 117 (86.1%) have told puncture proof container should be used, 128 (94.1%) have answered to use gowns, face mask to avoid splashing of blood while doing procedures. and 100 (73.5%) have told to apply universal precautions even on HIV–ve patients.

Conclusions: The awareness about universal precautions among the study subjects was good in some aspects but not satisfactory in many others.

Keywords: Universal precaution, House surgeons, Health care workers, Exposure

INTRODUCTION

One of the serious problems of health care workers today, is the risk of occupational exposure to blood-borne pathogens such as HIV, HBV and HCV. WHO has estimated that about 4.4% of HIV cases, 37% of Hepatitis B and about 39% of hepatitis C cases among health service providers worldwide are the result of occupational exposure. Universal precautions (UP) are a "set of precautions designed to prevent transmission of HIV, HBV and other blood borne pathogens when providing first aid or health care". Worldwide, three million HCWs experience percutaneous exposure to blood-borne viruses each year (20,000,00 hepatitis B;

9,00,000 hepatitis C and 300,000 human immunodeficiency virus). Compliance with 'Universal Precautions' has been shown to reduce the risk of exposure to blood and body fluids. All health care workers should have a proper knowledge on 'UP' for the safety of themselves and their patients. Hence the present study was carried out to assess the awareness of universal precautions among the house surgeons and knowledge about precautionary measures.

METHODS

The present questionnaire based cross sectional study was carried out on the house surgeons who are posted in the department of community medicine, KLE University's J N medical college, Belagavi, from 1st to 30th June 2018. A total of 136 house surgeons were participated in the study. Permission from institution ethics committee and the informed consent was taken from the study subjects. Pretested, pre designed multiple response type questionnaire was used to collect data. Data was compiled, tabulated and analyzed using proportions.

Statistical analysis

Data were entered in Microsoft Office excel 2007, compiled and analyzed using Epi Info software, version 3.5.2. Proportions were used for statistical analysis.

RESULTS

From the above table we can depict that, 118 (87%) have heard about the term universal precautions, 125 (92%) about assessment of risk and 118 (87%) self protection against body and blood fluids (Table 1). Out of 136 study participants, 113 (83.1%) have correctly answered about precautionary measures for internal body fluids. Disposal of sharp items, 117 (86.1%) have told puncture proof container should be used, 128 (94.1%) have answered to use gowns, face mask to avoid splashing of blood while doing procedures. 126 (92.6%) have responded to use gloves while handling lab specimens and 100 (73.5%) have told to apply universal precautions even on HIV–ve patients (Table 2).

Table 1: Knowledge of the respondents regarding the term universal precaution.

Indicator	No.	Percentage (%)
Universal precaution		
Heard	118	87
Never heard	18	13
Assessment of risk		
Risk	125	92
Not at risk	11	8
UP means self-protection against,		
All infections transmitted by blood & body fluids	118	86.76
All infections transmitted by air	1	0.73
All infections transmitted by faeco oral route	7	5.14
Don't know	10	7.35
Total	136	100

Table 2: Awareness regarding practice of universal precaution (multiple responses).

Applied for	Correct answer	No	Percentage (%)
All internal body fluids	Yes	113	83.08
All external body fluids	No	45	33.08
Disposal of sharp items	Puncture proof containers	117	86.02
Recapping of needles	Never be done	23	16.91
Procedures with splashing of blood	Using gowns, face masks, goggles etc.	128	94.11
Accidental contact with blood & body fluids	Wash with soap & water	67	49.26
Resuscitation in emergency	Using resuscitation bags	84	61.76
Type of pipette	One with rubber bulb	107	78.67
Using gloves to handle lab specimens	Yes	126	92.64
Apply 'UP' on every patient irrespective of disease	Yes	104	76.47
Apply 'UP' on HIV-ve patients	Yes	100	73.52

DISCUSSION

The result obtained from our study have shown that, knowledge regarding universal precautions is inadequate in some aspects and have to be made more stringent regarding practicing universal precautions while doing procedures in the hospitals. Paul et al study has shown that, 34% were not aware that UPs are required beyond HIV and hepatitis B, 56% had misconception regarding isolation of patients with blood borne pathogens.

Compliance regarding universal precautions was even poor and majority of medical and nursing students were not using goggles when required. 44% of medical students and 62% of nursing students had habit of recapping needles.⁵ Kotwal et al study, showed that in spite of having adequate knowledge, adherence to practices of universal precautions remained poor among most house surgeons.⁶ Study done by Raheem et al have shown that about one third (37%) of the respondents had fair knowledge of universal precautions while 13% had

good knowledge.⁷ Dhaliwal studies have given different opinion regarding universal precautions citing the reason for not following precautionary methods as, time constraints, inconvenience, unavailability of equipment and presumption that the patient was not infected.⁸ Sari et al studies, reports similar findings of poor adherence to universal precautions in spite of high level of knowledge among the respondents.⁹

CONCLUSION

The awareness about universal precautions among the study subjects was good in some aspects but not satisfactory in many others. This low level of awareness may be due to the fact that the concept had not been stressed upon in classroom and clinical teaching. These young doctors are at increased risk of occupational exposure to deadly infections because of their low awareness and desire to do practical procedures.

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