

Original Research Article

A study on awareness regarding universal precautions among medical students of tertiary teaching hospital, Bengaluru

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ABSTRACT

Background: Health care staffs are at increased risk of acquiring various infection as they are exposed to infectious agents at their workplace hence having awareness regarding Universal precautions help them protect themselves and provide better health care services.

Methods: Descriptive study was conducted on 220 medical students of 5th, 7th and 8th term for a period of 2 months. Medical students were selected based on probability proportional to size sampling method. Semi-structured questionnaire was used to interview the study subjects

Results: Assessment regarding awareness on Universal Precautions among Medical students was done by administering questionnaire on Universal Precautions. Awareness on Hand hygiene among medical students was 92% (195/220). 98.1% (208/220) of them had awareness regarding gloves usage, 45.6% (124/220) of them were unaware about safe needle practices.

Conclusions: Medical students lack awareness regarding safe needle practices. They were aware of other aspects such as hand hygiene and gloves usage.

Keywords: Medical students, Universal Precautions, Health care workers, Awareness

INTRODUCTION

Health care associated infection (HCAI) poses a major problem for patient safety as well as health care provider and its prevention must be the first priority for institutions and individuals committed to making health care safer for all concerned. Despite the fact that every healthcare facility has a risk of HCAI for patients or caregivers, it is impossible to determine the global burden due to the lack of reliable data. According to global estimates, there are already more than 1.4 million patients who are impacted.¹ Even more people are affected by HCAIs in

emerging Nations like India. Healthcare professionals are susceptible to contracting infections through occupational exposure, including needlestick injuries (NSIs) and other invasive procedures that increase the risk of contracting hepatitis B virus (HBV) and hepatitis C virus (HCV) and the human immunodeficiency virus (HIV/AIDS) (HCV). One of the most commonly mentioned occupational hazards for healthcare workers is exposure to infectious illnesses.² Hence this study was conducted to assess the awareness of medical students of tertiary teaching hospital regarding universal precautions.

METHODS

Descriptive Study was conducted after taking institutional ethical clearance among medical students (5th, 7th, 8th term) of Tertiary teaching Hospital, Bengaluru after taking informed consent from them and who were willing to participate in the study. The study duration was for a period of 2 months from July 2019 to August 2019. Semi structured questionnaire was used to interview the study subjects. The total strength of students is considered in calculating the sample size by using Yamane Equations (For known population size).

$$N = N/1 + Ne^2$$

Where N= Population size, e=Margin of error (for 95% Confidence level, Margin of error = 0.05). By using above stated formula, the sample size obtained is n=218 approximated to 220. Medical students were selected from each term based on probability proportional to size sampling method. Each student from the respective term were selected by using simple random sampling (Random table method).

Inclusion criteria

Medical students (5th, 7th, 8th term) who were present on the day of study and were willing to participate in the study were included.

Statistical analysis

All the data collected was compiled and entered into a Microsoft Excel worksheet. Descriptive statistics was used as required. The data was analyzed using SPSS (statistical package for social sciences) software v.21.0.

RESULTS

Assessment regarding awareness on Universal Precautions among Medical students was done by administering questionnaire on Hand hygiene, Gloves usage, disinfectants used, Respiratory Hygiene and cough etiquette and causes of needle prick injury.

Table 1: Term wise distribution of study participants.

Term	N	%
5 th	55	25
7 th	74	34
8 th	91	42
Total	220	100

The results of the study are as follows. 55% of study participants were male and 42% of them were in 8th term. Majority of the Medical students i.e. 92% (195/220) answered correctly that Hand should be washed for (40-60 sec): wet hands and apply soap; rub all surfaces; rinse hands and dry thoroughly with a single use towel; use towel to turn off faucet (Figure 1), 98.1% (208/220) of

them had awareness regarding gloves usage that the gloves has to be worn when touching blood, body fluids, secretions, excretions, mucous membranes, non-intact skin (Figure 2) and 11.5% (25/220) of them answered incorrectly that If one wears gloves when performing job duties, then there is no need to follow hand washing precautions whereas others i.e. 85% of them answered that its False and hands should be washed (Figure 3). 91.5% (132/220) of them answered correctly that the blood spills should be cleaned up promptly with sodium hypochlorite.

Table 2: Gender wise distribution of study participants.

Gender	N	%
Male	123	55
Female	97	45
Total	220	100

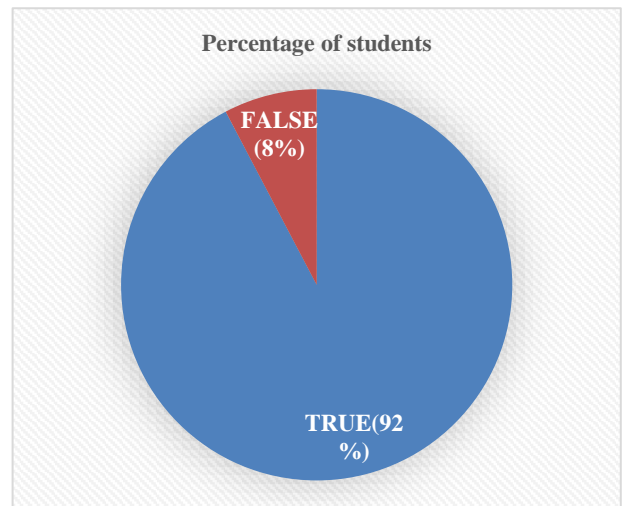


Figure 1: Hand washing (40-60 sec): wet hands and apply soap; rub all surfaces; rinse hands and dry thoroughly with a single use towel; use towel to turn off faucet.

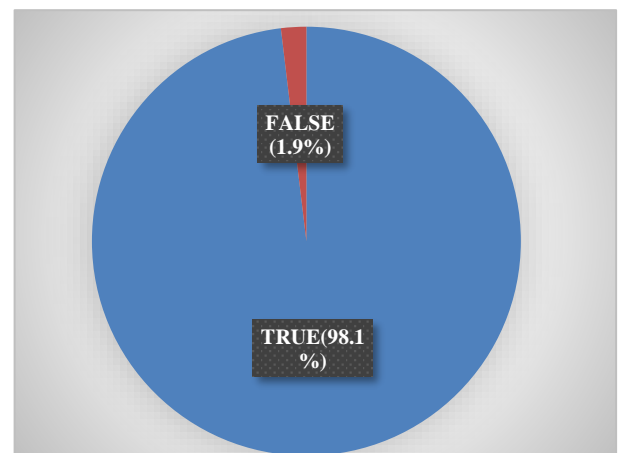


Figure 2: Wear gloves when touching blood, body fluids, secretions, excretions, mucous membranes, nonintact skin.

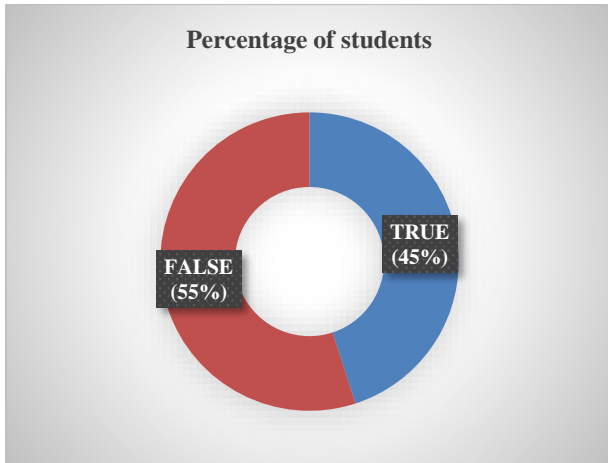


Figure 3: Used needle usually not recapped, if required single-handed scoop method is used.

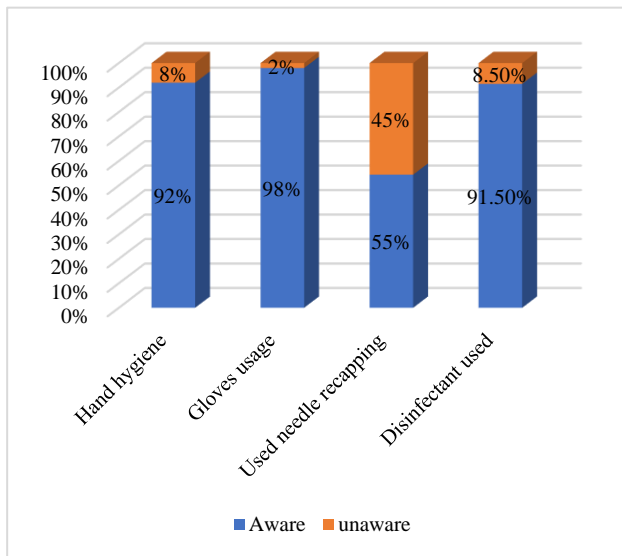


Figure 4: Percentage bar diagram depicting awareness on universal precautions among medical students.

DISCUSSION

The result obtained from this study has shown that, awareness on Hand Hygiene is 92% which is similar to a study conducted by Ibrahim et al on medical students which was 85%.⁴ In a study conducted by Dasa et al in Gauhati medical college, 47.9% knew that needles should not be re-capped which is similar to this study result as 54.4%.⁵ This study has showed that 88.4% of medical students were aware that hands should be washed even if gloves were used for the job responsibilities which is in contrast to the study conducted by Kumar et al which showed that only 42.3% of students were aware about it.⁶

Limitations

The limitation of the study being, the study was done only for 5th, 7th and 8th term students, hence variations in the

overall awareness of medical students of all the batches may be there. Being a self-reported study, there may be instances of reporting bias.

CONCLUSION

The conclusion which can be drawn from this study is medical students lack awareness regarding Respiratory Hygiene and cough etiquette and safe needle practices. They were aware of other aspects such as Hand Hygiene and gloves usage. Findings of this study suggests the need to consider strengthening the training incorporating knowledge and psychomotor skills related to Universal precautions as a topic in the existing curriculum.

Recommendations

This study was undertaken to assess awareness among medical students regarding universal precautions. The study results suggest to implement training programs for medical students and create awareness among them as it protects both doctors and patients from infections.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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