Assessment of Knowledge, Attitude and Practices of Allied Health Care Professional Students Towards Universal Precaution

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Abstract

A universal precaution is an approach to infection control to treat all human blood and certain human body fluids. History and examination cannot reliably identify all patients infected. Universal precautions are framed to prevent health care professionals who are exposed to various infections and by practicing various basic principles of infection control. A cross sectional survey was conducted to assess knowledge, attitude amongst allied health care professional about universal precautions and to investigate their practice towards universal precaution. First year Students of School allied health sciences, who were willing to participate included in the study. Study showed overall moderate knowledge among the students. Hence training sessions of universal precaution may need to be conducted regularly for these students. Awareness amongst students can be achieved to maximum level by conducting awareness programs every year by the Infection control committee in the medical college.

Keywords: *Universal precaution, Allied health sciences, Infection control, knowledge.*

Introduction

Universal precautions is an approach for an infection control to treat all human blood and certain human body fluids, History and examination cannot reliably identify all patients infected with human immunodeficiency virus and other blood borne pathogens. The United States Centers for Disease Control has proposed a series of procedures that health care workers should use with all patients.[1]

Universal precautions formulate to prevent health care professionals who are exposed to various infections and by practicing various basic principle of infection control through hand washing, use of protective barriers, like mask, gloves, gown and eyewear and safe handling of various instruments. Implementation of these universal precautions is important, as health care organization has a responsibility to protect staff from potential danger and loss of man power if suffers from any injuries or illnesses due to direct or indirect exposure.[2]

Due lack of training about safe handling of blood or body fluids , may leads to increase chances of occupational hazards related to students who are in direct contact with patients [3]

Health care professional, who are working in hospitals are directly in contact with various patients of unknown serological status. The risk of infection after known occupational exposure is about 25%, there is a approximate 0.4 % risk of infection with HIV after percutaneous exposure to HIV contaminated blood to health care worker[4], although the collective risk may increase as high as 2% amongst hospital staff [5]

Exposure to Sero positive patient is common in the developing countries. It was observed that accidental

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exposure of health care staff as high as 13% while providing care for Sero positive patients.[6]

The majority of reported cases of occupational blood exposure were among nurses, paramedical staff and minorities were among physicians[7]. Similarly, nurses and health care staff are most frequently involved in occupationally acquired HIV infection[8]. Among midwives frequency of body fluid exposure showed that around 65% of them had experienced exposure to amniotic fluids or blood at least once in the past 6 months [9].

Use of universal precautions significantly decreases the number of incidents of occupation exposure to blood[10,11] Nevertheless, the level of compliance with universal precautions is generally low, and the weakest aspects reported are not practicing hand decontamination[12]

The objectives of the present study were to assess knowledge, attitude amongst allied health care professional about universal precautions and to investigate their practices towards universal precaution, so that the information would be useful in identifying specific areas that may need further attention in the continuing education of Allied health care students and in providing feedback to these groups about improving safe practices.

Material and Methods

This study was conducted under School of allied health sciences, DMIMS, Wardha. It was a cross sectional study and first year students of School allied health sciences who were willing to participate included in the study. After taking their informed consent total of 150 students, brief introduction about the scope of our study, general demographic data was collected.

Complete procedures involved in the study was explained to them and the assurance of confidentiality of the data collected was given. Structured questionnaire on knowledge, attitude and practice was sent by internet to every participant.

Results

All 150 students had replied positively, out of these 35% were female and 64% male as depicted in Table 1.

Table1:Gender wise distribution of Allied Health Care Professional students

Gender	Number (n=150)	Percentage
Male	96	64%
Female	54	35%

Most of the students answered correctly the knowledge based questions on universal precaution related to disease and infective status of patient 63.8% and 84.5% respectively. Response for isolation of infected patient was 91.5%, for decontamination of devices was 65%. Universal practices and vaccine answered correctly by 67.1% and 58 % respectively. Cleaning and procedure of discarding of waste correctly answered by 87.2% and 88.8% students respectively in Table No.2

Table 2 Distribution of Allied Health Science students as per knowledge of universal precautions

Sr.No	Knowledge about of universal precautions	Response % Answering correctly
1	Have you ever heard of universal precautions?	83%
2	Universal precautions are applied to patients with HIV and HBV only	63.8
3	Universal Precautions should be applied to all persons regardless of their infection status	84.5
4	Isolation is necessary for patients with droplet and blood borne infections.	91.5

Cont... **Table 2 Distribution of Allied Health Science students as per knowledge of universal precautions**

5	For decontamination of devices or instruments washing with usual detergent is enough	65
6	Used needles can be recapped after giving an injection	56.4
7	There is effective vaccine against all type of flu illness	57
8	Infected area should be cleaned promptly with sodium hypochlorite	87.2
9	Used mask is rap in a tissue paper or polythene bag and immediately discard it in the yellow waste bag	88.8

Table 3 - Distribution of Allied Health students as per practices they followed for universal precautions

Sr No.	Practice of universal precautions	Percentage (%)
1.	I assume that blood and all body fluids of patients are infectious	75.2
2.	I wear mask, gown and eye wear if procedures and patient care activities are likely to cause splashing of blood and body fluids	89.7
3.	I dispose of used needles into a sharp box after injection	81.2
4.	I wear gloves as the first step for cleaning contaminated surfaces	96.5
5.	Washing with soap and water for 5 minutes is my first step after contact with infective material	86.3
6.	I apply universal precautions in situations that might lead to contact with sweat	73.5
7.	If I have a wound, I wear gloves before caring for patients	94

Table 4: Distribution of Allied Health students as per their attitude towards universal precautions

Sr No.	Attitude towards universal precaution practices	Strongly Agree (%)	Agree (%)	Not sure (%)	Disagree (%)	Strongly Disagree (%)
1.	Using frequent hand washing can prevent you from getting flu like disease	42.7	41	12	1.7	2.6
2.	I generally avoid to wear face during routine procedure	11.2	22.2	18.8	34.2	12.7
3.	Wearing face mask during patient care is effective in preventing infectious disease	12.8	0.9	3.4	35	47.9
4.	Reusing face mask can increase chances of getting infectious disease	10.2	4.2	6.8	41.5	37.3

Attitude and Practice of universal precautions Concerning the use of protective devices, almost all respondents agreed on the practice of wearing protective material when exposed to deep body fluids or blood products (Table 3 & 4).

The use of gloves and wearing facemask when exposed to sweat, practices were poor, as only 33.9% of Allied health care professional students answered question correctly. The respondents' practices toward disposal of sharps into a sharp box were good, regarding wearing gloves as the first step in cleaning surfaces, Also 86.3% of Allied health care professional students agreed that washing with soap and water for 5 minutes is the first step after contact with infective materials by 5 point likert scale[13].

Discussion

The study showed an overall moderate understanding of universal precautions among Allied health care professional, despite the fact that the majority of occupational blood exposures involved health care professionals. Furthermore, the knowledge score in our study was average; this may be related to the lack of regular training of universal precautions, especially in hospital.

Although the efficacy of universal precautions is contended, they remain a valuable way to minimize or prevent accidental exposure of staff to pathogens.[14]

It is necessary to strengthen and clarify the concept of universal precautions and infection control guidelines among hospital staff, especially the staff of the allied health care professionals who are in direct contact with Patient care. Universal precautions are usually integrated in the current student training curriculum of health care workers. However, there is a lack of regular integration of universal precautions guidelines as part of the job training in our hospitals.

Although infection control committees in hospitals have programmes of regular training and examination, proper implementation is necessary from better outcome. It should be more regular and comprehensive.

Ryan et al[14] recommend that there should be a systematic evaluation, knowledge pertaining to universal precautions. A more comprehensive ongoing educational program on universal precautions should be organized and this should be considered as a mandatory refresher course for all health care professionals in the hospitals.

Van Wissen[16] suggested that one way to achieve this is to select tarn get groups on the basis of prior knowledge. The content of the programme should be tailornmade according to the recommendations of the target group, and there could be a sympathetic forum in which more personal issues can be confidentially discussed.

Most of the respondents in present study agreed that universal precautions should be used for all patients irrespective of their blood borne infection status. Many of health care staff readily admits their lack of knowledge. Support sessions should be provided for all staff in which feelings and fears can be openly discussed.[17]

Young et al, revealed that health care professional did not always used adequate protection if they would not be aware of patient's infective status.[18]

Denic LM suggested that regular education up gradation is necessary at various level of knowledge in prevention of accidents, which will be helpful in reduction of occupation risk [19,20]

Conclusion

In this study, out of total 20 questions, students of allied health care professional had better knowledge in about 9 questions, Moderate knowledge in questions 7 and Poor knowledge in 4 questions. Hence study showed overall moderate knowledge among the students. Hence training sessions of universal precaution may need to be conducted frequently for the students. Awareness amongst students can be achieved to maximum level by conducting awareness programs every year by the Infection control committee in the medical college

It seems that Allied health care professional students have lack of systematic program of education about universal precautions during clinical practice.

Occupational safety requires for reducing risks. Use of protective barrier is a major element of universal precautions, so we should encourage their use. Protective barriers must be readily available; infection committee members should ensure safe practices and

resolve related issues. Also the education of students during the years of clinical practice is very important. Post educational surveys or observational studies about universal precautions as practiced in clinical settings need further attention.

Further studies should include physicians as well as support staff in order to gain a broader picture of the practice of universal precautions in hospitals.

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