



Study of Effect Of Module Based Training of Universal Safety Precautions among Resident Doctors of Tertiary Care Hospital in Mumbai.

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ABSTRACT **Objectives:** To study effect of Module based training of Universal Safety Precautions among postgraduate resident doctors in tertiary care hospital.

Methods: The Module of Universal Safety Precautions was prepared for training of 100 resident doctors. Pre and post test questionnaire was used to assess the effect of training on knowledge and attitude. The practice was observed at 1 month and 3 months using a checklist. The data was analysed using SPSS, MS Excel.

Results: 92% of the senior medical teachers agreed with the lack of knowledge and practices of Universal Safety Precautions among resident doctors. Module was prepared with their inputs which had significant effect on the knowledge as well as attitude and practices of Universal Safety Precautions. ($p = 0.00$).

Conclusion: Knowledge and compliance with universal safety precautions among highly exposed resident doctors was lacking. Elaborate training on universal precaution & commitment to safer work practices is needed.

KEYWORDS : Universal Safety Precautions, health care delivery, resident doctors

Introduction:

Healthcare workers are potentially exposed to blood & body fluids. Worldwide, three million health care workers experience percutaneous exposure to blood-borne viruses each year (two million hepatitis B, 900,000 hepatitis C and 300,000 human immunodeficiency virus)^[1]. Awareness regarding this risk led to the issue of guidelines by CDC as universal safety precautions (USPs) in 1987, later updated in 1996^[2]. Knowledge and understanding of USPs among health care workers in developed & developing countries has been found to be inadequate.^[3,4,5] Evidence exists that knowledge & compliance with USPs reduces the risk of infections and protects healthcare practitioners.^[6,7]

Goal & Objectives:

Goal: To Study Effect Of Module Based Training of Universal Safety Precautions (USPs) among Resident Doctors of Tertiary Care Hospital in Mumbai.

Objectives:

1. To assess the need from senior faculties & resident doctors.
2. To find out the baseline knowledge, attitude & practices of Universal Safety Precautions among resident doctors.
3. To develop a Module through need assessment.
4. To conduct the module based training.
5. To evaluate the effect of module based training among study subjects.

Methodology: Interventional study was planned to foresee the problem of Universal Safety Precautions as many cases related to its application in practice were popping up in the hospital. Ethics committee approval was taken. The need assessment was done through interview and use of questionnaire amongst 25 senior teaching faculty and 50 third year postgraduate resident doctors. The Module of Universal Safety Precautions was prepared with the help of seniors teachers inputs. The module was validated. It was used for training of 100 resident doctors in four batches from different disciplines. Pre and post test questionnaire was given during workshops to assess the effect of training on knowledge and attitude. The practice of Universal Safety Precautions was observed for improvement at 1 month and 3 months using a checklist. The data was analysed using SPSS, MS Excel. Chi-square and paired t test was used for analysis and results.

Results:

Perception of Senior Faculties & Senior resident doctors:

25 senior faculties & 50 third year resident doctors from different subjects responded to questionnaire. 92% of these senior faculties think that knowledge of USPs among resident doctors is not upto the mark. According to them

1. Resident doctors are not taking adequate care while handling HIV, HBsAg, HCV infected patients.
2. Not following simple safety precautions.
3. Resident doctors needs to emphasize repeatedly regarding Universal Safety Precautions and proper guidance to avoid casual attitude towards the same.
4. To improve the compliance, repeated probably six monthly training programme should be arranged.
5. Hand washing, use of gloves, masks, eye protection and care while handling sharp instruments are lacking among resident doctors.
6. All these respondents felt that there is a need to train lab technicians, nursing staff, ward boys & other staff along with resident doctors.

Table I: Pre-post test analysis of knowledge & attitude among study subjects.

IA: Paired Samples Statistics:

	Mean	Std. Deviation	Std. Error Mean
Pretest Score	40	7.107	.711
Post test Score	74	2.584	.258

IB: Paired Samples Correlations:

	Correlation	Sig.
Pre - Post test Score	-.006	.957

IC: Paired Sample test

Pretest Post test Score	Paired Differences					t	df	Sig.
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
				Lower	Upper			
	-34.010	7.575	.758	-35.513	-32.507	-44.896	99	.000

Graph I: Effect of Module based training on knowledge of USPs

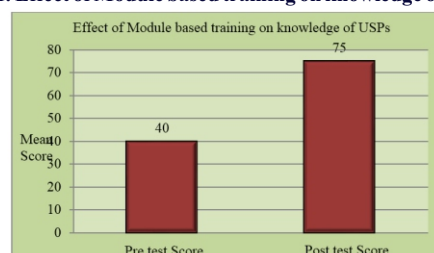


Table II: Pre-post training analysis of Practices among study subjects

IIA: Paired Sample Statistics:

		Mean	Std. Deviation	Std. Error Mean
Pair 1	Pre training	15.02	2.000	.200
	Post 1 mnth	22.53	1.123	.112
Pair 2	Post 1 mnth	22.53	1.123	.112
	Post 3 mnths	23.50	1.124	.112

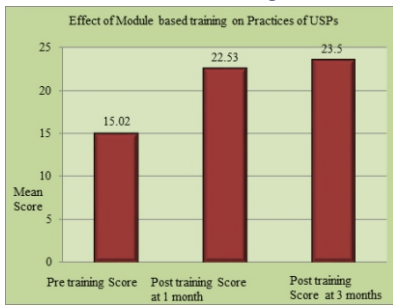
IIB: Paired Sample Correlation

		Correlation	Sig.
Pair 1	Pre & Post at 1 month	-.023	.822
Pair 2	Post at 1 & 3 m.	.964	.000

IIC: Paired Sample test:

	Paired Differences					t	df	Sig.
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
				Lower	Upper			
Pre – Post at 1 month	-7.510	2.316	.232	-7.970	-7.050	32.428	99	.000
Post at 1 & 3 months	-.970	.300	.030	-1.030	-.910	32.333	99	.000

Graph II: Effect of Module based training on Practices of USPs



Discussion: This study indicates that most of the postgraduate resident doctors in an urban tertiary health care facility possessed incomplete knowledge, as shown by other studies in developed^[3] as well as developing countries, including India.^[4,5] Our study findings of a low level of compliance with Universal Safety Precautions among Postgraduate resident doctors have also been noted in other studies.^[3,4,8] It seems probable that an incomplete understanding of the principles underlying USPs affected their practices and led to reduced compliance. Perceived barriers to compliance with USPs clearly influence ability and willingness to comply with them in practice. Inability to use USPs during emergencies, overwork and busy schedules have also been shown in similar settings.^[5,9] The level of compliance seen in this study could also be due to the low level of training received and the low availability of equipment, as shown by other studies.^[9]

Conclusion:

Interventions to improve USPs' compliance among postgraduate resident doctors in tertiary health care facility in India are urgently needed. A multifaceted approach promoting positive perception of USPs compliance should include training (initial and periodic), adequate supply of protective equipments, provision of hepatitis B vaccination and development of appropriate infection control and injury surveillance programmes. Knowledge and compliance with universal safety precautions among highly exposed resident doctors was not upto the mark. Suggestions to improve deficiencies identified include elaborate training on universal precaution & commitment to safer work practices.

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