

## KNOWLEDGE AND PRACTICE OF UNIVERSAL WORK PRECAUTIONS AMONG JUNIOR DOCTORS

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### Abstract:

Research Problem : What is the knowledge and practice of Universal Work Precautions among Junior Doctors ?

Objectives : (1) To assess the knowledge about universal work precautions and source of information.

(2) To assess the practices of universal work precautions.

(3) To assess the knowledge of hospital waste management in the concerned hospital.

Study Design : Self administered oral questionnaire.

Setting and Participants : 138 Junior Doctors from Sardar Vallabh Bhai Patel Hospital associated with L.L.R.M. College, Meerut.

Study Variables : Universal work precautions.

Statistical Analysis : By proportions.

Result : In all 79.0% of Junior Doctors had knowledge about universal work precautions the major source of information being the books (69.0%). However the practice of these precautions was very low. Only 47.8% doctors were checking the integrity of thier skin with spirit/ alcohol, 45.7% were using water proof dressing if cut/abrasion was present, 68.2% were throwing the used gloves indiscriminately and 66.4% were leaving the spilled over blood/body fluids as such.

Conclusion and Recommendations : Poor bookish knowledge and lack of sensitisation are exposing junior doctors to the hazardous infections. So the need of the hour is to conduct aggressive teaching as well as training sessions to all of them including para- professionals also

**Key Words :** Universal work precautions, Barrier precautions, Hospital acquired infections.

### Introduction :

Medical professionals are offered a unique opportunity to acquire certain illnesses beyond those opportunities available to all others who live and work in our society by virtue of their profession. They can acquire infections from a patient, fomite, contaminated environment and patient specimens either by direct contact (only if there is contact with blood/body fluids of patient), accidental inoculation of infected blood/body fluids, accidental cuts with contaminated sharps or indirect contact with contaminated equipment and any other inanimate infected objects. HIV is one of the infections associated with exposure to contaminated blood/body fluids, others being viral hepatitis (HBV, HCV, HGV), HTLV-I and HTLV-II, CMV, viral haemorrhagic fevers, E.B. viruses and many others. All infections acquired through contaminated blood can be effectively

prevented by the medical professionals by diligent practice of 'Universal work precautions'<sup>1</sup>.

Application of "Universal work precautions" means that all patient's body fluid should be considered as infectious since it is not known who is infected with HIV unit! the blood is specially tested for it?

Taking in to note the importance of these precautions, the present study was conducted.

- To assess the knowledge about universal work precautions and source of information.
- To assess the practices of "Universal work precautions".
- To assess the knowledge of hospital waste management in the concerned hospital.

### Material and Methods :

In all 138 Junior Doctors working in various clinical

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and paraclinical departments of Sardar Vallabh Patel Hospital associated with L.L.R.M. Medical College, Meerut were studied with the help of predesigned and pretested proforma during Sept.-Oct. 2002.

### Results :

Table I shows that more than three fourth (79.0%) of Junior Doctors were having the knowledge of universal work precautions and in majority (69.0%) the source of knowledge was books and only 14.7% were taught about these precautions by teachers.

**Table-I : Knowledge of universal work precautions**

	Number	%
a. Knowledge present (n=138)	190	79.0
b. Source of knowledge (n=109)		
- teachers	16	14.7
- books	75	69.0
- seniors	10	9.0
- multiple response	22	20.0

It is evident from table II that less than half (47.8%) of the subjects were found checking the integrity of skin of their hands with spirit/alcohol while all of them were checking the integrity of the skin with naked eye only. Only 85.0% were washing hands before and after handling the patient and 80% of them washing their hands after removal of gloves.

Only 45.7% doctors were using waterproof dressing while 29.7% did nothing for cut/abrasion present on their skin. The use of mask during operations and vaginal deliveries was universally present and none of the subjects used masks during suction and attending wounds and accidental patients.

All the doctors were using gloves during examination of rectum, vagina, oral cavity and throat while only 39.0% did so during handling of blood/body fluids. All of them were using gowns & aprons during operation & vaginal deliveries while none of them was using it during attending bleeding as well as accidental patient. The use of mouth piece during resuscitation was found in less than one third (31.0%) of subjects and eye protectors were not used at all.

**Table-II: Behavioural and protective measures.**

	Number	%
<b>I Behavioural Measures</b>		
a. Checking the integrity of skin with spirit/alcohol (n = 138)	66	47.8
b. Wash hands before and after handling patients (n = 133)	113	85
c. Wash hands after removing gloves (n = 114)	91	80.0
<b>II Protective Measures</b>		
a. Visible cut/abrasions present (n=138)		
- use water proof dressing	63	45.7
- use plain dressing	34	24.6
- use nothing	41	29.7
b. Use of mask during		
- operations (n = 104)	104	100.0
- vaginal deliveries (n = 38)	38	100.0
- suction (n = 92)	0	0
- wounds/accidental cases (n = 72)	0	0
c. use of gloves while		
- rectal examination (n = 35)	35	100.0
- vaginal examination (n = 42)	42	100.0
- oral cavity/throat examination (n=68)	68	100.0
- handling blood/body fluids (n = 115)	51	39.0
- nose examination (n = 68)	17	25.0
- giving injection (n = 132)	2	1.5
- collecting lab samples/blood transfusions (n = 115)	0	0
d. Using eye protectors during		
- vaginal deliveries (n = 38)	0	0
- suction (n = 92)	0	0
- surgical procedures (n = 104)	0	0
- accidental patients (n = 63)	0	0



e.	Using gowns & aprons during		
	-operation (n = 104)	104	100.0
	- vaginal deliveries (n = 38)	38	100.0
	- handling bleeding/accidental patients (n = 63)	0	0
j	Use mouth piece during resuscitation (n = 100)	31	31.0

**n = as per response applicability**

As shown in table-II about two third (68.2%) subjects used to throw the gloves at all. More than half (54.8%) of doctors used to place the sharps indiscriminately and 45.2% place the sharps in leak/puncture proof container including only 14.1% containers having the disinfectant. 66.4% of subjects were found leaving the spilled over blood and body fluids as such.

**Table-III: Health of managing waste**

	Number	%
a. Used gloves (n = 136)		
- thrown indiscriminately	93	68.2
- immerse in bleaching power / sod.	4	2.9
-washed with water	14	10.3
Do not use		
b. Used sharp instrument (n = 106)		
- thrown indiscriminately	58	54.8
- placed in leak/puncture proof container		
- with disinfectant	15	14.1
- without disinfectants	33	31.1
c. Treatment of spillage of blood/ body fluids (n = 131)		
- left as such	87	66.4
- covered with absorbent	42	32.1
- covered with bleaching powder	2	1.5

**n = as per response applicability**

As per the knowledge of Junior Doctors the

infected hospital waste was being dumped (60.0%) and 53.2% also opined that used disposable syringes and needles were also being dumped with this waste 17.7% junior doctors were unaware of waste management while 20.3% were unaware of the management of disposable syringes/needles in the hospital as shown in table IV.

**Table-IV: Knowledge of waste management in hospital**

	Number	%
a. Infected waste (n = 130)		
- dumped	78	60.0
- burnt	18	13.8
- buried deeply	11	8.5
- do not know	23	17.7
b. Used disposable syringes/needles (n = 138)		
- dumped with other waste	72	52.2
- destroyed after disinfection	9	6.5
- destroyed without disinfection	27	19.6
- buried deeply	2	1.4
- do not know	28	20.3

**n = as per response applicability**

**Discussion :**

The first case of AIDS was diagnosed in 1981 and since then in mere 20 years of its age the AIDS has become the greatest challenge to public system globally. The world is crying for its prevention and control. Besides other groups of population the medical and paramedical health workers are at high risk of exposure to HIV/AIDS infection. To prevent the exposure of Health Care Workers to various hospital acquired infections certain practices of Universal work precaution were advocated by Centre for Disease Control (CDC). The present study indicates an unsatisfactory level of awareness (79.0%) largely books (69.0%) among the junior doctors and in spite of this bookish knowledge of precautions majority of these doctors are least bothered for these practices. None of the doctor was found using masks during suction and handling wounds/accidental cases, using gloves during transfusing blood/collection of lab samples as well as eye

protectors were not used. The poor practices may be because of lack of sensitization or non-availability of protective devices like eye protectors in health care settings.

**Conclusion :**

Present study highlights the need to incorporate the teaching of Universal work precautions at undergraduate level specially in all relevant clinical subjects. The practice of Universal work precautions should be reinforced during internship period and last but not the least the post graduates should be resensitized after joining their respective courses only then they will

be able to set an example to other paraprofessionals as well as will be able to protect themselves later on from the dreaded diseases like HIV and Hepatitis B.

**References :**

1. National AIDS Control Organization, India : Specialist's Health Training and Reference Module: 168-178.
2. National Institute of Health and Family Welfare, India. Training Module on HIV infection and AIDS for Medical Officers of PHC 1994 : 12.2-12.7.



**AIDS IS ONLY PREVENTABLE**

**HIGH RISK BEHAVIOR**

**SHOULD BE AVOIDED.**