

Knowledge, Attitude and Practice of Universal Basic Precautions by Medical Personnel in a Teaching Hospital With Respect to HIV Prevention

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Abstract

Introduction: Universal precautions as applied to blood and body fluids that has been known in the transmission of blood borne infections such as semen, breast milk, vaginal secretions, synovial fluid, cerebrospinal fluid, amniotic fluid, and any body fluid contaminated with blood. *Aims and Objective:* 1. To find out the knowledge and attitude of medical personnel on HIV/AIDS transmission. 2. To find out the practice of universal basic precautionary measures among medical personnel in the department of obg mvj medical college, with respect to HIV prevention. *Materials and Methods:* Structured questionnaires were administered to 500 health professionals ranging from medical students to consultants. The questionnaires were self administered by respondents after they were introduced by the authors at a group meeting. All the medical students included in the study were final year students who had been exposed widely to clinical practice. All the respondents handed in their filled questionnaires by the end of the session. *Results:* Four hundred and eighty one (92%) respondents claimed knowledge about universal precautions, 20 (4%) had no knowledge and 20 (4%) others gave no response. All respondents except one person said UBP reduce the risk of HIV transmission. 481 (96%) of the respondents agreed that UBP

should be practiced for all patients. 9 respondents (2%) said it should be so for only HIV positive patients and 11 respondents (2%) was silent on the issue.

Key words : Universal Basic Precautions; HIV; Tertiary Care Hospital.

Introduction

Universal precautions as applied to blood and body fluids that has been known in the transmission of blood borne infections such as semen, breast milk, vaginal secretions, synovial fluid, cerebrospinal fluid, amniotic fluid, and any body fluid contaminated with blood [1], medical history and examination cannot identify all patients infected with blood and body fluid-borne pathogens such as HIV, and Hepatitis B virus (HBV), amongst others, universal precautions should be used for all patients regardless of their infectious status or perceived risk [2]. For the health professional, in addition to contact with infected semen, blood and blood products, HIV infection can also be acquired through exposure to other contaminated body fluids such as CSF, pericardial/pleural fluids and amniotic fluids.

The term Universal Basic Precautions (UBP) was introduced in 1985 by Garner [3]. He defined it as: "the prevention of transmission of blood borne pathogens like HIV through strict respect by health workers of rules concerning care and nursing". Gerberding et al [4] also defined Universal precaution: "the routine use of appropriate barrier and techniques to reduce the likelihood of exposure to blood, other body fluids and tissues that may contain blood borne pathogens".

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This study aims at assessing the knowledge, awareness and practice of medical personnel of universal basic precautions and the same with respect to HIV.

Objectives of the Study

- A. To find out the knowledge and attitude of medical personnel on HIV/AIDS transmission.
- B. To find out the practice of universal basic precautionary measures among medical personnel in the department of obg, with respect to HIV prevention.

Material and Methods

Structured questionnaires were administered to 500 health professionals ranging from medical students to consultants. The questionnaires were self administered by respondents after they were introduced by the authors at a group meeting. All the medical students included in the study were final year students who had been exposed widely to clinical practice. All the respondents handed in their filled questionnaires by the end of the session.

Results

Knowledge

Four hundred and eighty one (92%) respondents claimed knowledge about universal precautions, 20 (4%) had no knowledge and 20(4%) others gave no response (Table 2). Between 231 (46%) and 481 (96%) of respondents understood the various constituents of UBP.

Knowledge on Mode of HIV Transmission

According to Respondents .441 respondents (88%) said hollow needles carry a greater risk than solid ones, 14 (6%) respondents disagreed. There was no response from 15(6%) persons.239 (48%) of respondents said squeezing of blood from the site of a needle prick reduces the risk of HIV infection. An equal number disagreed and 20 (4%) did not respond.

On muco-cutaneous transmission of HIV, 161 (32%) agreed that contact by intact skin with infected blood or infected body fluids constitute exposure to HIV. 319 (64%) respondents disagreed and 20 (4%) gave no answer. mucous membranes were at risk of exposure, 210 (42%) of the respondents mentioned

the vaginal, oral and nasal mucosa; 129 (26%) mentioned the conjunctiva and the remaining 161 (32%) gave no examples. When asked to give examples of body fluids through which HIV could be transmitted, most mentioned blood, semen and plasma followed by CSF, pericardial fluid, synovial fluid, saliva and peritoneal fluid. It is clear from the table that most respondents knew about HIV transmission through blood products and semen. Knowledge on other modes of transmission appeared rather limited.

Attitude

All respondents except one person said UBP reduce the risk of HIV transmission. 481 (96%) of the respondents agreed that UBP should be practiced for all patients. 9 respondents (2%) said it should be so for only HIV positive patients and 11respondants (2%) was silent on the issue.

472 (94%) of the respondents agreed that it is important to wear gloves when doing invasive procedures but 3 respondents 30(6%) disagreed. In spite of this, 220 (44%) persons said every patient going for surgery should be screened for HIV, 270(54%) said no to this whilst 10 person (2%) did not give their opinion.

As many as 180 respondents (36%) admitted that they would be reluctant to perform an invasive procedure on an HIV positive patient but 310 (62%) had no problem with that. 10 (2%) respondent gave no answer.

Actual Practice

470 (88%) of respondents indicated that they wore gloves routinely when performing invasive procedures on patients but 80 (16%) did not for the reasons that:

- They are careful when performing invasive procedures,
- There is no time to look for gloves in emergency situations
- That sometimes gloves are not readily available,
- They have better control over the IV canula without gloves and
- They can set intravenous lines without soiling themselves.

Respondents were also asked which precautionary measures they practise in surgical procedures.

In response to the use of other precautionary measures some respondents did not wear some of the

protective gadgets. For example, goggles were not always used because they were not available in the theatre, were not routinely needed in every operation and the available ones did not fit or the respondents were not used to wearing goggles for operations. On

aprons, they stated that it is too warm to wear them or that they only wear them for potentially bloody surgery.

Table 1: Breakdown of the range of respondents.

Break down of the range of respondents	
Consultants (VARIOUS DEPARTMENTS)	160
Specialists	5
Mo	5
Residents	180
House officers	40
Sub interns	100
No rank given	10
	500

Table 2: Respondents understanding of what constitutes Universal Basic Precaution

Forms of Universal Precautions	Response		
	Yes	No	No response
Wearing of gloves	481 (96%)	0	19 (4%)
Wearing of face masks	378 (76%)	3 (6%)	92 (18%)
Wearing of boots	349 (70%)	69 (14%)	82 (16%)
Scrubbing for operations	231 (46%)	118 (24%)	151 (30%)
Wearing of goggles	444 (88%)	42 (8%)	22 (4%)
Wearing of aprons	401 (80%)	49 (10%)	50 (10%)

Discussion

In a study in China by Holtzman et al [5], only 3% knew about the need for universal precautions. The risk of HIV infection would appear to be largely a perception as studies do not indicate a high transmission infection risk rate. A study by Marcus [1] showed that only 4 persons sero-converted out of 1,201 health care workers exposed to HIV infected blood.

Vlahov and Polk [2] found out that following a needle stick injury, the risk of HIV infection is less than 1% as opposed to Hepatitis B infection, which is 6-30%.

The level of knowledge of UBP among the respondents is high at 92% as compared to the practice. For instance only 84% of the respondents wear gloves for invasive procedures and an equal number wear face masks. The least practiced is the wearing of protective eye shields (24%). Most research indicates that, knowledge of universal precautions does not necessarily impact on compliance. Knight V suggests that not all practitioners are as knowledgeable as they could be [6].

Hartley Troya S [7] suggested that practitioners tend to increase the level of protection when they think a client is a high risk. In a study in Thailand by Danchaivijitr S et al [8], up to a quarter of doctors and

nurses did not fully understand how to use protective barriers properly.

Recapping of used needles is reported as one way through which health workers sustain needle pricks and in this study as many as 78% of the respondents do that. This practice must be reviewed and other methods of needle disposal must be introduced in our institutions.

It is worrying to note that as many as 18 (36%) respondents expressed reluctance at attending to people living with HIV for the fear of getting infected. This buttresses the need for more education on the subject of Universal Basic Precautions especially from the level of training institutions and contrasts with the study in Thailand by Danchaivijitr S et al where both doctors and nurses were willing to handle HIV positive patients [8].

There are a few gaps in the knowledge of respondents regarding modes of HIV transmission. Some stated that contact of intact skin with HIV infected samples carries a risk of getting infected but this is not true. This suggests that there is the need for continuing professional development sessions to constantly remind even doctors of some facts about HIV.

This study has brought to the fore a wide gap between knowledge and practices that would protect health personnel against HIV.

The big task now is to work at improving on our practice as doctors so as to reduce risk of getting infected as we care for our patients and also be examples to our fellow health workers.

References

1. Marcus R. Surveillance of Health Care Workers exposed to blood from patients infected with HIV. *New Engl J Med.* 1988; 319:1118-1123.
 2. Vlahov D, Polk DF. Transmission of human immunodeficiency virus within the health care setting. *Occup Med.* 1987; 2(3):429-450.
 3. Garner JB. What is in a name? Today's Surgical Nurse. 1997; 19(1):14-21,46-47.
 4. Gerberding JL, Lewis FR, Schechter WP. Are Universal Precautions realistic? *Surg Clin of North America.* 1995; 75(6):1091-1104.
 5. Holtzmann D, Chen S, Zhang S, Hsia J, Rubinson R, Yun Bao F, Mo L, Mc Queen DV. Current HIV/AIDS-related knowledge, attitudes and practices among the general population in China: Implications for action. *AID Sci Prev and Vacc Res.* 2003; 3(1).
 6. Knight V. Perceptions and Practice of universal blood and body fluid precautions by registered nurses at a major Sydney Teaching Hospital. *J of Advan Nurs.* 1998; 27(4):746-751.
 7. Hartley Troya S. A survey of nurses' knowledge, opinions and reported uses of body substance isolation systems. *Am J Of Infect Contr.* 1991; 19(6):268-276.
 8. Danchaivijitr S, Tantiwatanapaiboon Y, Chokloikaew S, Tangtrakool T, Suttisanon L, Chitreechuer L. Universal precautions: knowledge, compliance and attitudes of doctors and nurses in Thailand. *J Med Assoc Thai.* 1995; 78(Suppl 2): S112-S117.
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