Original Article

Knowledge of Students regarding Hepatitis and HIV/AIDS of a Private Medical University in Karachi

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Abstract

Objective: To determine and assess the level of awareness among students of a private medical college regarding HIV/AIDS, Hepatitis B and C.

Methods: A survey was conducted to assess the awareness of medical students on HIV/AIDS, hepatitis B and C. They were asked to fulfill a pre-tested structured questionnaire. The variables accessed were their knowledge of disease regarding etiology, mode of transmission, and prevention.

Results: A total of 267 students participated, with 117 (43.8%) students from pre-clinical years and 150 (56.2%) from the clinical years. The male female ratio was 1:2, mean age of respondents was 21 ± 1.5 years. Majority of the students (98%) agreed that an infected person is a major source of transmitting these infections. Almost all (95%) students knew that blood transfusion was an important source of transmitting these infections. Wearing gloves (87%) and safe disposal of sharps waste (98%) were known by the students to be the ways to protect against these infections.

A significant difference was noted on comparing the knowledge between preclinical and clinical students regarding medical / surgical procedures causing these infections ($p<0.001$) and also regarding the ways to protect against these diseases ($p=0.001$).

Conclusion: There is a lack of awareness among the medical students entering into the profession. It is the need of the hour to emphasize on practicing universal precautions. In addition, some preventive measures should be taken by the management of the universities and medical students to avoid the occurrence of these problems (JPMA 55:285;2005).

Introduction

Infections such as viral hepatitis B and C or HIV are a major threat to health care workers. Overuse of injections and unsafe injection practices cause an estimated 8-16 million cases of hepatitis B, 2.3-2.7 million cases of hepatitis C and 8-16 thousand cases of HIV infections.[1]

Studies done internationally showed that the highest number of sharps injuries were sustained by health care professionals while they were drawing blood, giving injections or suturing.[3,4] In addition, those not wearing gloves while doing any of these procedures were at greater risk of contracting infection.[5]

Studies conducted in France and Japan have shown that students in these developed countries, have a lot of misconception of these infectious diseases.[2-6]

Multiple surveys had been conducted in Pakistan concentrating on students at different levels. Most of these studies show that the students do not have adequate knowledge of HIV/AIDS.[7-9]

Medical students are more vulnerable to infectious diseases as they are in direct contact with the patients, they deal with blood transfusions, injections, surgical instruments etc. But little attention has been directed to exposure among medical students.[10]

The introduction of training in universal precautions cannot be neglected in countries where safety equipment, safety instructions and staff vaccination programmes are absent.

This study was conducted to determine and assess the level of awareness among students of a private medical college regarding HIV/AIDS, Hepatitis B and C.

Methods

A cross sectional survey of all the students from first to final year at Ziauddin Medical College (ZMU), Karachi was done on a pre-tested self-administered questionnaire.

The data was collected on a pre-tested structured questionnaire, which comprised of identification of the student and questions related to HIV/AIDS, hepatitis B and C. The general information included names of various hepatotropic viruses, the sources of infection, transmission, availability of vaccine, post exposure prophylaxis and preventive measures against these diseases.

The students were given the questionnaire in the classroom, those absent were approached the other day. All the students were informed about the study and none refused to fill the questionnaire.

The data entry and analysis was done in Epi-info 6, chi-square was used to measure association between variables and knowledge scores between clinical and pre-clinical students were compared by test of proportions, p-values were calculated.

Results

A total of 267 students participated with 117 (43.8%) students from pre-clinical years and 150 (56.2%) from the clinical years. The male female ratio was 1:2, mean age of respondents was 21 $\pm$ 1.5. Almost all the students had heard about HIV/AIDS and Hepatitis B and C. One third (32%) students listed the five common types of Hepatitis virus (A,B,C,D,E), 27 % knew about two to four types, 28% wrote six to seven types whereas 13% did not write any type. The students received information regarding these infections from books (85%), media / Internet (85%), teachers (84%), friends and relatives (70%).

Majority of the students (95%) knew that vaccine is available for hepatitis B, 52% said that there is no vaccine for hepatitis C and 84% knew that there is no vaccine for HIV/AIDS. There was no significant difference in the knowledge of preclinical and clinical students regarding hepatitis B and HIV/AIDS vaccine availability whereas for Hepatitis C there was a significant difference in the knowledge (p=0.001).

The students agreeing to the post exposure treatment availability for Hepatitis B was 85%, for Hepatitis C is 65%, whereas 59% students claimed that no post exposure treatment is available for HIV/AIDS. On comparing the responses for post exposure treatment available between pre-clinical and clinical years, difference was found for Hepatitis B (p=0.003) and HIV/AIDS (p=0.004), whereas no difference was seen for Hepatitis C (p=0.132).

Table. Sources of Infection.

	Hepatitis B				
	Pre-Clinical		Clinical		
	Yes		Yes		p-value
	n=117	(%)	n=150	(%)	
Blood and blood products	102	(87)	149	(99)	0.001
Mother to child	62	(53)	137	(91)	0.001
Sharing a room	24	(21)	08	(5)	0.001
Sharing eating utensils	48	(41)	25	(17)	0.001
Touching	19	(16)	02	(1)	0.001
Swimming pool	28	(24)	22	(15)	0.054
Sharing razor	87	(74)	133	(89)	0.002
Sexual intercourse	65	(56)	139	(93)	0.001
Kissing	36	(31)	58	(39)	0.180
Syringes and needle pricks	98	(84)	150	(100)	0.001
Tattooing	46	(39)	126	(84)	0.001

	Hepatitis C				
	Pre-Clinical		Clinical		
	Yes		Yes		p-value
	n=117	(%)	n=150	(%)	
Blood and blood products	87	(74)	137	(91)	0.001
Mother to child	54	(46)	103	(69)	0.002
Sharing a room	23	(20)	10	(7)	0.001
Sharing eating utensils	47	(40)	16	(11)	0.001
Touching	14	(12)	5	(3)	0.006
Swimming pool	29	(25)	26	(17)	0.135
Sharing razor	86	(74)	117	(78)	0.393
Sexual intercourse	60	(51)	117	(78)	0.001
Kissing	32	(27)	46	(31)	0.554
Syringes and needle pricks	92	(78)	138	(92)	0.002
Tattooing	49	(42)	112	(75)	0.001

	HIV / AIDS				
	Pre-Clinical		Clinical		
	Yes		Yes		p-value
	n=117	(%)	n=150	(%)	
Blood and blood products	112	(96)	147	(98)	0.472
Mother to child	100	(86)	141	(94)	0.020
Sharing a room	10	(9)	12	(8)	0.872
Sharing eating utensils	26	(22)	6	(4)	0.001
Touching	14	(12)	3	(2)	0.001
Swimming pool	18	(15)	19	(13)	0.524
Sharing razor	95	(81)	129	(86)	0.289
Sexual intercourse	114	(97)	145	(97)	0.997
Kissing	43	(37)	58	(39)	0.749
Syringes and needle pricks	109	(93)	146	(97)	0.103
Tattooing	57	(49)	117	(78)	0.001

Majority of the students (98%) agreed that an infected person is a major source for transmitting these infections. The other sources of transmission were marked as family members of infected persons (48%), doctors, dentists, surgeons, nurses, lab technicians (60% each) and barbers (88%).

Almost all (95%) students knew that blood transfusion was an important source of transmitting these

infections while 67% students claimed dialysis to be a major source of spreading these infections. Eighty-five percent students had knowledge that ultrasound, CT/MRI and echocardiography were not responsible for transmission whereas 65% did not know that endoscopy, colonoscopy and proctoscopy could also be a source.

Wearing gloves (87%) and safe disposal of sharp wastes (98%) were known by the students to be the ways to protect against these infections. Only half of the students were aware that needle should not be recapped and 14% did not know about cutting of needle before disposal.

A significant difference was noted on comparing the knowledge between preclinical and clinical students regarding medical / surgical procedures causing these infections ($p<0.001$) and also regarding the ways to protect against these diseases ($p=0.001$).

Only 63% students had received three to four doses of Hepatitis B vaccine, 14% have only one to two doses and 19% had received no dose.

Discussion

Knowledge about hepatotropic viruses and HIV/AIDS is crucial for health care professionals because of the increasing prevalence of these infections. Occupational risk of these infections is well known in medical and dental workers especially during the professional training period. This accounts for one of the major reason for delivering knowledge about preventive measures and universal precautions.

Students regarded blood transfusion, syringes and needles to be an important factor for transmission of these deadly infections in this study. Studies suggest that accidental needle sticks are associated with the greatest risk for occupational transmission of blood-borne pathogens such as Hepatitis B and C viruses and HIV.[11-13]

There is no vaccine available for prevention of hepatitis C viral infection.[14] Still 48% students claimed the availability of a vaccine that can protect against hepatitis C infection. The unawareness about such vaccine was more profound among the pre-clinical students. Similar results were observed in a study done in USA where 66% of primary care physicians recommended hepatitis C vaccine.[15]

More than half the students in our study did not know about post exposure prophylaxis for HIV/AIDS, which mimics the results observed in an Indian study.[16] Despite the recommendations by the WHO for vaccination against hepatitis B viral infections only two-thirds were fully vaccinated in our study.[17]

We, as health professionals are well aware of the dangers of the contaminated needles and the deadly diseases they can transmit. Not surprisingly, only 50% students surveyed knew about needle safety despite the fact that needle pricks are one of the significant modes of transmitting hepatitis B and C virus in our part of the world.[18-21] Medical students frequently sustain needle stick and sharp object injuries during clinical training as is evident from studies from other parts of the world.[2,22] Today's medical students work as colleagues with physicians in caring for patients. They deserve to be trained in an environment where personal safety is stressed.

We found a significant difference between knowledge of pre-clinical and clinical students. Similar results were observed among Indian medical students that recommended need for increasing knowledge and training should be started during the early years.[23]

A study done in another government medical college in Pakistan laid stress upon campaigns for increasing awareness against AIDS.[9] Data collected from community setting also suggested education of the health workers as well as the common people.[24]

Continuing education programs emphasizing on prevention procedures were considered to be crucial to make pediatricians more knowledgeable about viral hepatitis in another international study.[25]

In the light of the above studies and our study there is a lack of awareness among the medical students entering into the profession. It is the need of the hour to emphasize on practicing universal precautions. In addition, some preventive measures should be taken by the management of the universities and medical students to avoid the occurrence of these problems. Students should be well educated about availability of post exposure (needle prick) management more so it should be the responsibility of the medical college or medical university to have 24 hour counseling services available for accidental needle pricks.

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