Original Article

Does clinical experience affect knowledge regarding Hepatitis-B among male medical students at a private university?

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Abstract

Objective: To assess the knowledge of male medical students about Hepatitis-B in their preclinical and clinical years and to investigate the self reported vaccination status of these students.

Methods: In the year of 2007, 187 male students of Isra University Hyderabad Sindh Pakistan were selected by convenient sampling and surveyed with a self reported questionnaire comprising of questions regarding knowledge about hepatitis B. Data gathered was analyzed by SPSS V. 16. Knowledge between preclinical and clinical students were compared by Pearson's coefficient chi square test, p value < 0.005 was considered significant.

Results: Out of 187 students interviewed, 73 (39%) and 114 (61%) were from preclinical and clinical years respectively. Significant difference was found in clinical and preclinical students regarding basic knowledge about hepatitis B. and mode of transmission of disease (P= 0.004) and (P=< 0.001) respectively.

Conclusion: Significant difference was found in the knowledge of both preclinical and clinical male medical students. (JPMA 59:808; 2009).

Introduction

Hepatitis B virus (HBV) infection has been recognized as an important occupational hazard for health care workers.[1] Studies have shown that one third of the global population is infected with HBV and 350 million people are lifelong carriers.[2]

Pakistan is the intermediate HBV prevalence area, an estimated 405 million carriers with a carrier rate of 3-4% for HBV.[3]

Medical students are high risk group for blood born infections including HBV,[4] as during the course of clinical work they are in direct contact with patients, blood, injection

and surgical instruments,[5] and lack of experience and professional skills increases the risk of infection in the course of invasive medical procedures.[6]

Medical students receive percutanous injuries as often or more than health care workers (HCW).[7,8] Forty five to sixty five percent of all graduating medical students recalled being exposed to at least once to potentially infectious body fluids during the years of medical school,[6,9] the undesirable accidents happen during the initial period of practical training.[10]

Fortunately hepatitis B virus infection is largely preventable by vaccination.[11] Transmission of infection is rare in persons who have been immunized and transmission rate is high as 30% among those who are not immunized.[12]

Many surveys were conducted in Pakistan concentrating on students. Most of these studies shown that students do not have adequate knowledge about hepatitis B.[13]

This study was conducted to assess the knowledge about Hepatitis B in preclinical and clinical years and to investigate the self reported vaccination status of these students.

Methodology

In the year of 2007, this cross sectional survey was carried out among male medical students of Isra University Hyderabad Sindh Pakistan. Isra University is one of the large private sector universities in Hyderabad. Although this medical university is for both male and female students, but the teaching set up is different from other co-education universities. In Isra University, there are separate class rooms for male and female students of the same academic year. For clinical rotation, male and female students of the same year attend hospital wards in separate batches in two different periods. For the present study only male medical students were recruited from both preclinical (year I and II) and clinical years (year III, IV and V) by convenient sampling.

After taking informed consent data was collected on an structured self reported questionnaire comprising of identification of student, basic knowledge of HB disease, knowledge about availability of HB vaccine and post infection treatment. Students were also asked about the high risk group of persons and different modes of transmission of disease. The source of information and the self reported Hep B vaccination status of students were also explored.

Questionnaire was distributed to 187 students, 73 from preclinical years and 114 from clinical years in the class rooms. Data gathered was analyzed by SPSS V. 16. Knowledge between preclinical and clinical students were compared by Pearson's coefficient chi square test, p value < 0.005 was considered significant.

Results

Out of 187 students interviewed, 73 (39%) were from preclinical years while 114 (61%) were from clinical years. The mean age of students was 21.4 ± 1.8 years.

One hundred eighty one (96.8%) students had heard about hepatitis B disease and 168 (89.8%) about hepatitis B vaccination.

Majority of students 174 (93%) knew that hepatitis B was a preventable disease and this fact was appreciated more by clinical students, 111 (97.4%) than the preclinical 63 (86.3%) students. (P= 0.004).

Small number of students 95 (50.8%) knew about post exposure treatment availability for hepatitis B. Low level of knowledge about post exposure treatment availability for hepatitis B was found in both preclinical and clinical groups. One hundred thirty eight (73.8%) students were vaccinated for hepatitis B while 49 (26.2%) were not vaccinated (Table-1).

When the students were asked about source of their information, 70 (22.6%) had received information from teachers, 67 (21.6%) from books, 46 (14.8%) from media

Table-1: Knowledge about Hepatitis B disease and vaccination status.

Factors	All (Yes) n(%)	Pre-Clinical (Yes) n(%)	Clinical (Yes) n(%)	p-value
Knowledge about HBV disease				
Do you know about of Hepatitis B disease?	181 (96.8)	68 (93.2)	113 (99.1)	0.034
Do you know Hepatitis B is preventable disease?	174 (93.0)	63 (86.3)	111 (97.4)	0.004
Do you know Hepatitis B vaccine is available?	168 (89.8)	63 (86.3)	105 (92.1)	0.200
Do you know vaccine can prevent from disease?	121 (64.7)	25 (34.2)	96 (84.2)	<0.001
Do you know about the post infection treatment availablibility?	95 (50.8)	42 (57.5)	53 (46.5)	0.141
Vaccination Status				
Do you ever go for Hepatitis B screening Test?	94 (50.3)	31 (42.5)	63 (55.3)	0.088
Are you vaccinated for HBV?	138 (73.8)	55 (75.3)	83 (72.8)	0.701
Does this vaccine give life long immunity?	93 (49.7)	24 (32.9)	69 (60.5)	<0.001
Do you think that other people around you should have vaccination for HBV?	95 (50.8)	40 (54.8)	55 (48.2)	0.382

Results are expressed as number and percentages.

while in 38 (12.3%), 18 (5.8%) and 30 (9.7%) the source of information was friends, family members/ relatives and internet respectively.

Eighty three (30.4%) students recognized surgeons as the group of people at risk to acquire Hepatitis B infection, 57 (20.9%) and 72 (26.4%) knew risk for paramedical staff and commercial sex workers respectively, while only 9 (3.3%) students knew that medical students are at risk of acquiring infection.

Majority of students had the knowledge of the source of infection (Table-2).

clinical work during clinical posting helps students to increase their knowledge and awareness.

Another study about the knowledge of students regarding viral hepatitis infections reported that the highest level of awareness was found about hepatitis B infection and the lowest level of knowledge was found about the symptoms and treatment of different types of hepatitis. No significant difference was found in the level of awareness between male and female medical students.[15]

One hundred sixty eight (89.8%) students knew about the availability of the vaccine. The reported results from a study done at Sultan Qaboos University

Table-2: Knowledge about Mode of transmission of disease.

Modes of Transmission	All (Yes) n(%)	Pre-Clinical (Yes) n(%)	Clinical (Yes) n(%)	p-value
Vertical Transmission	115(61.5)	43(58.9)	85(74.6)	<0.001
Syringes and needle pricks	151(80.7)	42(57.5)	109(95.6)	<0.001
Blood transfusion	162(86.6)	56(76.6)	106(93)	0.002
Handling blood products	159(85)	48(65.7)	111(97.4)	<0.001
Sexual relation	119(63.6)	26(35.6)	93(81.5)	<0.001
Surgical instruments	113(60.4)	26(35.6)	87(76.3)	<0.001
Hand shaking/ touching	21(11.2)	13(17.8)	8(7)	0.032
Hugging/ Kissing	51(27.3)	22(30.1)	29(25.4)	0.504
Sharing food	96(51.3)	72(98.6)	24(21.1)	<0.001
Sharing eating utensils	76(40.6)	56(76.6)	20(17.5)	<0.001
Sharing Razors	153(81.8)	48(65.7)	105(92.2)	<0.001
Tattooing	119(63.6)	26(35.6)	93(81.5)	<0.001

Results are expressed as number and percentages.

Discussion

The increasing prevalence of infection with HBV is the greatest threat for health care workers including students. The exposure to infections among students results from lack of knowledge, experience and appropriate techniques to handle sharp instruments during their clinical postings. The adequate and appropriate knowledge about HBV infection is essential for medical students, as they have to play an important role in limiting the increasing prevalence of HBV infection and in promoting health education.

Results of the present study showed that most of the male students, 181 (96.8%) knew about hepatitis B infection. Similar results were reported by a study from a private medical college where almost all students knew about hepatitis B.[13] Another study about awareness of hepatitis B has reported that 75% of medical students were aware about hepatitis B virus and infection.[14]

The fact that hepatitis B is a preventable disease was appreciated by 174 (93%) students and significant difference in the level of knowledge was found in preclinical and clinical groups. This shows that exposure to

showed that (65.2%) students appreciated the availability of vaccine and more by medical than non medical students.[14] This may be because of increasing awareness about disease and prevention against the disease.

One hundred thirty eight (73.8%) male students in present study were vaccinated against hepatitis B. The study from Mumbai done in 2002 reported that only 26.3% of medical students were vaccinated,[16] while another study from Lahore[17] reported that (42.2%) of students were vaccinated. This shows that the awareness about the preventive measures including vaccination is increasing, but still 100% of our medical students are not vaccinated as per WHO recommendation.

Despite the fact that medical students are more vulnerable to acquire infective diseases,[4] only 9 (3.3%) students surveyed, considered medical students as a high risk group.

Majority of students regarded blood transfusion, syringes, needles, surgical instruments, sharing of razors as an important source of transmission of infection. Almost similar results were found in literature.[13,14,18,19]

The significant difference in knowledge in preclinical and clinical students was found in the present study, as also reported in literature.[13,15,20]

Conclusion

A significant difference in the knowledge of preclinical and clinical group of male students was observed. It is important to give information to students regarding infectious diseases including hepatitis B before the start of practical bedside training. The insufficient level of knowledge about various aspects of hepatitis B at the time of starting clinical postings may result in undesirable accidents. Admission to practical training should be preceded by education concerning the knowledge of blood borne infections and understanding and adaptation of preventive measures against these infections.

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