

## HEPATITIS C VIRUS (HCV) AWARENESS AMONG MEDICAL STUDENTS IN RAWALPINDI

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### ABSTRACT

**Objective:** To assess HCV awareness level among medical students.

**Study Design:** Cross sectional descriptive study.

**Place and Duration of Study:** The study was conducted at Army Medical College Rawalpindi from March to October 2012.

**Methodology:** A structured questionnaire based cross sectional study was conducted including male and female medical students from 3rd and 4th year of both MBBS and BDS classes. The data was reported in the form of frequencies and percentages of correct answers and *p* value was calculated for the difference in level of correct answers regarding HCV routes of transmission, between male and female students using chi-square test.

**Results:** Survey showed that male students were more knowledgeable about HCV than females. Regarding possible transmission routes for HCV, it is evident that most of the students knew that main spreading cause is blood products, injection drug users and reuse of syringes as compared to other risks. Misconceptions observed are of significance especially at the level of health care providers as this can hinder their professional duties, interaction with the patient and treatment.

**Conclusion:** Knowledge regarding HCV among medical students is inadequate and it can influence HCV prevalence, treatment and management in society.

**Keywords:** HCV, Hepatitis complications, Medical Students.

### INTRODUCTION

Hepatitis C virus (HCV) has infected ~2-3% population worldwide<sup>1</sup> and Pakistan is amongst the high HCV prevalent countries<sup>2</sup>. HCV infection ultimately leads to liver damage and hepatocellular carcinoma (HCC)<sup>3</sup>.

Healthcare workers are at higher risk of HCV infection. Medical students are at higher risk of acquiring infections as they have direct contact with patients and they also deal with blood (transfusions), surgical instruments and injections. There is a need to start training regarding infectious diseases precautions in countries lacking safety equipment and staff vaccination programmes<sup>4</sup>.

The medical students can be at high risk of acquiring infections because of lack of experience and skill. They must have sound

knowledge of the blood borne diseases like HCV infection as medical student's awareness for such diseases is very important not only for their own safety but also for the effective patient care. The misconceptions regarding basic knowledge for HCV may not only put them at risk but can hinder the effective interaction between patients and doctor. Hence keeping in view the importance of medical students being future doctors at the start of their medical profession, a survey was conducted at Rawalpindi and Islamabad, Pakistan to estimate their level of awareness regarding route of HCV transmission.

### MATERIAL AND METHODOLOGY

The study was structured, self-administered questionnaire based cross sectional study conducted at Army Medical College, Rawalpindi from March to October 2012 to assess the knowledge of medical students regarding HCV after approval from the institute's ethical committee. For this purpose, medical science undergraduates including both MBBS and BDS from 3<sup>rd</sup> year and 4<sup>th</sup> year were included in the study after

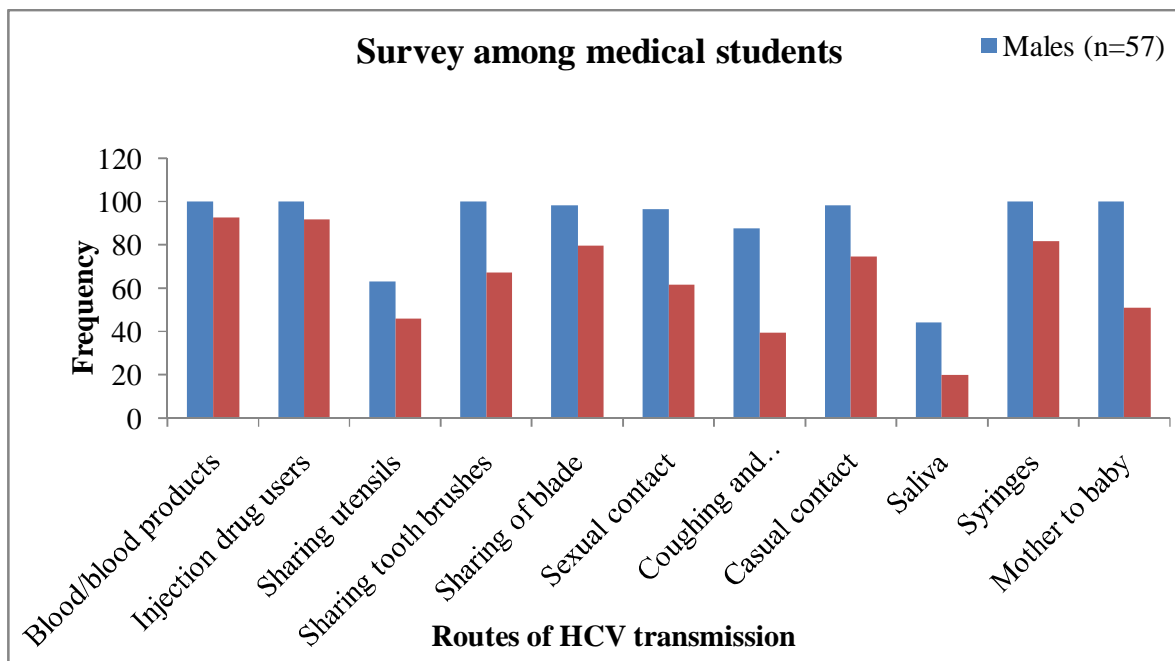
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taking informed consent. The students who refused to participate were excluded from the study and final data analysis. The study was conducted on 179 medical science students including 57 males and 122 females through random sampling. The questionnaire was designed and assessed for its validity by a panel of clinical experts to evaluate the knowledge of the participants about routes of HCV transmission i.e., contact with blood/ blood

research were trained to administer informed consent and questionnaire to medical students. Microsoft excel 2007 was used for descriptive statistics. The data was reported in the form of frequencies and percentages of correct answers. *p* value was calculated for the difference in level of correct answers regarding HCV routes of transmission between male and female students using chi-square statistics through web-based tool



\* n= Number of males/ females medical students included in the study

Frequency= Frequency marks the right answers given by participant

**Figure-1: Survey regarding HCV awareness among medical students (frequency of correct answers).**

products, reuse of syringes, sexual contact with HCV infected partner, from HCV infected mother to new born baby, among injection drug users, through coughing and sneezing of HCV infected patient, casual contact with HCV infected patient or his/her saliva, and sharing utensils, tooth brushes and blades with HCV infected patient etc. Awareness questionnaire was adopted from two studies<sup>5,6</sup> with some modifications. For attitude, the participants were given the three options i.e., they agree, disagree or have no idea. The participants of the study were briefed about the purpose of the study and assured about the data confidentiality. Authors who conducted the

(<http://www.socscistatistics.com/tests/chisquare/default2.aspx>).

## RESULTS

The awareness study included 179 medical students i.e., 57 (31.84%) male with mean age  $21.84 \pm 0.70$  and 122 (68.16%) female medical students with mean age  $21.27 \pm 0.51$  of MBBS and BDS from 3<sup>rd</sup> year and 4<sup>th</sup> year. The students who refused to take part in the study were not included in the final data analysis.

Taking percentage of correct answers, 170 medical students i.e., 94.97% (including 57 males (100%) and 113 females (92.62%) with  $p=0.035$ , were aware of blood as source of HCV

transmission (Figure 1). One hundred and sixty nine students i.e., 94.41% including 57 male students (100%) and 112 female students (91.8%) with  $p=0.026$ , said that injection drug users are at greater risk of acquiring HCV. Ninety two students i.e., 51.40% (including 36 male (63.2 %) and 56 female students (45.9%) with  $p=0.031$ , didn't think utensil sharing as a possible risk for HCV transmission. One hundred and thirty nine students i.e., 77.65% including 57 male (100%) and 82 female students (67.2%) with  $p<0.001$ , agreed that sharing tooth brushes can pose serious threat to get infected with HCV. One hundred and fifty three students i.e., 85.47% including 56 male students (98.3%) and 97 female students (79.5%) with  $p<0.001$ , said that sharing blade can transmit HCV from an infected individual to unaffected one. Results show that 130 students i.e., 72.63% including 55 male students (96.5%) and 75 female students (61.5%) with  $p<0.001$ , agreed that HCV can be sexually transmitted. According to 98 students i.e., 54.75% including 50 males (87.7%) and 48 females (39.3%) with  $p<0.001$ , coughing and sneezing are not associated with HCV transmission. According to 147 students i.e., 82.12% including 56 males (98.3%) and 91 females (74.6%) with  $p<0.001$ , HCV could be transmitted by casual contact. Students were found confused for saliva as route of HCV transmission and only 49 students i.e., 27.37% including 25 males (43.9%) and 24 females (19.7%) with  $p<0.001$ , think that saliva cannot transmit HCV. One hundred and fifty seven students i.e., 87.71% including 57 males (100%) and 100 females (82%) with  $p<0.001$ , believed that re-use of syringes can cause HCV infection. Data shows that 119 students i.e., 66.48% students including all of 57 males (100%) and 62 females (50.8%) with  $p<0.001$ , agreed that HCV can be transmitted from an HCV infected mother to new born. Overall, male students were found to be significantly more aware of HCV than that of female students.

## DISCUSSION

Hepatitis C virus (HCV) has infected ~2-3% population worldwide<sup>1</sup> and Pakistan is amongst the high HCV prevalent countries<sup>2</sup>. It

has been reported that in Punjabi population the risk factors for HCV transmission include therapeutic injections (44.3%), dental surgeries (16.6%), blood/blood transfusion (10.7%), shaving at shops/ sharing blades (5.9%), surgeries/ medical procedures (3.3%), multiple risk factors (9%), sporadic (4.9%) and others (5.4%)<sup>7</sup>. Mother to child transmission ranges from 2-8%<sup>8</sup>. These are established risk factors and hence our students were aware of the main routes of HCV transmission i.e., blood transfusion, injection drug users, syringes and sharing blade etc.

There is no evidence about association of casual contacts or sharing utensils with transmission of HCV<sup>9,10</sup>. Sneezing and coughing also do not transmit HCV<sup>11,12</sup>. In another survey, 28% of the participants thought coughing or sneezing can transmit HCV from infected person to healthy one<sup>12</sup>. In present study, we found students have misconceptions that sharing utensil, casual contact and coughing and sneezing are the risks for acquiring HCV. This is alarming situation as if the medical students are not aware of the fact that casual contact/ sharing utensils/ sneezing coughing have not been associated with the HCV transmission then how will they treat the HCV infected patients efficiently. Oral fluid as mode of HCV transmission is a controversy, saliva has been found positive for HCV in some patients<sup>14</sup>. The students were also confused regarding salivary route of HCV transmission. Our study has shown that females are less aware regarding HCV as compared to males.

A survey had been conducted in Karachi and the study showed that medical students entering into the profession didn't have the sound knowledge of diseases like Hepatitis and AIDS. Thus students need to acquire more education to handle such cases<sup>4</sup>. A survey conducted earlier in three medical colleges i.e., Rawalpindi Medical College, Islamic International Medical College and Shifa Medical College revealed the shortcomings in knowledge, attitude and practice of the medical students regarding HBV and HCV highlighting importance of providing further information to the students<sup>15</sup>. In the present study, we also

found that our medical students were not fully aware of HCV transmission.

Medical students are at higher risk of acquiring infections as they have direct contact with patients and they also deal with blood transfusions, surgical instruments and injections. There is a need to start training regarding infectious diseases precautions in countries lacking safety equipment, safety instructions for infectious diseases and staff vaccination programmes<sup>4</sup>.

The study has limitation that it doesn't correlate the curriculum of their respective medical colleges and faculty qualifications with that of student's clinical knowledge level.

### CONCLUSION

Pakistan has high burden of HCV infection. Our medical students were not fully aware of the HCV routes of transmission. Male students were found to have significantly better knowledge than females. It is time needed to educate the clinical students regarding basics about HCV so that they being in first and direct contact with the patient keep themselves safe from HCV and can counsel and provide better health care facility to the HCV infected patients. This can be helpful for HCV management in Pakistan.

### CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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