

# KNOWLEDGE OF MEDICAL, DENTAL AND NURSING STUDENTS OF FIRST YEAR REGARDING HEPATITIS B AT A PUBLIC SECTOR MEDICAL UNIVERSITY.

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## Abstract:

**Objectives:** To assess the knowledge about hepatitis B and to determine the common sources of seeking information regarding hepatitis B amongst the medical, dental and nursing students of first year at Liaquat University of Medical Health Sciences Jamshoro Sindh Pakistan.

**Methods:** This cross sectional study was conducted amongst the first year students of medical, dental and nursing at Liaquat University of Medical Health Sciences Jamshoro. The total respondents assessed in study were 450. Data were collected when the student came up for administration of Hepatitis B vaccination in the Department of Community Medicine. Data were analyzed by using SPSS software and descriptive analysis was carried out.

**Results:** This study revealed that 89.55% of the study participants had heard about hepatitis B. Out of which 57.77% knew that virus was a cause of hepatitis B. Their knowledge about various factors related with hepatitis B was as under: 20.8% knew mother to child transmission, 22.6% had idea of unsafe blood transfusion as a risk factor, 22% knew reused needles and unsafe sex as risk factors. Seventy six percent were aware of vaccination against hepatitis B, 27.11% had idea of hepatitis B vaccine dose, 4.44% said that the vaccine provided immunity for 10 to 15 years. The most common source of information was TV.

We observed significant difference in the knowledge about hepatitis B among students of the different faculties.

**Conclusion:** This study reflects that the knowledge regarding Hepatitis B was assessed very low among the students incoming in the medical, dental and nursing profession. There is over all need of public health awareness regarding this very crucial health

**Key Words:** Knowledge ,Hepatitis B, Unsafe blood transfusion, Liaquat University of Medical health Sciences Jamshoro.

## Introduction:

Infectious disease of Hepatitis B virus (HBV) is a major cause of morbidity and mortality in the South-East Asia region (SEAR). As medical, dental and nursing students are an essential part of the health care provider team, responsible for decision making and implementation of many health care related practices. In the learning and training during the undergraduate course they are taught about the theory and practice of delivering health care. Serious and highly fatal blood borne infections like

HIV and Hepatitis B are the front runners in their occupational diseases profile. Hepatitis B is a highly infectious disease but preventable by its vaccination.

Hepatitis B is an infectious communicable illness of the liver that is caused by the [hepatitis B virus](#) (HBV) that affects [hominioidea](#), including humans. actually known as serum hepatitis,<sup>1</sup> the disease has caused [epidemics](#) in regions of Asia and Africa, and it is [endemic](#) in China.<sup>2</sup> About a third of the world population has been infected at one point in The virus is transmitted by exposure to infectious blood or [body fluids](#) such as semen and vaginal fluids, while viral DNA has been detected in the saliva, tears, and urine of chronic carriers in their lives,<sup>3</sup> including 350 million who are chronic carriers.<sup>4</sup>

Perinatal infection is a major route of infection in endemic (mainly developing) countries.<sup>5</sup> Other risk factors for developing HBV infection include working in a healthcare setting, [transfusions](#), and dialysis, acupuncture, tattooing, extended overseas travel and residence in an institution.<sup>3,6,7</sup> However, Hepatitis B viruses cannot be spread by holding hands, sharing eating utensils or drinking glasses, kissing, hugging, coughing, sneezing, or breastfeeding<sup>8,9</sup>

The acute illness causes liver inflammation, vomiting, jaundice, and (rarely) death. Chronic hepatitis B may eventually cause [cirrhosis](#) and [liver cancer](#) - a disease with poor response to [all but a few current therapies](#)<sup>10</sup>.

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The infection is preventable by [vaccination](#).<sup>11</sup>

More than one-third of the world's population has been infected with HBV<sup>12</sup>. Transmission of HBV infection by blood transfusion and in other medical interventions in both modern and traditional health practices is also common in SEAR. In India, the carrier rate of HBsAg in hospital staff has been found to be higher (10.87%) than in voluntary blood donors (6%) and in the general population (5%)<sup>13</sup>. Studies show that the highest number of sharps injuries was sustained by healthcare professionals while they were drawing blood, giving injections or suturing. In addition, those not wearing gloves while doing any of these procedures were at greater risk of contracting infection<sup>14</sup>. Medical, dental and nursing students are more vulnerable to infectious diseases as they are in direct contact with the patients, requiring blood transfusions, injections, surgical instrumentation etc.

Assessing the knowledge regarding hepatitis B among these first year students gives the required information for planning and implementing educational programs relating to universal precautions and biomedical waste management in their future curriculum. Published studies regarding knowledge of hepatitis B amongst first year students are scarce in our area of Sindh. Our study was conducted with the objective of assessing knowledge in regard of hepatitis B among the medical, dental and nursing students of first year, of Liaquat University of Medical Health Sciences Jamshoro.

#### Methodology:

A cross-sectional study was undertaken in 2009 among the first year medical, dental and nursing students of Liaquat University of Medical health Sciences Jamshoro. A total of 450 study participants (300 medical, 100 dental colleges and 50 nursing students) who were not vaccinated for hepatitis B, were interviewed. The self-administered questionnaire include demographic characteristics like age and sex, and also various questions related to hepatitis B like awareness regarding hepatitis B; knowledge of its causes, risk factors and prevention aspects, number of vaccine shot required, duration of its effect source of information regarding disease.

Awareness was taken as having heard about Hepatitis B. The department of community medicine of the Liaquat University of Medical Health Sciences Jamshoro administers hepatitis B vaccine to the first year students of medical, dental and nursing students. The data were collected when these students came to Community Medicine Department for their vaccinations. Those who did not turn up for vaccinations in spite of two reminders were not included in the study. Data were entered and analyzed by using SPSS version 15.

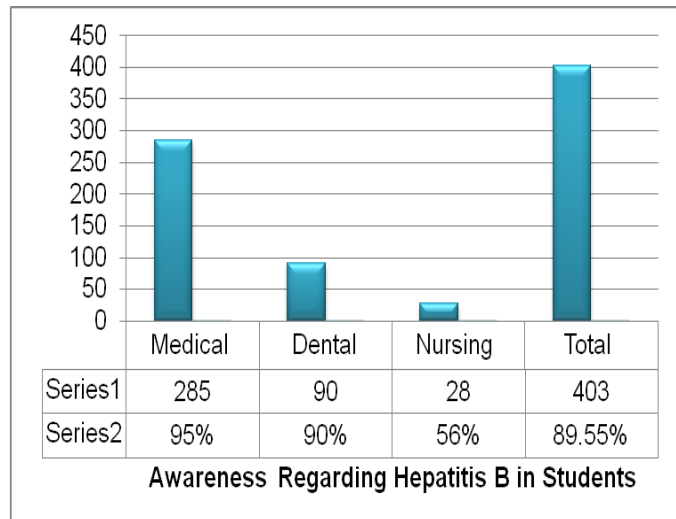
#### Results:

The mean age of the study participants subjects (total 450) was 20.36±2.3 years. In all the three faculties, proportion of females was more than males, the highest being in the nursing (70%) followed by dental (54%) and then medical faculty (52%).

**Table-1: Study subjects sex distribution**

|   |        | Medical<br>IF=300 | Dental<br>IF=100 | Nursing<br>IF=50 | Total<br>450    |
|---|--------|-------------------|------------------|------------------|-----------------|
| 1 | Male   | 144<br>(48%)      | 46%              | 10 (2%)          | 200<br>(44.44%) |
| 2 | Female | 156<br>(52%)      | 54%              | 40 (70%)         | 250<br>(55.55%) |

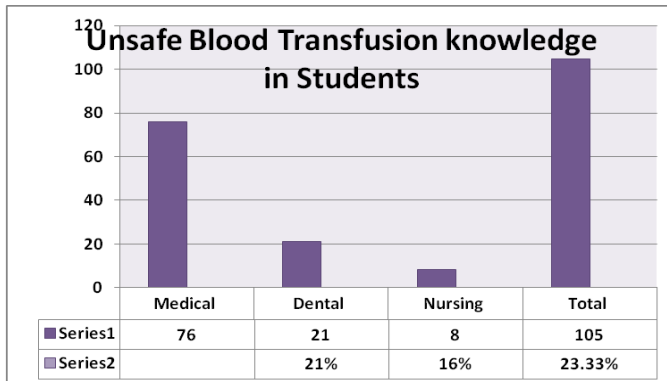
Those who had heard about hepatitis, the medical students were 285 (95%), the dental students 90 (90%) of and the nursing students 28 (56%); and the overall awareness was 89.55%. This difference in awareness between different faculties was statistically significant.



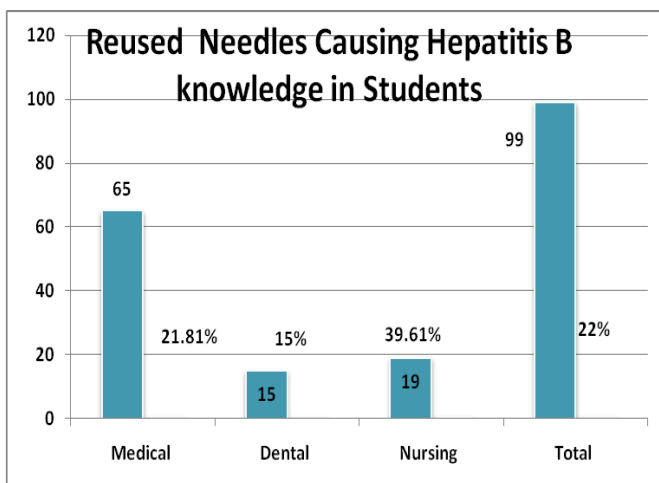
The virus is the cause of hepatitis B was told by only 260 (57.77%) of the respondents, with a statistically significant difference between the different groups i.e. highest proportion (68.43%) of correct responses from the medical students subsequently dental (45%) and nursing students (19.34%).

Mother to child route of transmission of hepatitis B was known 94(20.88%) of the respondents. About 76 (25.30%) of the medical students followed by (14%) of the dental students and only (7.34%) of nursing students gave the correct reply; the difference also was statistically significant.

Regarding the risk factors of hepatitis B only 23.33% considered unsafe blood transfusion as a risk factor; and 22% and 22.66% of the respondents considered reused needles and unsafe sex as risk factors of hepatitis B respectively. For unsafe blood transfusion as risk factor for hepatitis B, medical students were more aware subsequently dental and nursing students, the difference being statistically significant.



The nursing students were more aware 19(39.61%) about reused needles as a risk factor followed by medical students (21.81%) and then dental students (15%). Only 22.66% considered unsafe sex as a risk factor for hepatitis B. relatively, medical students (27.31%) were more aware than dental students (14%), followed by nursing students (12.01%) with a statistically significant difference between these.



With regards to prevention by hepatitis B vaccine, 76% of the respondents knew about it. A statistically significant difference existed in this knowledge between the medical students (92.7%) followed by dental (48%) and then nursing students (32.33%).

The source of information as mentioned by the participants was TV 28.8%, radio, magazine, books 12.4%, internet 8.3%, teachers at 1st year 5.4% and parents and friends 8.6%. Among them, 27% reported rightly three doses of hepatitis B vaccine, 4.44% told that it was effective for 10 to 15 years.

#### Discussion:

In a study by Daud et al<sup>15</sup> conducted among the first year medical students, 96% responded that virus is a cause of hepatitis B as compared to 57.7% of the medical students correctly responding in our study. Al Jabri AA et al<sup>16</sup>, in a study in Oman have reported that 75% of the students (preclinical medical and non-medical combined) correctly responding that virus is a cause of hepatitis. Daud et al<sup>15</sup>, Anjum Q et al<sup>17</sup> and Al Jabri AA et al<sup>16</sup> have

reported the proportion of subjects responding unsafe blood transfusion as a risk factor of hepatitis B as 28%, 95% and 75% respectively, while in our study this was found to be 23.33%.

This result is comparable to the study done by Seema Daud et al<sup>15</sup>, whereas Shaheen Shah et al<sup>18</sup> in a study on Epi vaccinators have shown a higher (50%) result in responding correctly that reused syringes are a risk factor for hepatitis B. This may be because the Epi vaccinators' primary responsibility is to give vaccines and they may have been provided training regarding safe injection practices.

Shah et al<sup>18</sup> have reported 22% of their study subjects as being aware of unsafe sex being a risk factor of hepatitis B as compared to only 8% being reported in a study by Seema Daud et al<sup>15</sup> whereas in our study it was 22.66% which is comparable to these studies.

Vaccination as a prevention strategy for hepatitis B was reported by 15% and 65% of the respondents in the studies done by Seema Daud et al<sup>15</sup> and Al Jabri AA et al<sup>16</sup> respectively as compared to 76% in our study & Hepatitis B vaccine schedule of three doses is known to 27.11% & effect of vaccine lasts for 10 to 15 years was correctly reported by 4.44% in our study that is still not researched in other studies.

We found that different studies around the globe have reported different results for the various parameters. It is because of the differences in the general awareness of the people in those regions about hepatitis B and also the differences in the study subjects involved in these reported studies. Overall, we can say that the nursing students were much less aware about hepatitis B and its related aspects of causes, risk factors and prevention which is a cause of worry because they are directly involved in patient care. The medical students are more aware than the dental students regarding hepatitis B which is on expected lines. The knowledge about risk factors is also very dismal among the study subjects. Although, these three groups have to work in the same settings and will be exposed more or less to same occupational hazards in their careers, they have a vast difference in knowledge regarding one of the serious health problems that they will be at risk while delivering healthcare; i.e. hepatitis B. The nursing staff in the hospital is more in contact with the patients and therefore at greater risk of acquiring hepatitis B and their knowledge is very deficient.

First year students cannot be blamed for not having entire knowledge about the transmission of hepatitis B. Onus of imparting such knowledge falls on the medical / nursing school and the university. As no comparisons were made between the students of first year and final year, it cannot be assessed as to how effectively the university is imparting knowledge regarding hepatitis B to the students.

As we have seen varying results in different studies reported globally on this topic, it is recommended that these type of studies have to be conducted in different

areas and bigger samples to assess the actual knowledge on this disease so that relevant tailor made strategies can be made.

Hepatitis B is a highly infectious disease, and it shares many of its routes of transmission akin to those of HIV/AIDS. Making the healthcare team aware of its correct knowledge will go a long way in prevention of both these infections.

#### Conclusion:

Assessed knowledge regarding hepatitis B was found to be low among students entering the medical, dental and nursing profession.

#### Recommendation:

As a major communicable disease information regarding Hepatitis B should be shared with students at first year level of students in the interest of public health and safety of health team.

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