

Preventative Measures of Hepatitis B and the Attitude of Nursing & Dental Students: A Comparative Study

Measures of Hepatitis B and the Attitude of Nursing & Dental Students

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ABSTRACT

Objective: To determine the preventative measures and attitude of nursing and dental students regarding Hepatitis B students

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Karachi campus of Isra University from September 2022 to February 2023.

Materials and Methods: A cross-sectional study was conducted in the Karachi campus of Isra university in which 100 nursing students from different study years of both gender were selected through snowball sampling technique. A questionnaire was given to the nursing students which was validated and consisted of three major aspects of HBV. Data was entered and analyzed using SPSS Version 24.0.

Results: The nursing participants had a mean age of 21.34±23 dental participants were 22.14±31. All of the nursing students were vaccinated against HBV virus, with 62% having received 3 doses, while 38% receiving 2 doses. 94% of the students knew that the infection can be transmitted, while 98% had knowledge that syringes, needles, and surgical instruments can cause its transmission. 94% of the students agreed that the vaccine is safe, while 92% students also agreed that all patients should be tested for HBV. 80% of the students were screen for HBV, while 94% students agreed that they changed gloves whenever they were acquiring blood.

Conclusion: According to the study data the attitude and knowledge of dental students are more enhance than nursing students. We have to improve awareness and develop the attitude of students related to health care provider for betterment of health care management.

Key Words: Hepatitis B, Vaccine, Preventative, Nursing students

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INTRODUCTION

Classified as an enveloped DNA virus from the Hepadnaviridae group, Hepatitis B (HBV) is a highly prevalent and infectious virus first being isolated from Australian Aborigine¹⁻². Like all viruses, HBV enters the host of cells and proliferates inside it by taking control the cells complex machinery. HBV enters into the hepatocytes of the host by attaching onto the host cell surface and then finally using the host cell to its own benefit³.

Globally it is stated that 257 million people are living with HBV infection, and about a million people die from the dreaded viral hepatitis- related complications that mostly included liver cirrhosis and liver cancer⁴. HBV spreads from one individual to another mainly through infective blood, IV drug abuse, reusing syringes, sexual transmission, and transmission from mother to child. WHO⁵⁻⁶. Despite strong efforts, the prevalence of HBV in Pakistan is increasing and is mainly due to the fact that there is a large pool of HBV and HCV infected individuals which is gradually multiplying. This is a mainly due to the fact that the knowledge and awareness of the way the disease is prevented and transmitted is unknown to many. If proper knowledge is given regarding HBV, then its prevalence can halt significantly. The health care professionals are the most susceptible to obtaining HBV infection from an infected individuals as they are in constant contact with patients. HBV infection is a significant occupational hazard due to not just exposure to patients but through other materials carrying the virus which includes body fluids, medical supplies which are contaminated, and in general contaminated environmental surfaces⁷. The yearly exposure to health care workers to HBV worldwide is 5.9%⁸. The most

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effective way of preventing an HBV infection is through Hepatitis B vaccination. The WHO has gone about to develop particular guidelines on the prevention, care, and treatment of HBV infections ⁹. Other ways through which HBV infectivity rate can be reduced is through blood safety, programs on infection control, and better knowledge and education regarding the disease ¹⁰. Pakistan is a third world country which itself is facing issues with both hepatitis B and C infections and requires public health intervention to improve the situation. Considering this factor, a cross-sectional study was conducted among nursing students to assess their knowledge regarding preventative measures of hepatitis B as well as their attitude towards it.

MATERIALS AND METHODS

A cross sectional analytical study was done from September 2022 to February 2023, after taking an ethical approval from the Isra university Karachi campus. The data was collected from the valid questionnaire through a snow ball sampling, and using google form to obtain the data from different students of nursing school and dental colleges. Total 200 number of undergraduate students of both gender and all study years from various institutions were included after taking a verbal consent. The 100 students included

from nursing and other 100 were dental students. The questionnaire contains three major aspects to evaluate the students stance regarding preventive controls and their attitude towards Hepatitis B viral disease. For any query regarding the proforma, the contact details was shared by the participants. The descriptive data was evaluated through descriptive statistical analysis and data was analyzed through SPSS version 24.0. Chi-square test was applied to evaluate the correlation of qualitative data, and the level of significance was considered at $P < 0.05$.

RESULTS

In the study, Mean age of the Nursing participants was 21.34 ± 23 , and Dental students was 22.14 ± 31 .

Figure 1, shows the percentage of male and female in the study.

Table 1, shows the percentage distribution of nursing and dental student knowledge about hepatitis B infection

Table 2, shows the percentage distribution of nursing and dental student attitude towards hepatitis B infection

Table 3, shows the frequency and percentage distribution of nursing and dental students practice about hepatitis B infection.

Table No.1: Percentage distribution of student knowledge about hepatitis B infection

	Nursing Students			Dental Students			P-value
	Yes	No	Don't Know	Yes	No	Don't Know	
HBV causes liver cancers	72%	20%	8%	96%	1%	3%	0.001
HBV carriers can transmit infection	94%	2%	4%	99%	0%	1%	0.214
HBV is spread by casual contact like hand shaking	76%	8%	16%	11%	88%	1%	0.001
HBV is spread by contact with open wound / cut	80%	8%	12%	89%	4%	7%	0.324
HBV can transmitted by contaminated blood and body fluids.	94%	2%	4%	100%	0%	0%	0.043
HBV be transmitted by unsterilized syringe, needle and surgical instruments.	98%	0%	2%	100%	0%	0%	0.245
HBV can be transmitted by unsafe sex	92%	2%	6%	84%	6%	10%	0.051
Vaccine can prevent HBV infection	94%	2%	4%	98%	0%	2%	0.354
HBV has been laboratory tested	100%	0%	0%	100%	0%	0%	0.574
HBV has post exposure prophylaxis	68%	4%	28%	72%	8%	20%	0.421
HBV can be cured / treated	80%	8%	12%	89%	7%	4%	0.174
Chi Square Test was applied							

Table No.2: Percentage distribution of student attitude towards hepatitis B infection

	Nursing Students			Dental Students			P-value
	Yes	No	Don't Know	Yes	No	Don't Know	
I have no concern of being infected with HBV	0%	98%	2%	0%	100%	0%	0.654
HBV vaccine is safe and effective	94%	2%	4%	97%	2%	1%	0.214
Change of the gloves during blood collection	6%	94%	0%	2%	98%	0%	0.435

is a waste of time							
All patients should be tested for HBV before they receive health care.	92%	2%	6%	100%	0%	0%	0.054
I do not feel comfortable to take care of people with HBV	20%	72%	8%	100%	0%	0%	0.001
Following infection control guidelines will protect me from being infected by HBV at work	94%	2%	4%	96%	2%	2%	0.641
Chi Square Test was applied							

Table No.3: Frequency & Percentage distribution of student practice about hepatitis B infection

	Nursing Students		Dental Students		P-value
	Yes	No	Yes	No	
Have you ever screened for HBV	80%	20%	98%	2%	0.001
I always change gloves for each patient during blood taking	94%	6%	100%	0%	0.047
Have you ever had a needle prick injury	6%	94%	9%	91%	0.842
I always report for needle prick injury	8%	92%	3%	97%	0.459
Have you been vaccinated against HBV?	100%	0%	100%	0%	0.745
Vaccination					
How many does of HBV vaccine did you receive	Not received before	0%	0%	0%	0.325
	1 Dose	0%	0%	0%	0.542
	2 Doses	38%	10%	10%	0.001
	3 Doses	62%	90%	90%	0.001

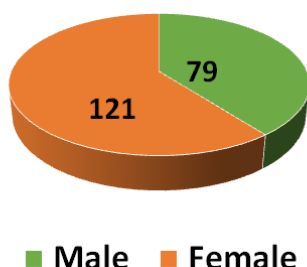


Figure No.1: Gender

DISCUSSION

Mehmood et al conducted a study to determine the prevalence of HBV in Pakistan, his study found that Punjab was the region with the most infectivity in Pakistan, followed by interior Sindh and war affected regions of Pakistan. Furthermore, due to displacement of many people into temporary camps across Pakistan acts as a great place for transmission of viruses including HBV⁹. This study was designed to determine the attitude and preventative measures undertaken by nursing students against HBV patients. A paradigm shift has taken place when it comes to nursing education since it was transformed from a diploma-based program to a degree-based program highlighting the importance that this field has in the health industry¹⁰. Therefore, it is paramount, that they have get knowledge regarding HBV as they are one of the leading front-line workers. The nursing showed great knowledge regarding the transmission, prevention, and treatment of HBV. This finding is in line with another study which showed that nursing showed a more understanding and favorable attitude towards HBV than

non-nursing college students¹¹. Another study showed that nursing students, that worked in hospitals showed a greater knowledge scores towards HBV ($P < 0.05$)¹². The attitude and practice of the nursing students were also great to see and highly appreciated with them having adequate knowledge about the preventative measures as well as all of them being vaccinated against HBV with 62% being having 3 doses of vaccination and the remaining 38% having 2 doses of vaccination. Another study conducted on the knowledge and attitude of students regarding HBV showed that the majority of the health care professionals had ample knowledge and showed a positive attitude towards HBV. However, the same study highlighted that medical students lacked ample knowledge regarding different aspects of HBV infections, on the contrary, dental students were better informed and showed a better attitude towards the disease¹³. This can be due to the fact that dental students in their early years of dental school are directly involved with patient care and thus when they reach the final year, they have adequate clinical exposure and are said to be more compliant and confident in dealing with patients presenting with infectious diseases as well as abiding standard cross-infection protocols. Some studies have cited quiet the opposite of our study, with one showing that HBV prevention among nursing students were sub-optimal therefore requiring policies and regular education on HBV prevention¹⁴. However, we are far away from tackling the epidemic of HBV that has constantly been taking lives of many innocent people for years. This can only be changed by proper education of the health care workers as well as the

population in general, regular screening programs to identify potentially infected individuals, and a mass vaccination campaign. Unfortunately vaccine hesitancy is a big issue faced by Pakistan which is not just faced in the vaccination drive against HBV, but other viruses such as COVID-19, and polio as well¹⁵. However, this study does prove that the education institutes are playing that part in improving the attitude of medical students towards HBV. Future studies need to be conducted in non-medical universities as well to see what their position is regarding HBV.

CONCLUSION

According to the study data the attitude and knowledge of dental students are more enhance than nursing students. We have to improve awareness and develop the attitude of students related to health care provider for betterment of health care management.

Author's Contribution:

Concept & Design of Study:	Shafi Muhammad Wassan
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Conflict of Interest: The study has no conflict of interest to declare by any author.

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