

# Awareness of Hepatitis-B amongst Non-Medical Staff of Teaching Hospital, Dera Ghazi Khan

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## ABSTRACT

**Background:** Hepatitis B is a viral infection endemic in Pakistan. Awareness and prevention are the only safeguards against the spread and transmission of the disease, especially amongst the people working in close proximity to hepatitis patients, such as the paramedical staff.

**Aim:** To assess the awareness of Hepatitis-B amongst Non-Medical staff of Teaching Hospital, Dera Ghazi Khan.

**Methods:** Cross sectional comparative study was carried out among 126 participants. The responses for demographics, level of awareness variables, vaccination status and perceptions were gathered using a structured pre-tested questionnaire and after taking ethical approval from the ethical board DGKMC, Dera Ghazi Khan. SPSS version 23 was used for data analysis.

**Results:** Amongst 126 respondents 103 were males and 23 were females. Out of 126 respondents 87(69%) claimed to have heard of Hepatitis B, but only 65/87 (74.71%) were found having good Awareness level regarding Hepatitis B and its transmission. Only 51/87 (58.62%) of the non-medical staff received vaccination specific for Hepatitis B, while status of vaccination at birth (EPI) was 71/87 (81.61%). The awareness regarding the symptoms depicted pale skin 43/87(49.43%) and pale eyes 41/87(47.13%) as the most common presentation of hepatitis B.

**Conclusion:** The results concluded that Hepatitis B, though a preventable disease, remains endemic amongst the people of Pakistan, especially the high risk group due to lack of knowledge and awareness. The vaccination status of this preventable disease, for which vaccination is easily available, still lags behind. Importance of awareness campaigns needs to be enlightened amongst the public in general and the paramedical staff teaching hospital, Dera Ghazi Khan in specific.

**Keywords:** Hepatitis B, Non-medical staff, Awareness.

## INTRODUCTION

Hepatitis B is an infectious liver disease caused by hepatitis B virus (HBV). It can be short term acute illness defined by "detection of Hepatitis B surface antigen (HBsAg) or hepatitis B virus (HBV) DNA in blood from a patient < 6 months of age OR Detection of HBsAg and IgM antibody to hepatitis B core antigen (IgM, anti-HBc) in blood in the absence of any prior evidence of HBV infection"<sup>1,2</sup>. It can be long-term chronic illness defined by presence of HBsAg for at least six months which can lead to the cirrhosis or cancer of liver. In clinical practice, the persistence of HBs Ag in two specimens six months apart is frequently used as confirmatory test for the this chronic infection<sup>3</sup>. This disease has affected globally<sup>4</sup> and estimated two billion population is already infected<sup>5</sup>. Globally, 66% of the population is living in areas with high levels of infection, a major health problem<sup>6</sup>. It is a vaccine preventable disease but still according to WHO, number of Hepatitis B surface antigen positive people was 257million in 2015. It ended up into cirrhosis and liver cancer contributing to majority of 887000 deaths due to this disease. Only 27 million (10.5%) of all estimated Hepatitis B positive were knowing that they were infected out of which only 4.5 million (16.7%) were on medication. The highest prevalence of disease is 6.2% affecting Western Pacific Region of WHO. Pakistan is part of Eastern

Mediterranean region where estimated 3.3%, of the general population is infected with disease<sup>1,7,8</sup>. Pakistan is one of the adversely affected regions<sup>9</sup>. The disease has already affected 5 million people<sup>10</sup>. In Pakistan the prevalence of HBV is reported between 7 to 20% with more in rural than urban population<sup>11</sup>. It was approved by "world Health Assembly to eliminate viral hepatitis as a public health threat by 2030, with a target of reducing new infections by 90% and mortality by 65%"<sup>12</sup>. According to a KAP study conducted among students, females have shown comparatively higher level of awareness and above twenty years age group were more knowledgeable about Hepatitis B than younger age group<sup>11</sup>. HBV is a widespread "worldwide blood-borne pathogen"<sup>13</sup> accountable for estimated 80% of all cases of hepatocellular carcinoma which is the "third leading cause of cancer related death in Asia and Africa"<sup>14</sup>. Vertical transmission is one of the main causes of HBV transmission in countries with high prevalence of disease but early screening of pregnant females, at birth prophylactic treatment with specific anti-HBV immunoglobulin and newborn vaccination decreases the chances of vertical transmission<sup>15</sup>. In effect to the vertical transmission of the disease, a study conducted on 1000 patients out of which 23(2.3%) were HBs Ag positive. "Seven of the 10 babies (70%) born to mothers positive for both HBs Ag and HBe Ag had persistent HBs Ag in their blood"<sup>16</sup>. If the hospital waste management is not proper or the instruments are not properly sterilized health risks to health care providers and health facility workers increases<sup>17</sup> which emphasise the need to raise the

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awareness amongst the high risk populations especially the nonmedical staff, working in the medical colleges. So a key factor for advocating essential need for awareness of the Hepatitis B, its transmission and vaccination amongst the workers before getting patient exposure is to avoid grave health consequences to these workers inclusive of chronic ailment, disability and death<sup>18</sup>. Our study is designed to estimate the awareness of hepatitis, its cause, vertical transmission, spread and treatment amongst the non-medical staff working in DHQ Dera Ghazi Khan. Various studies have been conducted throughout the world on this prevailing disease. Studies have also been conducted in Pakistan to estimate the knowledge, attitude and practices of non medical staff working in hospitals of various cities. Yet, there is no latest statistics concerning the awareness of Hepatitis B amongst the non medical staff of DHQ, in an under developed city of Southern Punjab, Dera Ghazi Khan, Pakistan. This advocates the need for this study.

The objective of the study was to determine the level of awareness of hepatitis B amongst the non medical staff working in DHQ Dera Ghazi Khan medical college, Dera Ghazi Khan.

**Operational Definitions: Hepatitis B.** "Acute infection may occur with limited or no symptoms, or may include symptoms such as jaundice (yellowing of the skin and eyes), dark urine, extreme fatigue, nausea, vomiting and abdominal pain. It is transmitted through exposure to infective blood, semen, and other body fluids. HBV can be transmitted from infected mothers to infants at the time of birth or from family member to infant in early childhood. Transmission may also occur through transfusions of HBV-contaminated blood and blood products, contaminated injections during medical procedures, and through injection drug use."

## MATERIALS & METHODS

Study design was cross sectional comparative. It was conducted amongst the non medical staff of DHQ, Dera Ghazi Khan teaching hospital, Dera Ghazi Khan. All the nonmedical staff such as guards, sweepers, ward boys, stretcher bearers, aayas, etc were included. Doctors, nurses, lab attendants, pathologist, pharmacist, radiologist, ophthalmologists, OT attendants, were not included in the study, since they have a better educational status, hence expected to have better level of awareness. The data was collected after taking an informed consent, by filling a detailed, pretested, structured questionnaire by interviewing the non medical staff. The study was conducted from August 2019 to March 2020. The calculated sample size was 126 and the margin of error was taken as 0.05. Simple random sampling (probability sampling) was done. SPSS software version 23 was used for the data analysis. Frequency tables and Bar charts were used to present the data. The level of awareness was assessed using scoring system. A total of 12 questions were selected to assess the awareness. Each question was given 1 point. And score 9-12 was considered as good, 5-8 as satisfactory, 1-4 below satisfactory and 0 unaware. Significance between two observed frequencies was checked by applying Chi Test & finding out its P value. The p value  $\leq 0.05$  was statistically significant.

## RESULT

Hepatitis B awareness data of the paramedical staff was collected and results compiled. Amongst the 126 respondents 87(69%) claimed to know or had heard of Hepatitis which were further segregated on the basis of Sex, Age, and marital status (Table 1).

Table 1: Distribution of 87 respondents who have ever heard of Hepatitis B on basis of Sex, Age and Marital status

Age and sex of the respondents	Marital status	
	Married	Unmarried
>25years Male	30	3
$\leq 25$ years Male	22	13
>25 years Female	12	1
$\leq 25$ years Female	5	1

Intriguing about if any of the respondents family members were affected by hepatitis B, showed that 32/87(36.78%) had any of their family members affected any stage of their life. The treatment options considered, by these 32 people, were doctor 17/32 (53.13%), Hakeem 06/32 (18.75%), Homeopathic doctor 04/32 (12.5%), Dam 03/32 (9.38%) and 02/32 (6.25%) took no treatment for the disease. Amongst the 87 respondents who had heard of Hepatitis B, 7/87 (8.05%) had a history of death of any family member due to Hepatitis B. Only 62/87 (71.26%) knew that Hepatitis B is a preventable and 51/87(58.87%) were vaccinated for Hepatitis B. The vaccination Status at birth was also ambiguous amongst most of the respondents. Opinion for easy availability of hepatitis B gave a 70% response, who agreed that the vaccine was available easily. The respondents who had heard of the disease and further participated in answering the questionnaire, 49/87(56.3%) knew that one should be vaccinated even when there are no signs and symptoms of the disease. Majority of the respondents explained the symptoms of hepatitis B as pale eyes 41/87 (47.13%), pale skin 43/87 (49.43%), weakness 24/87 (27.59%), pale urine 9/87 (10.34%), nausea and vomiting 5/87 (5.75%), and abdominal pain 4/87 (4.60%). Regarding the vertical transmission of the disease 67/87 (77.01%) responded accurately, while 63/87 (72.41%) said that it can be transmitted due to breast feeding. Awareness of spread of Hepatitis B by blood and blood borne products was accessed using various questions. The results were as, 68/87 (78.16%) knew that hepatitis B affected person cannot donate blood, 78/87 (89.66%) said that unsafe sexual practices can cause the spread of Hepatitis B, 84/87 (96.55%) said that it can spread through the use of sharing razors and tooth brushes. 71/87 (81.61%) said that it can spread through cough and sneeze, 84/87 (96.55%) knew that Hepatitis B can spread through used syringes. amongst these 87 respondents having heard of the disease 78 (89.66%) believed that Hepatitis B can be cured and the patient can live a normal healthy life if well treated. There were certain perceptions like; Hepatitis B can be cured by home remedies such as taking sugar cane juice, avoiding high energy foods and avoiding sunlight.

**Awareness of Hepatitis B:** To evaluate of the level of awareness of the participants on Hepatitis B, its transmission and spread, a 12 points scoring system was used (Table 2). A good level of knowledge was considered as at least 10/12. The following three groups were defined

and scoring done. Only 65/87 had good level of awareness regarding the disease (Figure 1). Scoring cross tabulation between the vaccination status of the respondents against hepatitis B and the Level of scoring reveals 41 respondents in Good category. No significant association was found between Age, sex, marital status and the Levels of Awareness of Hepatitis B (Table 3).

Table 2: Awareness of Hepatitis B of 87 respondents who ever heard of it

	Frequency		
	Yes	No	Don't Know
Have you ever heard of hepatitis B?	87	00	NA
Is there any prevention of hepatitis B	62	05	20
Is hepatitis B vaccine easily available	61	16	10
Should one be vaccinated even when there are no signs and symptoms	49	12	26
Can it spread from mother to child during pregnancy and child birth ?	67	13	07
Can it spread from mother to child during breast feeding?	63	19	05
Can hepatitis B person donate blood?	14	68	05
Can hepatitis B transmit through unsafe sexual practices?	78	03	06
Can hepatitis B transmit through razors and toothbrushes?	84	00	03
Can hepatitis B transmit through cough and sneezing?	71	11	05
Can hepatitis B transmit through used syringes?	84	00	02
Can hepatitis B be cured?	76	04	07

Fig. 3:

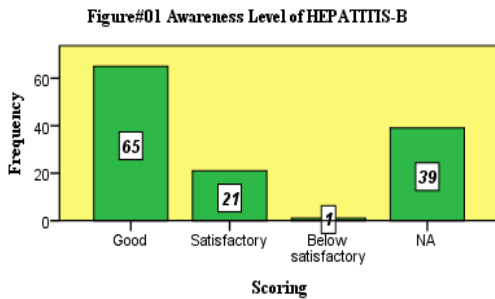


Table 3: Cross tabulation Have you ever been vaccinated \* Awareness Levels

Have you ever been vaccinated	Awareness Levels				Total
	Good	Satisfactory	Below satisfactory	NA	
Yes	41	10	0	0	51
No	24	11	1	0	36
NA	0	0	0	39	39
Total	65	21	1	39	126

**DISCUSSION**

This is the first study assessing the awareness of hepatitis B among the non medical staff working at Dera Ghazi Khan

teaching hospital. The results of this study can be useful to monitor the fore deal of the awareness programs and campaigns arranged for the purpose and to compare the levels of awareness amongst the other teaching hospitals in Punjab. This study was subjected to several limitations, such as language barriers with some of the workers and unwilling to answer the questions, which is removed by applying into use, 10% of the probable error. Non-medical staff handles hospital waste material. 10-20% of the hospital waste is regarded hazardous and is a risk factor for the diseases (17). According to our study, 69% of the population had heard of hepatitis B, regardless of the mode of transmission, treatment or prognosis. The results are alarming since this is a population living in close vicinity to the infected patients and infectious waste products. Only 72.26% of the respondents knew that Hepatitis B is a preventable disease and 56.32% of the respondents have an idea that one should be vaccinated even when there are no signs and symptoms of the disease and this is a prophylactic measure. Only 81.61% of the people received their EPI vaccination at birth. With only 58.62% vaccinated for Hepatitis B which calls for the immediate need to initiate the immunization program among the paramedics of Dera Ghazi Khan teaching hospital. Another study conducted amongst health care provider has shown below the WHO's recommended vaccination status in health care workers of developing country<sup>19,20</sup>.

Moreover Hepatitis B vaccination is now available all across the country. Proper blood and body fluid exposure should be put in place for better outcomes. As of 2016 there are more than 2 billion people Worldwide, having evidence of recent or past HBV infection and 350 million are chronic carriers<sup>1</sup>. Hepatitis B is a major risk factor for the hepatocellular carcinoma. Hence improve in vaccination status will lead to decrease in the incidence of hepatocellular carcinoma. Majority of the respondents explained the symptoms of hepatitis B as pale eyes 47.3%, pale skin 49.43%, weakness 27.59% and pale urine 9.20%. Some other misconceptions and myths such as Hepatitis B can be cured by home remedies like taking sugar cane juice, and avoiding high energy foods and sunlight also came into light, which puts us into an obligation to teach, educate and mitigate these ideas. Hepatitis B has both a vertical and horizontal mode of transmission. According to a study conducted on 1000 patients 23(2.3%) of the maternal samples were positive for HBs Ag by ELISA and Seven of the 10 babies (70%) born to mothers positive for both HBs Ag and HBe Ag had persistent HBs Ag in their blood after 6 to 12 months<sup>16</sup>. Despite these high percentages, according to our study awareness regarding Hepatitis B transmission from mother to child vertically is only 77.01%. Awareness of Hepatitis B affected person cannot donate blood is 78.16%.

**CONCLUSION**

The results concluded that Hepatitis B, though a preventable disease, remains endemic amongst the people of Pakistan, especially the high risk group due to lack of knowledge and awareness. The vaccination status of this preventable disease, for which vaccination is easily available, still lags behind. Importance of awareness

campaigns needs to be enlightened amongst the public in general and the paramedical staff of teaching hospital, Dera Ghazi Khan in specific.

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