

Hepatitis-B Virus (HBV) Awareness Among Students at Punjabi University Campus, Patiala

Harmandeep Kaur, Monica Singh, Rajinder Kaur and Harsurinder Kaur

Department of Human Biology, Punjabi University, Patiala 147 002, Punjab, India

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ABSTRACT In the present paper an attempt has been made to study the public awareness about the infection of HBV. The study was conducted among the students of Punjabi University, Patiala, Punjab. It was observed that about 64 per cent of the subjects were aware of hepatitis B virus, its possible route of transmission, the preventive measures to be taken and the vaccination and considered it to be their duty to inform others.

INTRODUCTION

Hepatitis B Virus (HBV) initially known as Australia antigen was discovered during the course of experiments designed to study the effect of multiple blood transfusions in patients (Blumberg et al., 1964, 1965). Viral hepatitis is a systematic illness with primary infection of the liver caused by atleast seven different viruses designated as hepatitis A, B, C, D, E, F and G (Chander 1997). Of these, hepatitis B virus or HBV is the most important one, persistent infection of which leads to primary hepatocellular carcinoma (Millman and Blumberg, 1975). It is hundred times more infectious than the Human Immunodeficiency Virus (HIV) accounting for far more deaths as compared to HIV and is second to tobacco among the carcinogenic agents responsible for over 60 million cases of liver cirrhosis worldwide (Bhattacharya, 1994).

HBV is transmitted either parenterally i.e. through infected blood/ serum/ plasma (David et al., 1992), percutaneous inoculation (Deinhardt et al., 1982) and from mother to babies (Schweizer, 1975; Merrill et al., 1972), sexual contacts (Ananthanarayan and Jayaram Paniker, 1990) contaminated water, food and improper sanitary conditions (Carbonara et al., 1970).

The general public however is not aware of the consequences of infection to HBV. The

present study therefore was designed to check the level of awareness regarding HBV among the students enrolled at Punjabi University Patiala, Punjab.

MATERIAL AND METHODS

The data were collected on 300 subjects belonging to both science and arts faculties. The sample included 188 females and 112 males. The students from rural and urban family backgrounds were present in the ratio of 1:2.

A questionnaire was framed in the form of a proforma and the students were asked to fill it independently. The questions were so designed that the various aspects dealing with the proposed study were taken care of.

RESULTS AND DISCUSSION

The results of our study are presented and discussed below:

Sex and Faculty

Table 1 shows the sex wise distribution. The per cent frequency of awareness for HBV was found to be 62.76 for females and 65.17 for males i.e. both males and females were found to be equally aware.

When the data were analysed according to the faculty in which they studied, we observed that the degree of awareness was much higher in science students (62.30 per cent) as compared to those studying arts (37.70 per cent). The faculty wise comparisons revealed that whereas 70.33 per cent girl science students were aware of the virus, the figure was very low (29.67 per cent) in the arts faculty. However the figures were almost same in males irrespective of the faculty. When the two groups were compared (Table 1) applying the χ^2 test, a highly

Table 1: Hepatitis B virus awareness

Sample	Female	Male	Total	χ^2 value	p
	118 62.76%	73 65.17%	191 63.66%		
		Faculty			
Science	83 70.33%	36 49.31%	119 62.30%	8.501	.001 > p > 0.01 significant
Arts	35 29.67%	37 50.67%	72 37.70%		
		Background			
Urban	88 74.58%	43 58.90%	131 68.59%	5.1438	.02 > p > 0.05 significant
Rural	30 25.42%	30 41.09%	60 31.41%		

significant value ($\chi^2_1 = 8.501$, $0.001 > p > 0.01$) was observed. It appears that the girl students in arts faculty probably do not spend much time in reading articles of general interest or of scientific nature whereas science girl students were aware mainly because they were taught these topics in their classrooms as a part of their syllabi and hence could understand and take interest when such articles were published in scientific journals, magazines etc. or watching such programmes on television. The results in males were totally unexpected, where science students showed much lower values than expected. The reasons can be manifold but to us it appeared that since the number of males was much lower than the females in all science departments, where admissions are made exclusively on the basis of merit, the girls grab almost all the seats, a few males who get the admission are either on the lower side in the merit list or come against the reserved seats and hence the discrepancy.

Rural - Urban Background

When the two sexes were studied (Table 1) taking into account their rural-urban background, it was observed that females coming from urban areas were much more aware (74.58 per cent) as compared to those coming from rural areas.

Similar differences were observed amongst males, with urban males being more aware of the condition (58.90 per cent) than those coming from rural areas (41.09 per cent). The higher level of awareness in urban areas in both sexes is definitely due to higher level of literacy in cities than in villages. Also urban females have more exposure to media than their rural coun-

terparts who spend more time in household chores.

However when both the sexes were compared, the differences were observed to be significant again ($\chi^2_1 = 5.1438$, $0.02 > p > 0.05$) clearly showing that urban females have higher level of awareness even as compared to urban males. The possible reasons can be that whereas urban females spend more time in front of T.V. which is a very good source of information and get more time to read magazines such as Femina, Woman's era etc. which are full of articles of general interest as compared to urban males who are more interested in news and politics. Another reason can be that urban females are more outspoken and thus share more information amongst themselves as compared to the males.

Education of Parents

The education of parents has a definite effect. The subjects having their parents educated upto post graduate level were much more aware (68.86 per cent) followed by parents educated upto graduation level (67.22 per cent) than those whose parents were less educated (50.66 per cent), as is clearly evident from table 2. It appears that more educated people might be reading and discussing these topics more often at their homes, and thus increasing the level of awareness amongst their wards.

Table 2: HBV awareness: Education of parents

Educational status	n	Per cent
Post-graduate	73	68.86
Graduate	80	67.22
Below graduate	38	50.66

Have You Ever Heard About Hepatitis or What Causes It

The first question posed in the proforma was, if the people had ever heard about hepatitis or its causative agent i.e. HBV. Approximately 64 per cent of the people responded in positive.

Though the study was conducted at the university level, the level of awareness about a disease with such a high rate of mortality and infectivity appears to be quite low. If such a highly educated strata of the population knows so little, we can very well imagine the response of the people who are illiterate, are living in villages and do not have much exposure to media.

First Source of Information

When questioned about through whom they first came to know about HBV, most of the people gave the credit to their teachers (36.12 per cent) followed by newspapers, friends, medical people and so on as is given in table 3. So the teachers turned out to be the main source of information in our study, and this also explains the higher level of awareness amongst science students. Next important source were the newspapers which are also playing a very positive role in making people aware of such dreadful diseases followed by magazines and television etc. However 9.94 per cent of the subjects did not remember when and how they first came to know about it but the period of awareness ranged anywhere between 3 months to 15 years.

Have Any Body in Your Family Suffered From HBV, Did the Person Recovered and What Precautions were Advised

Only three persons out of 300 responded in positive. Luckily the persons infected had recovered

Table 3: HBV awareness: First source of information (n=191)

Source	n	Per cent
Teachers	69	36.12
Newspapers	31	16.23
Friends	21	10.99
Medical People	18	9.42
Books	12	6.28
Television	11	5.75
Relatives	08	4.18
Magazines	02	1.04
No Response	19	9.94

in all the three cases. The precautions suggested were complete isolation, proper hygienic conditions, and low fat food etc. We informed those people not to donate blood, since they had exposure to virus, because HBV, once it infects the individual, HBsAg becomes a permanent feature and the donation of this blood could cause hepatitis in recipients. The reasons, we did not come across more cases of infection in this group was solely that our sample consisted of highly educated individuals, who had good hygienic habits and were living in good and clean surroundings with proper sanitation facilities and were more aware.

Routes of Transmission

Out of 191 individuals who were aware of the HBV, 159 could tell about one or more routes of transmission. As shown in table 4, most of the people considered transfusion of infected blood to be the main source followed by use of contaminated needles, syringes, water and food, than by improper sanitary conditions and sexual contact. However a small percentage (16.75) though had knowledge about the virus, were not sure of the routes of transmission.

Table 4: HBV awareness: Routes of transmission (n=191)

Routes	n	Per cent
Transfusion of HBV infected blood	110	57.59
Use of contaminated needles and syringes	105	54.97
Contaminated water and food	105	54.97
Improper sanitary conditions	93	48.69
Sexual contact	48	25.13
All the above routes	28	14.65
No response	32	16.75

On the contrary 14.65 per cent of people were aware of almost all the possible routes of transmission of Hepatitis B virus. It was heartening to note that 83.25 per cent of the subjects contacted were aware of atleast one or more possible routes of transmission of the virus.

Do You Consider It Your Duty to Inform Others About HBV

Every single individual in our study thought that it was his/ her duty to inform others about HBV and the consequences of its infection so

that people can take necessary precautions to avoid getting infected.

Can It be Transmitted Through Mother's Milk

Amongst the aware group 145 expressed their views about this mode of transmission, 55.17 per cent (80/145) were of the view that mothers could infect their babies through milk and the rest were of the view that the babies can not get the infection through milk of infected mother. Forty six (24.08 per cent) persons did not express their views as they were not sure about the transmission of virus through mother's milk. As far as this factor is concerned most of the people were sceptical about it and hence almost 45 per cent either refrained or responded in negative.

Diseases caused by HBV

The diseases caused by HBV and the views expressed by subjects are shown in table 5, 148 persons out of 191 were of view that one or more diseases mentioned in the proforma could be caused by the hepatitis B virus, but 22.51 per cent of the subjects were either not aware of or failed to express their views about it. However almost 30 per cent of the individuals in our study were fully aware of the disease associations of HBV.

Table 5: HBV awareness: Disease associations (n=191)

Disease association	n	Per cent
Hepatitis	139	72.77
Cirrhosis of liver	96	50.26
Primary hepatocellular carcinoma	74	38.74
All the above	58	30.36
No Response	43	22.51

High Risk Groups

165 individuals (86.38 per cent) expressed their views about, what they considered the high risk categories. The results are shown in table 6. About 54.45 per cent of people thought that people living in slums were at high risk because of poor sanitary or hygienic conditions, 50.26 per cent were of the view that persons receiving frequent blood transfusions as in thalassaemia and haemophilia patients, were at high risk, followed by drug addicts, medical and paramedical staff etc. In our survey 11.51 per cent of the people were aware of all the high risk categories listed in proforma. Whereas some 13.61 per cent people were totally ignorant.

Table 6: HBV awareness: High risk groups (n=191)

High risk groups	n	Per cent
Persons receiving frequent blood transfusions	104	54.45
Drug addicts-sharing of needles	96	50.26
Medical and paramedical staff	89	46.59
Persons exposed to unsterilised instruments during ear piercing, shaving and tattooing	77	40.31
Commercial sex workers	70	36.64
People living in slums,	42	21.98
All are at risk	22	11.51

ries listed in proforma. Whereas some 13.61 per cent people were totally ignorant.

Is There Any Cure

About 150 subjects expressed their views regarding the treatment and cure of HBV. Out of these 120 (62.82 per cent) believed that it can be cured and the rest 14.13 per cent thought that it was incurable but preventable whereas a small fraction i.e. 1.57 per cent believed that it can be cured if infection is detected in its early stages.

Vaccination

Approximately 60 per cent of the individuals were aware about the availability of vaccine. Effective vaccine for hepatitis B was discovered in 1982. There are a number of companies manufacturing vaccines these days. So far Merck vaccine was found to be of 92 per cent efficacy, but these days cheaper indigenous type of vaccines are also available.

Have You Got Yourself Vaccinated

Out of the total subjects contacted during survey who were aware of HBV only 28 (14.65 per cent) had got themselves vaccinated against it.

Precautions

When asked, what necessary precautions could be taken to protect one self from infection (Table 7), 32 (16.75 per cent) individuals did not respond at all. The rest were of view that use of sterilized needles, syringes, intake of clean water and food followed by blood transfusions, proper sanitary conditions, personal hygiene, wearing of mask, gowns and safe sex etc., in the order given were the steps towards curbing the menace and some 24.08 per cent considered all

Table 7: HBV awareness: Precautions to be taken (n=191)

Precaution	n	Per cent
Use of sterilised needles and syringes	120	68.82
Intake of clean water and food	120	68.82
Safe blood transfusion	109	57.06
Proper sanitary conditions	109	57.06
Personal hygiene	107	56.02
Wearing of masks and gowns by medical and paramedical staff	88	46.07
Practice of safe sex	62	33.46
All the above precautions	46	24.08

the precautions mentioned in the proforma were necessary to lead a healthy life.

It was heartening to observe that in the survey, approximately 64 per cent of the people were aware of hepatitis B virus, its possible routes of transmission, the preventive measures to be taken and the vaccination and considered it to be their duty to inform others. But we must not forget that, here, we are dealing with that strata of society, which is highly educated. We can well imagine that if such a survey was carried out in slums the results would have been very different. We are of the view that such surveys, lectures and seminars should be conducted in slums, tribal and remote areas to make people

aware of the virus.

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