



PREVALENCE OF HEPATITIS B AND C IN UNIVERSITY OF THE PUNJAB, QUAID-E-AZAM CAMPUS, LAHORE

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ABSTRACT

The students and administrative staff members of Punjab University, Lahore (new campus) were screened for the presence of hepatitis B antigens (HbsAg) and HCV antibodies (anti- HCV). The prevalence rate of anti-HCV was found 1.48 % and HbsAg was 2.46 % respectively, no overlapping between the seropositivity of HBV and HCV. In order to prevent the transmission of HH H HBV and HCV through blood transfusion, it is essential that all donors should be screened for anti- HCV and HbsAg. There is need to create the awareness about it.

Keywords: hepatitis B and C, university, punjab, lahore.

INTRODUCTION

In 1965, Blumberg *et al.*, reported the discovery of the hepatitis B surface antigen (HBsAg), also known as Australia antigen, and its antibody, hepatitis B surface antibody (HBsAb) (<http://www.emedicine.com>).

Hepatitis is characterized by the inflammation of the liver usually producing swelling and in many cases permanent damage to liver tissue. The most common types of Hepatitis are Hepatitis A, B, and C. Both Hepatitis B and C can lead to permanent liver damage and in many cases 'death' (Ramsay *et al.*, 2007). In all over the world about 300 million people are infected with hepatitis B virus, and 75% of Hepatitis C virus (Qasmi *et al.*, 2000).

In Pakistan over all 10% people are HBV carrier. Anti-HAV and anti-HBV were found simultaneously in 30% pediatric population of Karachi (Aziz *et al.*, 2007). In Lahore almost 5% general population are Hepatitis B virus (HBV) carrier (Bukhari *et al.*, 1999). The prevalence of HBV was 2.05% in healthy blood donors at blood unit of Institute of Cardiology Lahore (Majed and Qyym, 2000). High endemicity in Asia and pacific caused by a cycle of high infection, prenatal transmission and chronic liver infection. High prevalence found in man, some families and people with high risk group such as attending day care, share personal things and getting contaminated injections. In some countries the declining rate of HBV are due to improve medical facilities and living conditions. Many Asian and pacific nation till do not have soul HBV immunization program (Veryheid *et al.*, 2002). About 71.8% doctors working at Sir Ganga Ram Hospital Fatima Jinnah, Medical College Lahore were vaccinated against HBV and the paramedical staff, who were probably more involved with patients, 63.6% were vaccinated (Younis *et al.*, 2001).

HCV was considered non-desirable but less threatening than HIV. The risks of transmitting HCV through sharing injecting paraphernalia were poorly understood. Some believed HCV infection was linked to poor hygiene and dirty water. Jaundice was mistakenly thought to indicate HCV infection and was used to gauge infectiousness (Gate *et al* 2005).

Sexual and cutaneous transmission and transmission during delivery are the major routes (<http://www.emedicine.com>).

About 1870 million or 3% people in all over the world were infected with HCV

(<http://www.who.int/inf.fs/en/fact164.html>). United Kingdom had lowest prevalent (5%) of HCV (0.1) and Egypt had highest prevalence of HCV i.e. 28%. In india the HCV prevalence was 1.31% (Ahmed *et al.*, 2001). In Pakistan the prevalence of HCV was 6.21% at the Rawalpindi Islamic Centre (Rehman *et al.*, 2000).

Till December, 2002 about 199,560,000 people were HCV infected in all over the world (<http://www.epidemic.org>). Direct contacts to infected blood, sexual contact, reuse of unsterilized syringes, uses of contaminated surgical instruments are risk factors of HCV. It is not spread by casual contact, sneezing, sharing of food and water (<http://www.who.int/inf.fs/en/fact164.html>). Till Dec, 2005, about 360 million people in all over the world were HBV infected and 300 million people were carriers. At the same time about 170 million people in all over the world were HCV infected (<http://www.wrongdiagnosis.com>).

MATERIALS AND METHODS

Blood samples of 203 subjects (students and administrative staff member) were randomly collected from University of the Punjab, Quaid-e-Azam Campus, Lahore, Palistan. History of each subject about previous screening for hepatitis, vaccination against HBV, incident of HBV or HCV in family, trend of sharing personal objects, blood transfusion, donating blood and awareness about possible routs of transmission of hepatitis were recorded. Blood samples were centrifuged and 'distinct HbsAg and HCV one step' tests were performed on clear serum.

RESULTS

Among total 203 subjects, the overall prevalence (%) for HBV and HCV was 3.94. 5% male and 0.9% female were HBV positive whereas 2.5% male and 0.9% female were HCV positive (Table-1). Among HBV and



HCV positive cases no one was reported vaccinated against HBV, no one was ever been hospitalized, operated or get injected blood (Table-2). Among the over all HBV and HCV positive cases, 50% students were hostalite, 37.5% shared personal things (Towel, razor etc.) 25% have donated blood once or twice in their life time, 12.5% had hepatitis incident in their family and only 12.5% showed awareness about hepatitis (Table-2).

Among the total HBV positive subject, 25% male and 100% female had trend of sharing personal

belongings, 75% male and no female were hostile, 25% male have donated blood and only 25% male had awareness about hepatitis (Table-2). Among the total HCV positive male subject (1.4%), 50% had shared personal things, 50% had donated blood, no one was hostalite, on the other hand no female shared personal things, no one ever donated blood, no male or female had hepatitis incidents in family and no male or female had awareness about hepatitis (Table-2).

Table-1. Prevalence (%) of hepatitis B virus (HBV) and hepatitis C virus (HCV) positive cases in University of the Punjab, Quaid-e-Azam Campus, Lahore.

Factors		No. of samples observed	Infected				Total +ve	Infection (%)
			HBV +ve	%	HCV +ve	%		
Students	Male	80	4	5	2	2.5	6	7.5
	Female	111	1	0.9	1	0.9	2	1.8
Staff (Male)		12	0	0.0	0.0	0.0	0	0.0
Total		203	5	2.46	3	1.48	8	3.94

Table-2. Prevalence (%) of past history and general awareness among hepatitis B virus (HBV) and hepatitis C virus (HCV) positive cases in University of the Punjab, Quaid-e-Azam Campus, Lahore.

History	HBV				HCV				Total No.	Infection (%)
	Male	%	Female	%	Male	%	Female	%		
Vaccinated	-	-	-	-	-	-	-	-	-	-
Hospitalized	-	-	-	-	-	-	-	-	-	-
Operated or blood transfusion	-	-	-	-	-	-	-	-	-	-
Hostalite	3	75	-	-	-	-	1	100	4	50.0
Trend of sharing personal things	1	25	-	-	1	50	1	100	3	37.5
Blood donation	1	25	-	-	1	50	-	-	2	25.0
Incident of Hepatitis in family	-	-	1	100	-	-	-	-	1	12.5
Awareness	1	25	-	-	-	-	-	-	1	12.5

DISCUSSIONS

About 350 million people for hepatitis B virus (HBV) in Asia and Pacific nations have been reported due to his rate of infectiousness, prenatal transmission, and chronic infection from early age (Veryheid *et al.*, 2002). According to latest information till December 10, 2002 about 199,560,000 people were hepatitis C virus infected in all over the world (<http://www.epidemic.com>). Pakistan has been rated amongst the countries with high risk of viral B infection. In Pakistan the prevalence of HBV increased constantly due to lack of proper laboratory facilities for diagnose HBV (Malik *et al.*, 1995). In Northern Areas of Pakistan the overall prevalence of HBV was 37% (Manzoor *et al.*, 1997). The HBV prevalence (%) in healthy children was 3.6 in Pakistan (Abbas and Twani., 1997). In present study the overall prevalence (%)

of Hepatitis B virus (HBV) among some students and administrative staff members of Quaid-e-Azam Campus University of the Punjab was 2.4 which was same to the prevalence (%) at Punjab Institute Cardiology Centre Lahore (2.05%) reported by Majed and Qayyum., (2000) and the rate was lower than the over all prevalence in Lahore (5%) reported by Bukhari *et al.* (1999). This lower rate may be due to selected group i.e. educated people and majority belongs to good socio economic group.

HCV is more endemic in Pakistan (Shah *et al.*, 2002) but prevalence varies from 1.18 – 4.8% (Ahmed *et al.*, 2002). IN present study the prevalence (%) of HCV was 1.4 as mentioned by Ahmed *et al.*, (2002) and it was high among male as compared to female (male: female = 3:1) as mentioned by Ahmed *et al.*, (2001) i.e. male: Female = 2.8:1. the higher prevalence state in male was



probably due to higher unawareness rate among male (30.6%) as compared to female (28.75%).

Blood transfusion is main risk factor of transmission of HBV and HCV. In present study 25% HBV and 50% HCV positive cases have donated blood so there should be proper screening facilities even at private blood campus.

Using common glass could be the risk factor of HBV as Hepatitis B antigen (HbsAg) have reported in saliva and towel sharing could enhanced the chances of transmission of HBV (Asratian *et al.*, 1997). In present study 37.5% positive subjects have trend of sharing personal belonging (razor, towel, glass etc.), including 25% of HBV positive and 75% HCV positive subjects.

Lack of awareness was the highest reason for not being vaccinated (Younis *et al.*, 2001) same situation was in present study that due to high rate of unawareness complete vaccination and proper blood screening at the time of blood transfusion must be given consideration to reduce its future incidents.

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