

Hepatitis B and C Seroprevalance in Frontier Corp Recruits at Pre-employment Screening

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Background

Pakistan carries a high burdens of chronic hepatitis and mortality due to hepatic failure and hepatocellular carcinomas. Keeping in view this potential threat all the Frontier Corps recruits are screened for the Hepatitis B surface antigen (HBsAg) and Hepatitis C virus antibodies (Anti-HCV) before induction.

Subjects and Methods

Sera of healthy adult individuals who presented for medical evaluation as pre-recruitment criteria in the Thall Scouts, Frontier Corps (FC), Khyber Pukhtunkhwa (KPK) were screened for HBsAg and Anti-HCV by rapid method. Positive cases were confirmed by Enzyme-linked immunosorbent assay (ELISA) technique from Combined Military Hospital (CMH), Peshawar.

Results

A total of 552 individuals were examined. Out of these, 12 (2.17%) individuals were HBsAg positive whereas 7 (1.26%) were positive for anti-HCV. None of the recruits was positive for both HBsAg and Anti-HCV.

Conclusion

This study which evaluated predominantly healthy young male population at KPK, showed a high seroprevalence of HBsAg and Anti-HCV. Hepatitis B vaccination is strongly recommended for our young populations.

Keywords

Hepatitis, prevalence, hepatocellular carcinoma, hepatitis B & C.

Inroduction

Hepatitis C and B viruses (HCV and HBV) are among the principal causes of chronic liver diseases including cirrhosis related end stage liver disease and hepatocellular carcinoma.¹ According to some reports there are about 170 million people with HCV infection and about 240 million people with HBV infection all over the world. Annually about 600,000 deaths are caused by HBV infection and about 3, 50,000 deaths by HCV infections worldwide.^{2,3} HCV and HBV infection is a global

problem but it is rapidly spreading due to illiteracy, poverty and lack of community health education in developing countries. Most of these patients are asymptomatic and pose a great risk to population especially medical personnel. Both HCV and HBV infections are transmitted through blood and blood products but HBV infection is also spread by body fluids like vaginal secretions, saliva and semen.⁴

Vaccine is available for HBV infection but not for HCV infection. Most of the HCV infected patients become chronic with considerable morbidity and mortality.⁵ Pakistan received a grant from the global alliance for vaccination and immunization (GAVI) in 2001-2002 that has enabled Pakistan to include HBV vaccination in routine expanded programme on immunization.⁶ Now in Pakistan HBV vaccination is part of EPI. Vaccination against HBV is very effective and confers protections against this chronic infections.⁷ HBV infection is 10 time more infectious than HCV infection and 100 times more infectious than HIV infection.⁸ The risk factors of these infections in our adults' population are mostly unsafe injections and product products.⁹

The rationale of our study is to know about the HBV and HCV status of young individuals applying for recruitment. If these infections do add to unemployment's, preventive measures should be emphasized for their prevention.

Material and Methods

The study was carried out in Thall Scouts Hospital, Thall, which is located at the junction on North Waziristan Agency, Kurrum Agency and Orakzai Agency. Screening of recruits for hepatitis B and C in FC, KPK started in 2010. Induction of recruits occur about six monthly. So during this two and a half year study five batches were inducted and screened. We used (immunochromatography) ICT method (HCV kit name INTEC, China and HBV kit name ABON, China) for screening. The positive cases by ICT were sent to CMH Peshawar for confirmation by ELISA method. All the recruits were male with age group of 17 to 23 years. Recruits who were positive for HCV or HBV infections were counselled about the disease and were referred to medical specialist/ gastroenterologist.

Results

A total of 552 individuals were screened. All were male with

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a mean age of 20.15 years (age range 17 to 23 years). Of 552 recruits on initial screening with ICT, HBsAg positivity was seen in 14 (2.53%) and Anti-HCV positivity was seen in 15 (2.71%). On retesting using ELISA, the HBsAg and Anti-HCV were detected in 19 individuals (3.44%). Of these 12 (2.17%) were positive for HBsAg and 7 (1.26%) were positive for Anti-HCV.

Discussion

In Pakistan most of the studies conducted till nineties were on healthy blood donors. Reports from studies done by Zuberi *et al*¹⁰, Hashem *et al*¹¹, yousuf *et al*¹² and Rehman *et al*¹³ on volunteer blood donors showed the prevalence of HbsAg to be 3.1%, 0.99%, 1.11% and 5% respectively. Rahim *et al* and Zuberi *et al* also reported the prevalence of HbsAg in health care personnel to be 5% and 2.8%. However recent studies done on healthy blood donors in Pakistan showed prevalence of HbsAg to be around 3% to 3.5%.¹⁴

There is also great variation in the prevalence of Anti-HCV Antibodies in different part of the world. Some countries like Egypt have an extra ordinary high prevalence of HCV infection in some cities approaching 20% of population.¹⁵ The prevalence of HCV infection in European population is generally low¹⁶ Study done on blood donors in Pakistan showed prevalence of around 5%.¹⁷

Risk factors for hepatitis B and C infection in Pakistan are multiple. Top of the list risk factors include use of injections for different diseases and blood product transfusions. Ignorance of barber regarding hepatitis transmission is also adding to this load. Sexual transmission may also play role but data regarding this mode of transmission is not available.⁹ There is no record available regarding hepatitis B vaccination of our population. There are myths about injections in our populations that's it has cooling effect, recovery with injection is rapid and that fever relief is speedy. As the patients more willingly pay extra amount for injections, the health care providers also encourage such desire of patients. This is the reason that most of the people get unnecessary multiple injections in our set up; contributing to the load of hep Band C infections.^{18, 19}

Conclusion

HBV and HCV infections are an important cause of unemployment in this war affected areas as most of the recruits in FRONTIER CORPS come from FATA area, further adding distress to the area. To prevent hepatitis B infection in ours young population emphasis should be given on hepatitis B

vaccination.

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