

Awareness of Hepatitis B infection and its Vaccination Amongst Medical Students of different medical colleges in Lahore

IQBAL, AYESHA GUL, MUHAMMAD ASIF, SATTAR, ROOTABA., DILSHAD, AKIF, HYDER, ALI, RASOOL SHAFQAT
Department of Medicine, Ameerud Din Medical College, PGMI, Lahore General Hospital Lahore.
Correspondence to: Dr.Muhammad Asif Gul, Email: asifgul141@gmail.com, Cell: 03219466846

ABSTRACT

Aim: To determine the knowledge about transmission and prevention from hepatitis B and awareness about vaccination among final year medical students of different medical colleges in Lahore.

Methods: This cross-sectional study which was carried out in five medical colleges of Lahore. Sampling technique was convenient. Questionnaire regarding awareness of hepatitis B infection and its vaccination was completed from cohort. Three hundred and forty-one final year students contributed in this research.

Results: The mean age of participants (341) was 20.35 ± 1.72 years. Female medical students were (71.2%). Among all participants 97.1% medical students know about Hepatitis B Vaccination, out of these 73% medical students were sure that they have received Hepatitis B Vaccination. Among these participants who received vaccination 50.7% have got all three doses and 12.6% received two doses and 10.9% received just one dose. Those who did not receive vaccination 40.8% gave reason of forgetfulness, 28.7% gave reason of lack of knowledge, 12.6% gave reason of lack of compulsion and 3.5% have some other reasons. 89.4% of medical students agreed that their teachers are encouraging. Family history of Hepatitis was positive in 10.6% of participants while 19.4% have been in close contact with Hepatitis B patients.

Conclusion: Although overall knowledge of participants showed satisfactory outcomes. However, some areas of awareness and attitude need to be modified or changed altogether.

Keywords: Hepatitis B, Vaccines, medical students

INTRODUCTION

HBV infections becoming a main public health issue and important cause of morbidity and mortality, especially in our country. Globally, one third of world population affected by Hepatitis B virus (HBV)¹ among affected people 5-7% are chronic carriers^{1,2} among these chronic carriers Asians are 75%.³ HBV infection prevalence varies extensively, it ranges from 0.1% to 20% in different areas of the world.³ The prevalence of HBV infection is very high in countries of southeast Asia such as Thailand,⁵ India⁶ and Malaysia.⁷ In Pakistan, the prevalence of HBV is reported as high as 10% in Pakistan⁸.

Blood transfusion⁹ unprotected sexual practices¹⁰. Re using razors by barbers, reusing piercing instruments for tattooing¹¹, vertical transmission from mother to child¹² and unsafe use of therapeutic injections,¹³ are major routes of transmission for HBV.

There are wide variations of natural history of chronic hepatitis B among affected individuals. Clinical presentation of HBV varies from person to person, the spectrum includes asymptomatic carrier state, acute self-limiting infection or more severe like hyper acute or acute liver failure, cirrhosis with portal hypertension and its complications including liver cancer¹⁴.

Fortunately, vaccination against Hepatitis B proved to be safe and effective preventing 95% population from developing chronic hepatitis and its complications. This has been added to routine immunization and WHO organization recommends that all children should receive vaccination against HBV in all new-borns. For effective control of HBV infection, mass vaccination programme introduced in most of the East and South-East

Asian countries. It has resulted in a significant reduction in HBV carrier state as well decline number of patients with hepatic decompensation and hepatocellular cancer¹⁵.

Health professionals, as a whole are at increased risk for acquiring HBV infection because they are in close contact with syringes, blood and blood products and involved in surgical procedures. Thus, medical students must have proper knowledge about risk involved and they should take appropriate actions while dealing with patients and procedures. Limited data available about awareness of medical colleges students regarding prevention of HBV infection through vaccination against hepatitis B.¹⁵ Majority of the research was carried out in private sector. Therefore, to have more information that how much our medical students are aware about this important issue, this multicentre study was conducted in different medical colleges of Lahore. The purpose of this research was to determine the information and approach of final year MBBS students about HBV infection and its vaccination and their current vaccination status.

METHODOLOGY

This study was a cross-sectional conducted in 5 medical colleges of Lahore. Five medical colleges agreed to participate in this study. The institutions included were, Ameerud din Medical College, Shaikh Zayed Medical College, Fatima Memorial Medical University, Services institute of Medical Sciences, Allama Iqbal Medical College Lahore. Informed written permission from institutes and consent from each participant was taken. Information was collected with convenient method. Study duration was six months, from October 2016 to March 2017.

A questionnaire was given to all participants after taking proper consent and collected back after it had been completed. Questionnaire consists of questions about

Received on 14-03-2019

Accepted on 18-07-2019

awareness of HBV infection, its prevention and routes of transmission. Further question about vaccination status was also included.

Three hundred and forty-one students participated in this study. SPSS (ver-17) was used to analyse data. To determine the significant difference between independent variables; age-group and gender versus other answers about vaccination status of hepatitis B was assessed by chi-square test.

RESULTS

According to our research 97.1% final year students had information about HBV Vaccination, out of these 73% students were sure that they have received Hepatitis B Vaccination. Interestingly out of these 73%, 50.7% completed their vaccination while 12.6% received two doses and 10.9% received just one dose of vaccination respectively. Interestingly those who did not receive vaccination, among all of them 40.8% gave reason of forgetfulness, 28.7% gave reason of lack of knowledge, 12.6% gave reason of lack of compulsion and 3.5% have some other reasons.

DISCUSSION

Although studies about awareness about HBV infection and its prevention were conducted in different medical colleges however no such study was conducted in medical colleges of Lahore. To get exact knowledge we conducted this study in five different medical colleges including private and government sector. This study showed that most of the medical students participated in this study have good knowledge about HBV infection, its risk factors, its routes of transmission, and its preventive methods. Another fact was that knowledge and awareness about HBV and its vaccination was more among older aged participants (> 21 years) than the students with lower age group. This showed concordance with medical college students of Lahore¹⁶ and Delhi¹⁹. In our study percentage of a fully vaccinated participants is more than 70% which is promising figure as compared to information stated from one of Western study is just 59%. Among all above 27% of medical students were not sure whether they completed hepatitis B vaccination doses or not. That's why this research revealed surprising results and raises issues that a large proportion of participants were not aware about HBV vaccination doses. This version further supported by evidence that significantly low levels of anti-HBs were reported in many of medical students after their primary immunization. Therefore, considering high risk population, medical students should be tested for anti-HBs levels may be warranted¹⁸.

On the other hand, there are proportion of students who still do not know the seriousness of the situation and showing careless attitude towards vaccination against Hepatitis B which is not only surprising but also dangerous. Some of them are not even taking preventive measures against this hazard. Some areas of knowledge and attitude need to be addressed or improved. As endorsed by Calabro et al²⁰ that a pre-test, lecture, a demo of standard precautions and procedures that will give information about control of infection followed by a post-test was effective in

changing the approach and improving the awareness for blood-borne diseases amongst final year MBBS students.

Another strong recommendation that the UHS should make reforms in its educational curriculum to promote awareness about blood borne diseases among the medical students. These young medical professionals serve as best tool for spreading information in local communities. More serious efforts should be made on the students themselves for promoting knowledge about importance of viral hepatitis and its prevention. Furthermore, educational initiatives should also be focused toward avoiding infection and seeking care in case of exposure to infected body fluids.

Another suggestion for a new initiative could be availability of free of cost free HBV vaccines to all the non-immunized youngsters attending medical faculty to encourage culture of vaccination universally. Future studies may be directed at measuring the hepatitis B antibody titers and evaluating the HBV immunization status among medical students.

HBV infection risk can be reduced amongst health workers, the following strategies are advised, (1) While using scalpels, needles and other sharp devices or instruments, health care providers must take appropriate precautions. (2) Do not recap used needles, remove used needles from disposable syringes, bend, break, and manipulate used needles by hand. Place used disposable syringes, needles, scalpels, and other sharp items in puncture-resistant containers for disposal. (3) One must prevent exposure to blood and body fluids by using protective barriers e.g. use of gloves while performing phlebotomy. (4) Immediately wash all your body parts that are tainted with body fluids or blood

Acknowledgment: We pay gratitude to all participants who played vital role in completion of this research.

REFERENCES

1. World Health Organization. Hepatitis B Fact Sheets. (Online) 2000. Available from URL: <http://www.who.int/mediacentre/factsheets/fs204/en/>.
2. Alter M. Epidemiology of viral hepatitis and HIV co-infection. *J Hepatol* 2006; 44: 6-9.
3. Lavanchy D. Hepatitis B virus epidemiology, disease burden, treatment, and current and emerging prevention and control measures. *J Viral Hepat* 2004; 11: 97-107.
4. Rana JS, Khan AR, Haleem AA, Khan FN, Gul A, Sarwari AR. Hepatitis C: Knowledge, attitude and practices among orthopedic trainee surgeons in Pakistan. *Ann Saudi Med* 2000; 20: 477-9.
5. Suwanagool S, Tieangrim S, Ratanasuwon W, Mekanantagosol S, Luengrojankul P, Kunasol P. Seroprevalence of anti-HCV among HIV-infected persons and general population. *J Med Assoc Thai* 1995; 78: 611-7.
6. Irshad M, Acharya SK, Joshi YK. Prevalence of hepatitis C virus antibodies in the general population & in selected groups of patients in Delhi. *Indian J Med Res* 1995; 102:162-4.
7. Duraisamy G, Zuridah H, Ariffin MY. Prevalence of hepatitis C virus antibodies in blood donors in Malaysia. *Med J Malaysia* 1993; 48: 313-6.
8. Yousef A, Mehmood A, Ishaque M, Yousef M. Can we afford to operate on patients with HBsAg screening? *J Coll Phys Surg Pakistan* 1996; 9: 98-100.
9. Francisci D, Antonelli S, Preziosi R, Mecozzi F, Stagni G, Pauluzzi SI. Risk factors for acute parentally transmitted viral

10. hepatitis: a 20 years study. *Eur J Epidemio* 1993; 9: 625-8.
11. Lauer GM, Walker BD. Hepatitis C virus infection. *N Engl J Med* 2001; 345: 41-52.
12. Haley RW, Fischer PR, Commercial tattooing as potentially important source of hepatitis C infection. *Clinical epidemiology of 626 consecutive patients unaware of their hepatitis C serology status. Medicine* 2001; 80: 134-51.
13. Gibb GM, Goodall TD, Dunn DT, Healy M, Neave P, Cafferkey M et al. Mother- to-child transmission of hepatitis C virus: evidence for preventable peripartum transmission. *Lancet* 2000; 356: 904-7.
14. Hutin Y, Harpaz R, Drobeniuc J, Melnic A, Ray C, Favorov M et al. Injection given in health care settings as a major source of acute hepatitis B in Moldova. *Int J Epidemiol* 1999; 28: 782-6.14
15. Zhu R, Zhang H, Yu H, Li H, Ling YQ, Hu XQ, Zhu HG. Hepatitis B virus mutations associated with in situ expression of hepatitis B core antigen, viral load and prognosis in chronic hepatitis B patients. *Pathol Res Pract.* 2008;204:731–742.
16. Poland GA, Jacobson RM. Prevention of Hepatitis B with the Hepatitis B vaccine. *N Engl J Med* 2004; 351: 2832-8.
17. Anjum Q, Siddiqui H, Ahmed Y, Rizvi SR, Usman Y. Knowledge of students regarding hepatitis and HIV/AIDS of a private medical university in Karachi. *J Pak Med Assoc* 2005; 55: 285-8.
18. S. S. Al Ghamdi, H. I. Fallatah, D. M. Fetyani, J. A. Al-Mughales, and A. T. Gelaidan, "Long-term efficacy of the hepatitis B Vaccine in a high-risk group," *Journal of Medical Virology*,2013.
19. Nasir K, Khan KA, Kadri WM, Salim S, Tufail K, Sheikh SZ et al. Hepatitis B vaccination among health care workers and students of a medical college. *J Pak Med Assoc* 2000; 50: 239-43.
20. Chhabra P, Grover VL, Agrwal K. Do our medical students have enough knowledge of Hepatitis B? A Delhi based study. *J Commun Dis* 2002; 34; 221-5.
21. Calabro K, Weltge A, Parnell S, Kouzekanani K, Ramirez E. Intervention for medical students' effective infection control. *Am J Infect Control* 1998; 26: 431-6.