

Research Article

Pre and Post Hepatitis B Test Counseling in Patients Undergoing Surgery

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ABSTRACT

Introduction: Viral hepatitis is a major health problem, affecting 2 billion people in the world. In Pakistan, it is spreading beyond its dimensions. Pakistan is an endemic area for hepatitis being declared “cirrhotic state” in the international circles. About 8.6 million Pakistanis are affected with hepatitis C.

Methodology: A cross sectional study was undertaken with 150 patients who had surgery in orthopedics, gynae and surgical units of Sir Ganga Ram Hospital, Lahore by using a self-administered questionnaire. The data was collected when they had been screened for both hepatitis B and C, before they are discharged from the hospital. Descriptive statistics were used for data analysis.

Results: out of 150 patients 80% were female and 50.6% were from gynecology unit. At least 92% patients knew what is hepatitis and 61.2% knew that it is the disease of liver. The duration of pretest session was less than 5min in 60.7% and consent was taken from only 55.3% patient. In posttest session only 33.3% were told about the precautionary measures. Referral to liver clinic was given to only 38.9% patients who were diagnosed positive.

Conclusion: The data from this study suggests pretest counselling on hepatitis B or C was quite satisfactory. Unfortunately, the posttest hepatitis b counselling was not up to the mark.

Recommendation: Pre and posttestcounselling on hepatitis B or C patients should be of standard quality & should be counseled about prevention and control of the disease.

Keywords: Pre Hepatitis, Post Hepatitis, Test Counselling, Patients, Surgery.

INTRODUCTION

Viral hepatitis is a major health problem effecting approximately 2 billion people in the world. In Pakistan, it is spreading beyond its dimensions. Among various types of viral diseases, hepatitis B and C are extremely notorious with high morbidity and mortality. It is one of the most significant causes of chronic liver disease (hepatitis C causing 70-80% incidence of chronic liver disease) and hepatocellular carcinoma. HBV was first isolated by Blumberg in 1963 [1].HBV has infected almost over 2 billion people worldwide whereas nearly 500 million people are estimated to be infected with HCV. Pakistan is an endemic area for hepatitis and carries high burden of infectivity with HBV and HCV with prevalence

of 10% for hepatitis B and 4-7% for hepatitis C [2]. Every 10th person is a carrier and every 5th person has been exposed to HBV.

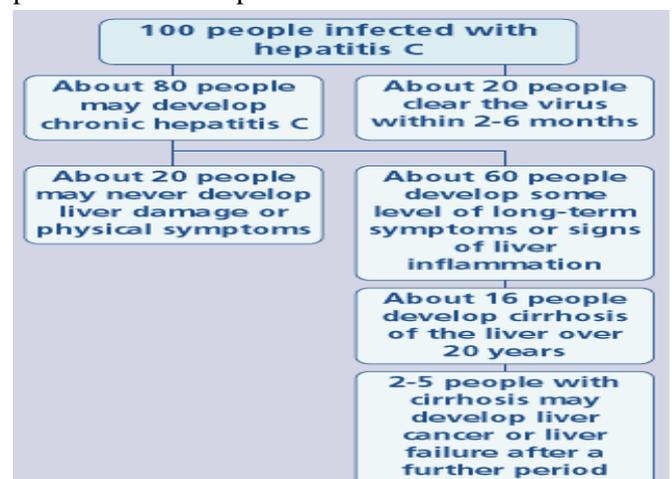
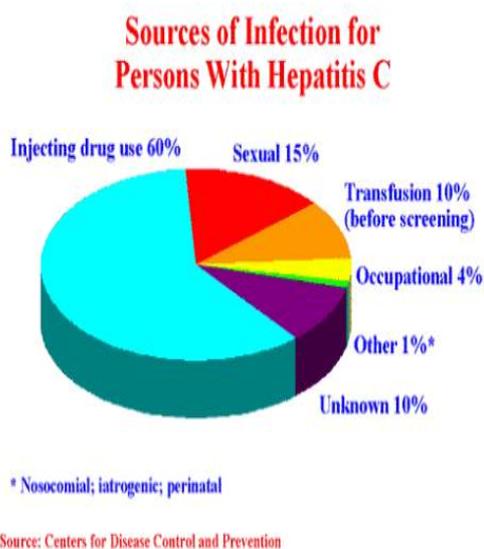


Figure 1.

Transmission of Hepatitis

Hepatitis is a viral disease; the agent responsible is a retrovirus (RNA virus). This virus is transmitted from one person to another by contaminated blood transfusions, unsterilized syringes, surgical instruments, dental surgery, and sexual contact, IV drug abuse, shaving razors, toothbrushes and shaving by barbers, from mother to the foetus during pregnancy, delivery and lactation [3]. The transmission from health care professionals to the patients has also been reported. The recruitment of hepatitis B and C patients in surgical emergency and operation theatres has increased over the past years.³ The surgeon at duty and the staff in the theatre have high risk of infection [4]. More than 2 billion people are infected with HBV and about 350 million are chronically infected. HBV is responsible for the death of 1.2 million people worldwide [5].

Figure 2.



Pre and Post Hepatitis Test Counseling

As hepatitis is a major public health issue, it is important to assess the awareness, attitude and behavior of health care professionals (surgeons) with respect to viral hepatitis. For the sake of creating this awareness among patients, it is imperative to conduct the pre and post hepatitis B and C test discussions with patients. Pre and post test counseling are an integral part of testing for hepatitis B and C. The aim of counseling is to provide information and support, to reduce anxiety and minimize the level of stress; it also aims at educating the

patient regarding the risk of transmission and motivates the patient to follow up and arrange referrals [6]. Pre test counseling helps the person to consider the implications of a positive result. Pre-test counseling should be appropriate and adapted according to person's knowledge and understanding. In case of positive people, the post-test counseling should be aimed at exploring the resources available and also to provide education and awareness regarding minimizing the risk of transmission. In case of negative people, the post-test counseling should elaborate the ways to stay safe and address the risk behaviors that can lead to possible exposures [7].

Objective

To evaluate the practice of pre and post hepatitis test counselling by the health care professionals on the basis of principles of communication skills and assess the extent of practice of pre-hepatitis test counselling in patients undergoing surgery.

MATERIAL AND METHOD

The liver is one of the body's powerhouses. It helps process nutrients and metabolizes medication. The liver also helps clear the body of toxic waste products. The word "hepatitis" means "an inflammation of the liver". It can be caused by one of many things — including a bacterial infection, liver injury caused by a toxin (poison), and even an attack on the liver by the body's own immune system. The three most common hepatitis viruses are hepatitis A, hepatitis B, and hepatitis C. Two other types of hepatitis virus, D and E [8]. Hepatitis B virus consists of a core particle (central portion) and a surrounding envelope (outer coat). The core is made up of DNA and the core antigen (HBcAg). The envelope contains the surface antigen (HBsAg). These antigens are present in the blood and are markers that are used in the diagnosis and evaluation of patients with suspected viral hepatitis. The hepatitis B virus reproduces in liver cells called hepatocytes, but the virus itself is not the direct cause of damage to the liver. Rather, the presence of the virus triggers an immune response from the body as

the body tries to eliminate the virus and recover from the infection. This immune response causes inflammation and may seriously injure liver cells. Therefore, there is a balance between the protective and destructive effects of the immune response to the hepatitis B virus [9].

Workers in the health care professions, sewage and water treatment workers, people with multiple sexual partners, intravenous drug abusers, HIV patients and hemophiliacs who receive blood clotting factors are at the continuous risk of acquiring hepatitis. Early symptoms of hepatitis B and hepatitis C are nonspecific including flu like illness, fever and joint pain [10]. Symptoms of acute hepatitis may include:

- Fatigue
- Loss of appetite
- Nausea
- Jaundice
- Pain in abdomen upper right side.
- Less common symptoms include:
- Fever
- Light or clay colored stools
- Jaundice
- Haemetemesis

- Dark colored urine [11]

Rarely, individuals with acute HAV and HBV infections develop severe inflammation, and the liver fails (acute fulminant hepatitis). These patients are extremely ill with the symptoms of acute hepatitis already described and the additional problems of confusion or coma (due to the liver's failure to detoxify chemicals) and bruising or bleeding (due to a lack of blood clotting factors). In fact, up to 80% of people with acute fulminant hepatitis can die within days to weeks. Patients mostly develop chronic hepatitis that lasts longer than 6 months. In chronic hepatitis, the viruses live and multiply in the liver for years or decades, patients' immune systems are unable to eradicate the viruses, and the viruses cause chronic inflammation of the liver. Chronic hepatitis can lead to the development, over time, of extensive liver scarring (cirrhosis), liver failure, and liver cancer. Liver failure from chronic hepatitis C infection is the most common reason for liver transplantation. Patients with chronic viral hepatitis can transmit the infection to others [12].

RESULTS

Table 1. Socio-Demographic Characteristics Of Surgical Patients (N=150)

	Frequency	Percentage (%)
Age(year)		
≥25	35	26
26 – 50	99	63.3
51 – 75	16	10.7
Mean±SD	34.7±12.8	
Monthly income		
Lower (≥20,000)	123	82.0
Middle (20000-40000)	26	17.3
Higher (>40000)	1	0.7
Mean±SD	15433.3±9835.8	
Gender		
Male	30	20.0
Female	120	80.0
Marital Status		
Married	121	80.6
Unmarried	21	14.0
Divorced	1	0.7
Widow	7	4.7
Occupation		
Unemployed	4	2.7
Housewife	92	61.4
Student	11	7.3
Teacher	8	5.3

Others	35	23.3
Residence		
Within Lahore	117	78
Outside the Lahore	33	22

Table 2. Patient Perception about Hepatitis B and C

	Frequency	Percentage
About hepatitis		
Yes	144	96.0
No	6	4.0
Disease of which organ		
Lungs	3	2.0
Stomach	7	4.7
Kidney	1	0.7
Liver	92	61.2
Blood	13	8.7
Others	13	8.7
Don't know	21	14.0
What do you think about the disease?		
Fatal disease	39	26.0
Morbid disease	95	63.3
Mild disease	10	6.7
Mode of transmission		
Blood transmission	90	60.0
Sexual contact	41	27.3
I/V drug abuse	45	30.0
Others	20	13.3
Don't know	18	12.0
Causes of diseases		
Unscreened blood transfusions	79	52.7
Unsafe surgeries	50	33.3
I/V drug abuse	70	46.7
Unhygienic dietary habits	60	40.0
Unsafe sex	45	30.0
Side effect of medication	25	16.7
Breastfeeding/pregnancy	28	18.7
Prognosis of disease		
Curable	87	58.0
Incurable	19	12.7
Manageable	30	20.0
Don't know	14	9.3

Table 3. Risk factors, sign and symptom (N=150)

	Frequency	Percentage
Recent blood transfusion		
Yes	57	38.0
No	93	62.0
Previous hospitalization		
Yes	69	46.0
No	81	54.0
I/V drug abuser		
Yes	3	2.0
No	147	98.0
Experience of following symptoms		
Fatigue	89	59.3
Loss of energy	65	43.3
Loss of appetite	35	23.3
Nausea	22	14.7

Muscle/joint pain	37	24.7
Abdominal tenderness	26	17.3
Dark colour urine	31	20.7
Vomiting	8	5.3
Fever	27	18.0
Jaundice	13	8.7

4. Pretest counseling

Seventy-five percent of patient had previous screening for blood, and 85% had never visited liver clinical before. Duration of counseling session used to be less than 5 minutes in about 60% of cases. The language was understandable to 92% of patients. Among the patient 86% patient were personally told by doctors to get screening before the surgery and only 44.7% were told about the reason. The counseling was conducted mainly in general ward 70%, 12% were counseled in exclusive setting and 4% in front of relatives. Informed consent was taken only in 55.3% patient. The doctors explained to 35.3% patients the possible outcomes of the disease and 66.7% patients consulted their family prior to test. (Table 4)

5. Experience regarding test report disclosure

While waiting for test reports ,60% patient were afraid about the results. The was disclosed by junior doctors 54.7% and to the worst 12.7% patient were not disclosed about their result by anyone. Results were disclosed in general ward in 58% of cases, in private room for 13.3% patients and 10% results were disclosed in front of relatives. Positive Hepatitis B and C was seen in (24%). (Table 5)

6. Posttest counseling in positive cases

Doctors were sympathetic in 38.9 % positive cases. Sixty percent positive patients cried, depressed or shocked to hear the results while 36.1% patient accepted it calmly. Among them, 41.7% had positive family history of Hepatitis B or/and C.

Table 4. Pre Test Counseling (N= 150)

	Frequency	Percentage
Previous blood screening		
Yes	131	75.3
No	31	20.7
Previous liver clinic visit		
Yes	22	14.7
No	128	85.3
Duration of session(min)		
<5	91	60.7
5 – 10	45	30.0
>10	14	9.3
Was language understandable?		
Yes	138	92.0
No	12	8.0
Did doctor advise you to get screening done before surgery?		
Yes	129	86.0
No	21	14.0
Were explained with reason?		
Yes	67	44.7
No	83	55.3
Sitting arrangement for the session		
General ward	105	70.0
Exclusive setting	18	12.0
OPD	21	14.0
Infront of relatives	6	4.0
Was your consent taken?		
Yes	83	55.3

No	67	44.7
Did you consult your family member?	100	66.7
Did doctor explain the possible outcome?	53	35.3

Table 5. Experience Regarding Test Report Disclosure (N=150)

	Frequency	Percentage
Were you afraid of reports?	89	59.3
Who told you the results?		
Junior doctor	82	54.7
Senior doctor	36	24.0
Staff	8	5.3
Others	5	3.3
Did not tell the results	19	12.7
Where the results are disclosed?(N=129)		
General ward	87	58.0
Private room	20	13.3
Infront of relatives	15	10.0
Others	6	4.0
Result of the test?		
Positive	36	24.0
Negative	93	62.0

Table 6. Post test counseling in positive cases(N=36)

	Frequency	Percentage
Reaction on report		
Cried/depressed/shocked	23	63.9
Accepted calmly	13	36.1
Behavior of doctor		
Sympathetic	14	38.9
Empathetic	11	30.9
Rude /gestures showing no concerns	11	30.9
Family member having same disease	15	41.7
Were you told about risk factors &transmission?	22	61.1
Were you told about other confirmatory test?	24	66.7
Were you told about available treatment options?	18	50.0
Were you told about treatment outcomes and its side effects?	13	36.1
Knowledge about precautionary measures	12	33.3
Did doctor encourage you to tell your family members?	19	52.8
Did you ask any question?	16	44.4
Did you get satisfactory answer?	14	38.9
Referral to liver clinic		
Yes	14	38.9
No	22	61.1
Guidance about diet modification		
Yes	9	25.0
No	27	75.0
Advice about regular exercise		
Yes	8	22.2
No	28	77.8
Advice screening for other blood borne disease		
Yes	8	22.2
No	28	77.8
Did doctor show concern about psychological support or referral?	1	2.8
Ask for follow up		
Yes	24	66.7
No	12	33.3

The percentage who was counseled about treatment outcomes and side effects were 36.1%. Only 33.3% were told about precautionary measures. Among patients 52.8% asked questions and only 38.9% got satisfactory answers. Only 38.9% were referred to liver clinic and 25% were given guidance regarding diet modification. Only 22.2% were advised for regular exercises and screening for other blood borne diseases. Only 2.8% patients were psychologically concerned by doctor and 66.7% were asked for follow up. (Table 6)

7. Post test counseling in negative cases

Among patient with negative test results 97.8% were satisfied. Among them, doctors told about preventive measures as safe sex to 17.2%, use of screened blood to 23.7%. Ninety percent patients were not told about the window period. (Table 7)

Table 7. Post test counseling in negative cases (N=93)

	Frequency	Percentage
Patient satisfaction about the result		
Yes	91	97.8
No	2	2.2
Preventive measures told by the doctor		
Safe sex	16	17.2
Screened blood transfusion	22	23.7
Avoid sharing of syringes/razors/needles/tattooing/nose or ear piercing	11	11.8
Immunization	2	2.2
Sterilized instruments	8	8.6
All of above	24	25.8
None of these	44	47.3
Did doctor tell about the window period?		
Yes	8	8.6
No	85	91.1

DISCUSSION

Pakistan has the 2nd highest rate of hepatitis patients worldwide according to WHO report. This study aims to evaluate the practice of pre and post hepatitis test counselling by the health care professionals on the basis of principles of communication skills and assess the extent of practice of pre hepatitis test counselling in patients undergoing surgery. This study was conducted on 150 surgical patients in different wards of SGRH Lahore. Majority of the study population (50.6%) was from all four gynaecology wards. The perception regarding the disease was quite satisfactory in them in comparison to other wards like Orthopedics and Surgical units. According to our study, 96% patients were aware about hepatitis B and C, the most common source being health care professionals whereas in the research conducted in Quetta, by Haq, Nu, Hassali MA, Shafie AA, Saleem F, Farooque M, Haseeb A, et al in 2013, patients got knowledge from family, friends and neighbours. The primary reason of

this being lack of communication between health care professional and the patients.

In the research conducted here, the patients received satisfactory pre counselling session prior to the surgery, in comparison to those in San Clara County Hospital, California which was conducted by Yang EJ, Cheung CM, So SKS, Chang ET, Chao SD in 2009 to 2011 where the doctors were discouraged from counselling and education because of stigma and apathy associated with it. The consent was taken from only 55.3% patients in our study in comparison to the study conducted in Australia by Wallace J, Mc Nally S, Richmond J, Hazarizadeh B, Pitts M in 2011 exploring the perspective of people living with the chronic hepatitis B where testing occurred without explicit informed consent and reported no formal or informal post test discussion with little information provided at the time of diagnosis. While in 2013 a retrospective cohort study on evaluation of nosocomial infection and patient was screened for hepatitis B virus and the consent was taken from all the

patients out of which 70.7% patients were agreed for the test.

According to previous study done in Khyber Pakhtunkhwa by Ali I, Siddique L, Rehman Lu, Khan Nu, Iqbal A, Munir I et al in 2011, the prevalence of hepatitis C was 15.5% in 167 sample. Whereas in our study, 24% of our patients were hepatitis B or C positive. Only 33.3% patients knew about precautionary measures like safe sex, use of sterilized instruments and screened blood transfusion. Whereas very satisfactory post exposure precautionary measures were enlisted to the patients of American Clinic of Obstetrician and Gynecology (ACOG) in a study conducted by Boaz K, Fiore AE, Schrag SJ, Gonak B, Schulkin J in 2001 according to which 47% were advised for safe breast feeding, 70% were recommended condom use with long term sexual partners and 64% advised against alcohol consumption. As for hepatitis negative patients, only 25.8% patients were told about preventive measures by the doctors like safe sex, screened blood transfusion, avoiding sharing of syringes/razors/needles/tattooing/nose piercings. This is different in comparison to the studies done in Australia by Danzman L, Gastmier P, Schwab, Vonberg RP in 2013 where majority of the people were told how to be on a safer side. Our study was confined to only one tertiary care hospital and a small sample size was used so, generalizability cannot be applied.

CONCLUSION

The data from this study suggests that pretest counselling on hepatitis B or C was quite satisfactory. Since majority of the patients were from gynecology ward, they were much aware and well informed about hepatitis and well counseled. Unfortunately, the posttest hepatitis B counselling was not up to the mark.

REFERENCES

1. Memon MR, Shaikh AA, Soomro AA, Arshad S, Shah QA. Frequency of hepatitis B and C in patients undergoing elective surgery. *J Ayub Med Coll Abbottabad*. 2010; 22(2).

2. Ali I, Siddique L, Rehman LU, Khan NU, Iqbal A, Munir I, et al. Prevalence of HCV among the high risk groups in Khyber Pakhtunkhwa. *Virology Journal*. 2011; 8:296.
3. Moosa FA, Sheikh BA, Choudhry MS, Zuberi BF, Khan FW, Sultan N. Frequency of Hepatitis B and C in pre-operative patients for elective surgery. *JLUMHS MAY-AUGUST 2009*; vol:8, page No.2.
4. Malcoci L, Ciocanu M, Spinu C. Knowledge, attitude and practices on Hepatitis B and C and on voluntary counselling and testing for HIV and Viral Hepatitis in the general population of Moldova. A sociological Research Study Report. Chisinau. 2007; 112 page.
5. Negero A, Sisay Z, Medhin G. Prevalence of Hepatitis B surface antigen (HBsAg) among visitors of Shashemmene General voluntary counselling and testing centre. Negero et al. *BMC Research Notes*. 2011; 4:35.
6. Weinbaum CM, Williams I, Mast EE, Wang SA, Finelli L, Wasley A, et al. Recommendation for identification and public health management of persons with chronic Hepatitis B virus infection. *RR-8*; vol.57.
7. Fethers K, Andrews P, McCoy R, Harvey P, Spencer J. Talking about testing: pre-test and post-test discussion. National HIV Testing Policy 2006. [Online][Access 2007 April]. Available from URL <http://www.health.gov.au/internet/wcms/publishing.nsf/content/health-publhlth-strateg-hiv-hepc-hiv-index.htm#testing>. www.medicinenet.com/hepatitisb/article.htm
8. Black C (2012). Preventions and control of viral hepatitis infection. *I(1)*, 1-28. www.ncbi.nlm.nih.gov/pubmed/16461234
9. Falang (2013). Brief history of hepatitis. Pakistan has the second highest rate of hepatitis. *observer, D.p(n.d)* (2012-13).
10. Munir S, Saleem S, Idrees M, Tariq A, Butt S, Rauff B, et al. Hepatitis C

- treatment:current and future prospective.virology Journal. 2010; 7:296.
11. Yuan H, Lee W M. Update of chronic hepatitis b. *Curr Opin Gastroenterol.* 2011;27(3):217-223.
 12. Fattovich G, Zagni I, Scattolini C. Natural history of hepatitis b and prognostic factors of disease progression. *Management of patients with viral hepatitis, paris, 2004.*
 13. Zhang H, Li Q, Sun j , Wang C, Gu Q, Feng X, et al. Seroprevalence and risk factors for Hepatitis B infection in an adult Population in Northeast China. *Int.J.Med.Sci.* 2011; 8(4):321-331.
 14. Naeem SS, Siddiqui EU, Kazi AN ,Khan ST, Abdullah FA, Adhi I. Prevalence of Hepatitis B and Hepatitis C among preoperative cataract patients in Karachi. *BMC Research Notes.* 2012; 5:492. <http://www.biomedcentral.com/1756-0500/5/492>
 15. Boaz K, Fiore AE, Schrag SJ, Gonik B, Schulkin J. Screening and counseling practices reported by obstetrician–gynecologists for patients with hepatitis C virus infection. *Infect Dis Obstet Gynecol.* 2003;11:39–44.
 16. Yang EJ, Cheung CM, So SKS, Chang ET, Chao SD. Education and counseling of pregnant patients with chronic Hepatitis B: perspectives from obstetricians and perinatal nurses in Santa Clara County, California. *APJCP.*2013;14.3:1707.
 17. Southern WN, Drainoni ML, Smith BD, Christiansen CL, Gifford AL.Hepatitis C testing practices and prevalence in a high-risk urban ambulatory care setting. *J Viral Hepat.* 2011; 18(7): 474–481.
 18. Haq NU, Hassali MA, Shafie AA, Saleem F, Farooqui M, Haseeb A, et al. A cross sectional assessment of knowledge, attitude and practice among Hepatitis B patients in Quetta, Pakistan. *BMC Public Health.* 2013;13:448.
 19. Wallace J, McNally S, Richmond J, Hajarizadeh B, Pitts M. Managing chronic Hepatitis B: a qualitative study exploring the perspective of people living with chronic Hepatitis B in Australia. *BMC Research Notes.*2011;4:45.
 20. Drainoni ML, Litwin AH, Smith BD, Koppelman EA, McKee MD, Christiansen CL,et al. Effectiveness of a risk screener in identifying Hepatitis C virus in a primary care setting. *Am J Public Health.* 2012;102(11):e115-e121.
 21. Lum PJ, Hahn JA , Shafer KP, Evans JL, Davidson PJ, Stein E, et al. Hepatitis B virus infection and immunization status in a new generation of injection drug users in San Francisco. *J Viral Hepat.* 2008; 15(3):229-236.
 22. Olafson S. Dozens of Oklahoma dentist's patients test positive for Hepatitis. *Rueters Health Information.* 2013.
 23. Robotin MC, Copland J, Tallis G, Coleman D, Giele C, Carter L,et al. Surveillance for newly acquired Hepatitis C in Australia. *J Gastroenterol Hepatol.* 2004; 19(3).
 24. Danzmann L, Gastmeier P, Schwab F, Vonberg RP. Health care workers causing large nosocomial outbreaks. *BMC Infect Dis.* 2013;13(98).
 25. Enfield KB, Sharapov U, Hall KK, Leiner J, Berg CL, Xia GL,et al. Transmission of Hepatitis B virus from an orthopaedic surgeon with a high viral load. *Clin Infect Did.* 2013; 56(2): 218-24.