

A cross-sectional assessment of attitude and practice toward Hepatitis B among primary health care workers in Aljouf region of Saudi Arabia

Fahed Alrowaily¹, Ahmad Bedairi¹, Abaalwaki Aziz¹, Farooq Wani², Altaf Bandy³

¹College of Medicine, Aljouf University, Sakaka, Saudi Arabia.

²Department of Pathology, College of Medicine, Aljouf University, Sakaka, Saudi Arabia.

³Department of Family and Community Medicine, College of Medicine, Aljouf University, Sakaka, Saudi Arabia.

Correspondence to: Altaf Bandy, E-mail: dr.ahbandy@ju.edu.sa

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Abstract

Background: Hepatitis B (HB) is a global public health problem infecting nearly 2 billion people around the globe. Health-care workers (HCWs) remain at a high-risk of acquiring and transmitting the disease.

Objective: To assess the knowledge, attitudes, and practices of primary HCWs regarding HB.

Materials and Methods: This cross-sectional descriptive survey was conducted from March to May 2015 covered all health-care staff in primary health-care setting. The data were collected through a questionnaire developed by Habiba et al. Questionnaire consisted of four sections that covered the socio-demographic characteristics, knowledge, attitude, and behavior toward HB infection.

Result: Eighty-two percent and seventy-two percent of the study population, respectively, have the knowledge that hepatitis B can be acquired from the patient to HCW or from HCW to the patient. Ninety-one percent pointed that hepatitis B is a serious disease and higher proportion (93%) were aware about hepatitis B vaccine. Eighty-six percent agreed that their jobs put them at an increased risk while 75% agreed that their lifestyle increases the risk. Eighty-nine percent agreed that they need to be protected from hepatitis B with 86% considered receiving HB vaccine. Sixty-one percent of respondents have received HB vaccine and 89% think that they have received complete vaccination schedule.

Conclusion: We conclude that majority of the study participants have good knowledge about HB as a serious disease, its modes of transmission and considered that their work puts them at high risk. In spite of the good knowledge and attitude, less number of respondents have actually received HB vaccine, which tells of the huge gap between attitudes and actual practice of primary care workers regarding protection from HB.

KEY WORDS: Hepatitis B, primary health-care workers, attitude, knowledge

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Introduction

Hepatitis B (HB) is a global public health problem and is one of the most common infectious diseases in the world.^[1] HB infects nearly 2 billion people around the globe, out of which 350 million suffer from chronic, lifelong infection.^[2] Around 15%–40% of chronic HB patients are susceptible to develop liver cirrhosis and hepatocellular carcinoma.^[3,4]

It is responsible for approximately 1.5 million deaths worldwide each year, two-thirds of which are due to hepatocellular carcinoma.^[5,6] The World Health Organization estimated the hepatitis B surface antigen (HBsAg) prevalence in the Eastern Mediterranean region, which includes Middle East to be from 1%–10%, making it a region of intermediate to high endemicity.^[7] Safe and effective vaccine is available for prevention of HB, the first anticancer vaccine to be developed.^[8]

Physicians, dentists, nurses, laboratory staff, and other hospital staff are at high risk of acquiring infection via the contact with blood and other body fluids.^[9] Among the health-care personnel, hepatitis B virus (HBV) is transmitted by the skin prick with infected, contaminated needles and syringes or through accidental inoculation of minute quantities of blood during the surgical and dental procedures. It has been seen in the literature that the highest prevalence of HBV exists in the dentists.^[10] HBV can be prevented by strict adherence to standard microbiological practices and techniques, and use of appropriate barrier precautions and preexposure vaccines. Even after many publications about programs and strategies to prevent transmission, HBV and HCV infections still remain as a major public health issue for mankind.^[11]

It has been recommended that prevention is a safeguard against the epidemic of viral hepatitis. By knowing facts, having proper awareness, and attitudes the menace of this disease can be prevented to a great extent.^[12] As health-care workers (HCWs) remain at a high-risk of transmission, it is very important for them to follow proper measures of infection control and prevention. Knowledge and attitudes of the primary HCWs play a key role in prevention of spread of infection. This study was carried out with an objective to assess attitudes and practices of primary HCWs regarding HB.

Materials and Methods

The health-care delivery in Aljouf region, Saudi Arabia, is provided through a network of primary health-care centers and tertiary health-care institutions including a super-specialty hospital. Aljouf region of Saudi Arabia is divided into Sakakah, Domat Al-jindal, and Taberjal subregions. Primary health care is provided through 33 primary health care centers distributed in the health subregions proportionate to their population. This cross-sectional descriptive survey conducted from March to May 2015 covered all health-care staff in primary health-care setting. Staff that was on leave or on night shifts was excluded from this study.

Data of this study was collected through a questionnaire that was derived from other published studies dealing with the same topic in an Arabic speaking country, Kuwait are carried out by Habiba *et al.*^[13] Questionnaire consisted of four sections. The first section related to socio-demographic and occupational characteristics, the second part tested participants' knowledge about the risks of acquiring and/or transmitting HBV from/to a patient and precautions for prevention, the third and fourth sections were related to participants' attitudes

toward perception of the risk of acquiring HBV infection and practice of precautions.

College ethical committee approved the study protocol. Each participant received a survey package containing a letter of introduction regarding the importance of this survey and his willingness (consent) to participate in this study.

Statistical Analysis

The Statistical Package for Social Sciences (SPSS-17) was used for data processing. Simple descriptive statistics were used (mean \pm standard deviation for quantitative variables and frequency with percentage distribution for categorical variables).

Results

Table 1 presents socio-demographic characteristics of the study population. Nurses comprise majority (48.1%) of the study population followed by the primary health-care physicians (31.5%). Around 58.3% of participants were men and 75.95% were married. Around 70.4% of population was from Arabic-speaking countries with 11.1% as Arab nationals. Majority (43%) of the population have been in service for 1–5 years while only 5.6% have been working for less than a year. None of the participants had a family history of hepatitis.

Table 2 presents the knowledge regarding HB infection. Eighty-two percent of the study population have the knowledge that HB can be acquired from patients to HCW while 72% participants correctly have the knowledge that the patients can also acquire the infection from the health worker.

Ninety-one percent correctly pointed that HB is a serious disease and higher proportion (93%) were aware about HB vaccine. Seventy two percent of HCWs correctly answered the number of doses required for HB protection while seventy six percent have the correct knowledge regarding interval between the last dose and the preceding dose of HB.

Table 3 presents the attitude of primary health care towards HB, 86% of the participants agreed that their job put them at an increased risk of acquiring HB while 75% participants agreed that their lifestyle increases the risk of acquiring HB infection, 17% were uncertain. Eighty-nine percent of primary HCWs agreed that they need to be protected from HB. Sixty-nine percent of the study population agreed that they might infect the patient if they were carriers of HB while 20% were uncertain and 11% disagreed. Eighty-six percent of the participants consider receiving HB vaccine while 10% disagreed.

Table 4 presents the behavior of respondents toward HB vaccination. Sixty-one percent of the respondents have received HB vaccine and 89% think that they have received complete vaccination schedule. Forty percent of HCWs believed that they cannot be infected from patients and 28% responded that they were too careful at their job. Almost all HCWs were interested to know more about this HB. Seventy percent children of the workers have received HB vaccine 30% have not.

Discussion

HB infection is a global health-care problem, especially in developing countries of the world. HBV can be transmitted by activities involving percutaneous or mucosal contact with infectious blood or body fluids.^[14] Chronic HB infection has been found to be endemic to Asian and African countries, which contributes to more than 75% of the chronic HBsAg carriers.^[15] High rates of infection have been found to be among hospital workers.^[16] Hospital workers who are more exposed to the risk of HBV infection have been found to have low participation in vaccination programs.^[17,18]

In our study, nurses comprised majority (48.1%) of the study population followed by the primary health-care physicians (31.5%) and 58.3% of participants were men and 75.95% were married. Around 70.4% of population was from Arabic-speaking countries [Table 1]. Habiba *et al.*^[13] in their study also found that nurses and doctors made up majority of respondents and most of them (62%) were of Arab origin with 85.8% being married but they found female preponderance 69.7% in contrast to our study.

Majority (43%) of the population have been in service for 1–5 years while only 5% have been working for less than a year. None of the participants had a family history of hepatitis [Table 1]. In a study conducted on doctors by Usmani *et al.*,^[19]

majority of the doctors were men (60%), which is in concordance with our study.

Our study showed that 82% of the study population have the knowledge that HB can be acquired from patients to HCW while 72% knew that the patients can also acquire the infection from the health worker. A total of 91% correctly pointed that HB is a serious disease and higher proportions (93%) were aware about HB vaccine [Table 2]. A study from Ahmedabad, India, also reported a high proportion (86.7%) of medical students and HCWs having good knowledge about HBV.^[20] The reason for this high awareness could be attributed to the longer stay of HCWs in the kingdom, which might have given them more opportunities to attend programs on awareness on HB.

Habiba *et al.*^[13] found that 76.2% of respondents were aware that HBV can be acquired from patients to HCWs and 57.7% knew that the virus can be transmitted from HCWs to patients. Seventy-four percent considered it as a serious disease and 81.5% were aware of HBV vaccine.

Studies carried out among HCWs in Sudan and Morocco revealed that most of them had a good knowledge of blood as a medium of infection but lacked adequate vaccine coverage.^[21,22] Some studies found poor knowledge regarding HB. A study conducted in Erbil, Iraq, reported 49.3% of medical students and HCWs having good knowledge about HBV.^[23] Another study conducted on Medical students in Erbil, Iraq, reported only 14% of the students having good knowledge.^[24]

In our study, 72% of HCWs correctly answered the number of doses required for HB protection while 76% have the correct knowledge regarding interval between the last dose and the preceding dose of HB [Table 2]. Habiba *et al.*^[13] found that 65.9% of HCWs were aware about the number of doses of vaccination, whereas only 44.4% correctly knew the expected interval between the last dose and the dose preceding it, which is lower than our study. The reason could be that majority (79.6%) of our study participants comprised physicians and nurses, which are more closely related to child health problems including immunization. Adekanle *et al.*^[25] found that the hospital workers of their institution have low perceived risk of HBV infection and low vaccination coverage despite a high awareness of HBV vaccine.

Regarding the attitude of primary HCWs toward HB, 86% of the participants agreed that their job increased the risk while 75% agreed that their lifestyle increased the risk. A total of 89% of primary HCWs agreed that they need to be protected from HB and 69% agreed that they might infect the patient if they were carriers. Around 86% of the participants consider receiving HB vaccine. Our results are more or less in agreement with the findings of Habiba *et al.* who found that 80.5% felt that their job put them at risk of contracting HBV infection, 68.9% believed that their lifestyle puts them at risk, 87.1% believed that they need to be protected from HB infection, 68.4% believed that a health worker may infect patients if he is a carrier of HBV, 86.3% believed vaccine to be necessary, and 69.7% stated that their children received HB

Table 1: Socio-demographic characteristics of the respondents

Variable	Number	Percentage
Job		
Nurses	52	48.1
Laboratory technician	12	11.1
Pharmacist	10	9.3
Doctor	34	31.5
Gender		
Male	63	58.3
Female	45	41.7
Marital status		
Single	26	24.1
Married	82	75.9
Nationality		
Saudi Arabia	12	11.1
Other Arab countries	64	59.3
Non-Arab countries	32	29.6
Years on current job		
<1	6	5.6
1–5	47	43.5
5–10	27	25.0
10	28	25.9
Family history of hepatitis		
Yes	0	0
No	108	100.0

Table 2: Percentage of participants with correct answers regarding hepatitis B

Variable	Number	Percentage
Hepatitis B can be acquired from patient to health-care workers	89	82.4
Hepatitis B can be transmitted from health-care workers to patients	78	72.2
Hepatitis B is a serious disease	98	90.7
Awareness of hepatitis B vaccine	101	93.5
Doses of hepatitis B vaccine required for complete protection	78	72.2
Expected interval between the last dose and the dose preceding it	82	75.9

Table 3: Attitude of respondents toward hepatitis B infection

Attitude toward hepatitis B infection	Agree (%)	Uncertain (%)	Disagree (%)
Your job puts you at risk of hepatitis B infection	86	10	4
Your lifestyle puts you at risk of hepatitis B infection	75	17	8
You need to be protected from hepatitis B infection	89	6	5
You may infect patients if you are carrier of hepatitis B virus	69	20	11
You consider it necessary to receive hepatitis B vaccine	86	4	10

Table 4: Behavior of respondents toward hepatitis B vaccination

Variable	Number	Percentage
Ever received hepatitis B vaccine		
Yes	66	61.1
No	42	38.8
Reason for not being vaccinated (for unvaccinated only)		
No specific reason	3	7.1
Cannot be infected from patient	17	40.4
Very careful	12	28.5
Very busy	10	2.8
Do you think you have received completed vaccination schedule?		
Yes	59	89.3
No	7	10.6
Do you feel you need more information about hepatitis B?		
Yes	95	87.9
No	13	12.0
Your children received hepatitis B vaccine	70	30

vaccine. In a study conducted by Koria and Lala^[26] on laboratory technicians, 86.7% had knowledge of the symptoms, 88.3% had knowledge about the spread of HB, but only 35% of them were totally immunized against HB. A study conducted by Noaman *et al.*^[27] on medical and paramedical staff in Tikrit hospital found that medical staff had better knowledge about HB than the paramedical staff. The positive attitude toward vaccination among the medical staff was more than that of the paramedical staff (75% vs 46.6%); 56.2% of the medical staff and only 21.6% of the paramedical staff were vaccinated against HB.^[27]

We found that 61% of respondents have received HB vaccine and 89% think that they have received complete vaccination schedule. Almost all HCWs were interested to know more about this disease. Habiba *et al.*^[13] found that

74.7% have actually ever received HB vaccine and among them, only 84.0% completed the vaccination doses.^[13]

Conclusion

Our study concludes that majority of the study participants have good knowledge about HB as a serious disease and its modes of transmission. Regarding the attitude toward HB it was encouraging that the participants considered that their work puts them at high risk and hence agreed that they need to be protected against HB. Despite discovering a good attitude among primary HCWs, less number of respondents have actually received HB vaccine and even less number of HCWs think that they have received complete vaccination schedule;

however, good percentage of participants have immunized their children against HB. The study concludes that there is a huge gap between attitudes and actual practice of primary care workers regarding protection from HB. Covering all cadres of HCWs across all 33 primary health centers in Aljouf region was the strength of this study.

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