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Knowledge, attitude, and practice of healthcare providers regarding the Hepatitis B infection and vaccine at Al-Salama Hospital-Ameria, Baghdad City, October-November 2022, cross-sectional study

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Abstract

Background: One of the deadliest forms of viral hepatitis, the hepatitis B virus, poses a severe threat to human health. Because they frequently come into contact with bodily secretions, especially blood, that are contaminated with the virus, health providers are frequently deals with that secretions. Precautions like personal safety measures and vaccinations can be avoided.

Objective: To determine the health providers knowledge, attitude, and practice about avoiding hepatitis B infection and getting the immunization against infection in Al- Salama- Amriya hospital, Baghdad.

Materials and Methods: A cross-sectional study including (154) health providers how work in different health institution in Amira Baghdad city included (Al Salama hospital (90 persons), primary care (44 persons) and specialist dental care centers (20 persons), During October and November 2022.. The information was collected by Using a questionnaire, included the information about the knowledge, attitude, and practice of health provider regarding the infection by Hepatitis B, immunization and demographic information. The study data were presented using a descriptive summary created in the excel software's 10 window utilizing frequencies, proportions, and percentages. Each subject gave their verbal consent, and the study kept the individuals' identities anonymous.

Results: Our study including (154) health providers are medical staff (59) and (95) paramedical staff, the overall knowledge scoring of them is (68%), overall attitude scoring is (75%), and the overall practice is (58%), among the medical staffs only (15%) had undergone screening for HBV, and (67%) had completed the three doses in other side the paramedical without history of screening for HBV with (37%) had completed the three doses.

Conclusion: Over all attitude of health providers is more than the knowledge and practice (75%), (68%) and (58%) respectively with low rate of vaccination specially paramedical staff.

Keywords: Health providers, vaccination, medical staff, paramedical staff

Introduction

Globally, Hepatitis types B (HBV) is the most commonly considered blood-transmission diseases. Over the past ten years, the number of hepatitis cases among Iraqis has grown. As results of the overcrowding of refugees and migrants, and the consequent lack of vaccine (WHO, 2019) [1] and (Merzah MA, *et al.*, 2029) [2] Blood, semen, vaginal secretions, and mucosal membranes are all routes by which the virus spreads between people; was (50-100 times more infectious than HIV) (Elin D, Ellinor, 2013) [3].

The immunization regimen. typically administered in three doses vaccination advice for healthy term infants, adolescents and adult below 40 years produces seroprotection was 98%, 95% and 90% respectively and Response decreases with age, in older age above 60 years the protection is 75% with a complete three doses. (Shepard C., *et al.* 2006 [4] It is a serious global public health problem that sharply raises mortality and morbidity. HBV can be transmitted by blood products, sexually transmitted body fluids, pregnancy, childbirth, and contact with medical equipment (Roien R., *et al.*, 2021) [5].

In developed nations, HBV is more common than other kinds of hepatitis. About 7% of their population with chronic HBV infection.) Mohammed A. *et al.*, 2019 [6], and the prevalence of chronic HBV (HBsAg+) nationally was (1.62 - 2.31) Global Burden of Disease Study 2017) [7].

Around 296 million people worldwide have a chronic HBV infection, and 1.5 million new cases are reported yearly. The estimated prevalence of HBsAg, the surface antigen of HBV, in the global population is 3.9%. The effects of this virus, which included cirrhosis and hepatocellular carcinoma, resulted in 820,000 deaths in 2019. HCWs had a four times higher rate of health providers infection than the general population, according to the World Health Organization [8]. Health providers have an infection rate that ranges from 0.8% to 74.4% depending on the location where they operate. (Malewezi B, *et al.*, 2016 [9]. The cornerstone of HBV infection prevention, the HBV immunization has proved exceedingly effective, safe, and provides lifetime protection. Common precautions like constant personal hygiene, appropriate glove and device use, adequate medical equipment sterilization, and proper bodily fluid and other clinical waste disposal in healthcare institutions are also useful tactics. They include enhancing health education for high-risk populations who are both diseased and uninfected. (Jonald L *et al.* 2010) [10].

Methods

We extracted health care providers demographic and KAP data from a questionnaire that included (16) equations, (8) knowledge questions, (5) attitude questions, and (3) practice questions that were distributed randomly to participants. To assess the reliability, it was pre-tested on ten participants from the participating health institutions. All questions were clear by the participants. Respondents' anonymity was ensured, and their verbal consent was obtained. The results of study were revealed in tables and graphs.

Definitions for scoring knowledge, attitude and practices

A. Abdela, B. *et al.*, 2016 [28].

The study made use of the operational definitions listed below.

- The respondents had adequate knowledge if they were able to correctly respond to at least 70% of the knowledge-related questions.
- If respondents were able to correctly respond to at least 70% of the attitude questions, they had a positive attitude. Negative attitude: If less than 70% of the attitude questionnaire items were correctly answered. When research subjects were able to respond properly to at least 70% of the practice questions. Malpractice: When participants failed to accurately respond to 70% of the practice questions.

Inclusion and exclusion criteria

Inclusion criteria Health care workers in health care institutions in Al-Ameria City during the study period were

the candidates for the study.

Exclusion criteria: Health care workers who were not in the study area during the data collection period due to maternity, annual, or sick leave.

Results

First: Socio demographic characteristics

In all, (154) HCWs were involved in the research., with men accounting for roughly one-third of the total. (54%) of participants were between the ages of 30 and 39. (63%) were married. As shown in Table (1) (60%) of the total respondents were paramedics, 63% were married, and roughly half had experience spanning more than ten years. (59) medical staff members (doctors. dentist and pharmacists) and (95) paramedical staff members (nurses, lab technicians, and medical assistance) The participants were selected randomly. This study included health workers in three difference health institution in Al Ameria city (ALsalama hospitals 90, primary health care 44 and specialized health care centers for dentistry 20.

Table 1: Socio-demographic characteristic of the health car providers

Variables	Category	Number (n)	Percentage (%)
Sex	male	44	29
	female	110	71
Age groups	18-29 year	32	21
	30-39 year	85	55
	40- 59 year	33	21
	more than 60year	4	3
Professions	Medical staff	59	39
	Paramedical staff	95	61
Marital state	single	52	34
	married	98	63
	divorced	4	3
Experience	less than 4 year	29	19
	5- 9 years	51	33
	more than 10 years	74	48

Second: knowledge of health workers

The distribution of health professionals according to questions demonstrated that medical staff have higher awareness about hepatitis BV than paramedical employees. In table (2) and (3) and figure (1) in all eight statements of knowledge except the last one, where paramedical staff recorded a higher score of 49% than medical staff (44%), with medical staff having (76%) is good knowledge while the paramedical staff having (60%) is poor knowledge, Finally, the overall knowledge of both HCWs (68%) is poor knowledge.

Table 2: Shows how medical workers answered questions about their knowledge.

Hepatitis BV Statements	Yes		Don't know		No	
	Frequency.	%	Frequency.	%	Frequency.	%
Can acquire hepatitis B through a needle stick wound.	59	100	0	0	0	0
There is no effective vaccine for hepatitis B	0	0	4	9	54	91
There is no need for a blood test	3	5	5	9	51	86
90% of individuals are 100% protected against hepatitis B by the vaccine.	49	90	2	3	8	14
The hepatitis B vaccine offers at least 15 years of HBV defense.	35	59	5	8	19	33
Vaccinated patients should not be considered as a possible source of HBV	10	17	5	8	44	75
A person who has received the hepatitis B vaccine or recovered from the disease can spread the disease to others.	14	24	2	3	43	73
Hepatitis B is less contagious than HIV.	26	44	16	27	17	29

Table 3: Answers to knowledge questions are distributed by health care providers

Hepatitis BV Statements	Yes		Don't know		NO	
	Frequency	%	Frequency	%	Frequency	%
Can contract hepatitis B through a needle stick wound.	91	96	2	2	2	2
There is no effective vaccine for hepatitis B	23	24	11	12	61	64
There is no need for a blood test	16	17	24	25	55	58
90% of individuals are 100% protected against hepatitis B by the vaccine.	21	23	27	28	47	55
The hepatitis B vaccine offers at least 15 years of HBV defense.	24	30	23	24	48	51
Vaccinated patients should not be considered as a possible source of HBV	50	53	12	13	33	34
A person who has received the hepatitis B vaccine or recovered from the disease can spread the disease to others.	27	28	17	18	51	54
Hepatitis B is less contagious than HIV.	49	51	10	11	36	38

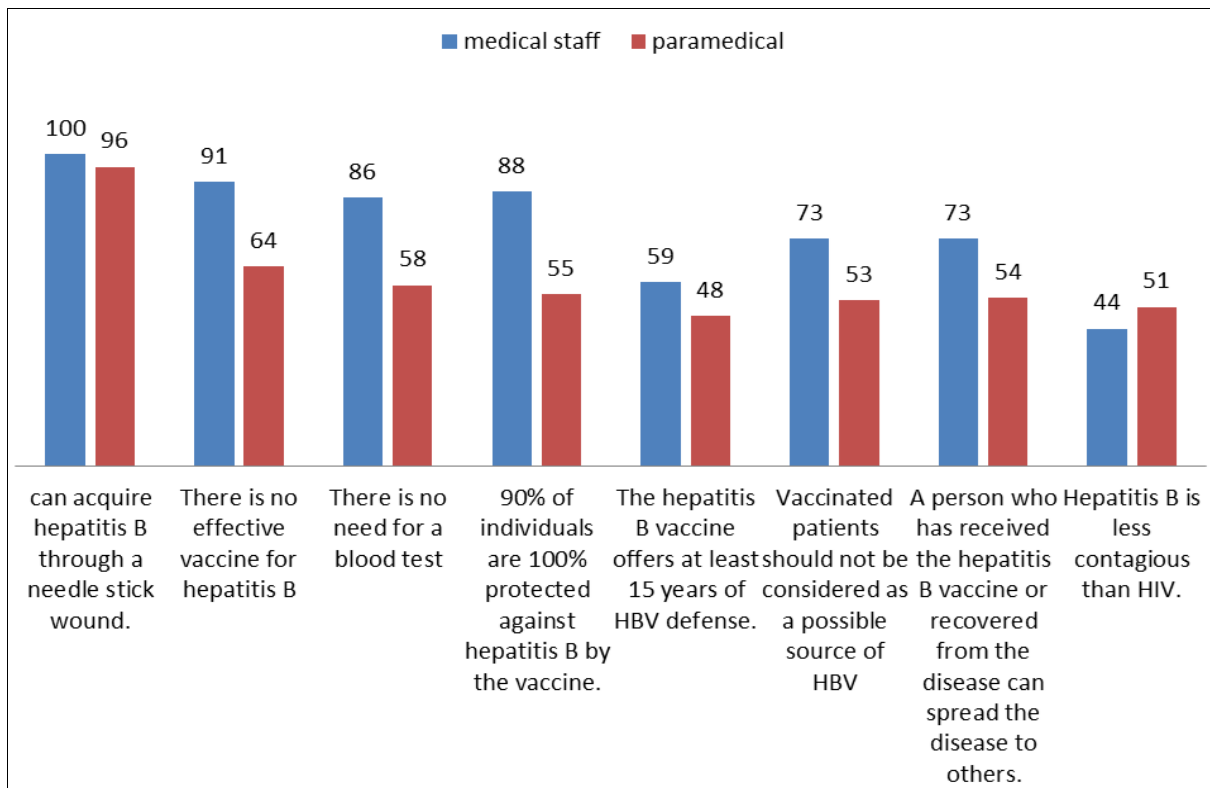


Fig 1: Knowledge scoring of health care providers

Third: attitude of health workers

The distribution of responses to the attitude questions revealed that more medical staff members gave positive replies to all of these questions than paramedical staff

members did., as shown in Table (4) and (5) and Figure (3) the scoring of medical staff (89%) is positive attitude and the scoring of paramedics (60%) is negative attitude. Finally the overall attitude of both HCWs is (75%) is positive

Table 4: Attitude-related questions answers of the medical staff

Hepatitis b vaccination	Yes		Don't know		No,	
	No.	%	No.	%	No.	%
Should be compulsory	48	81	7	12	4	7
Am scared of vaccination	8	14	4	7	47	80
Always being cautious, thus no need	4	7	2	3	53	90
Don't need it because I'm not in danger	1	2	1	2	57	97
Do not trust	0	0	1	2	58	98

Table 5: Attitude-related questions answers of the Paramedical staff

Hepatitis b vaccination	Yes		Don't know		No,	
	No.	%	No.	%	No.	%
Should be compulsory	90	57	30	19	39	25
Am scared of vaccination	29	18	46	29	84	53
Always being cautious, thus no need	30	19	39	25	90	57
Don't need it because I'm not in danger	5	3	34	21	120	75
Do not trust	12	8	53	33	94	59

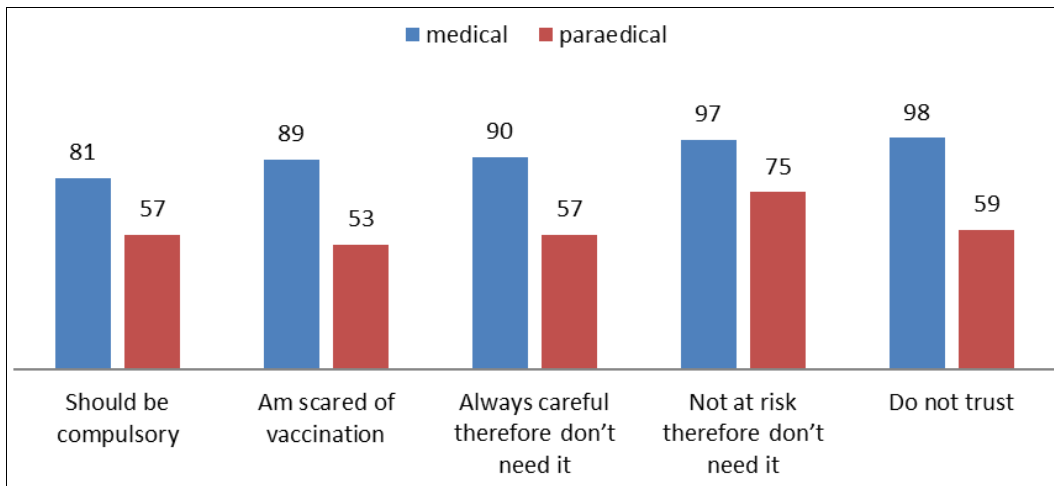


Fig 2: Health workers positive attitude "correct answer "

Fourth the practice of health workers

Table (6) and figure (4) reveals the distribution of answers to the practice questions revealed that the medical staff had a positive response to vaccination, with (68%) of them having full vaccination and only (15% of medical staff

having undergone screening for HBV as well. However, the para-medical staff had a negative response to vaccination, with (33%) of them having full vaccination and no one having undergone screening for HBV. Lastly, the combined attitude of the two healthcare providers is malpractice (58%)

Table 6: Hepatitis B vaccine response frequency and checking

. Have you been vaccinated against hepatitis B?	Full vaccination (Three doses)		No full vaccination (Two or single dose)	Don't know
Medical staff	frequency	40	17	2
	%	68%	29%	3%
Paramedical staff	frequency	55	90	14
	%	33%	57%	9%
Was your hepatitis b immunity tested after vaccination?	checked		no checked	
Medical staff	frequency	9	50	
	%	15%	85%	
Paramedical staff	frequency	0	95	
	%	0%	100%	

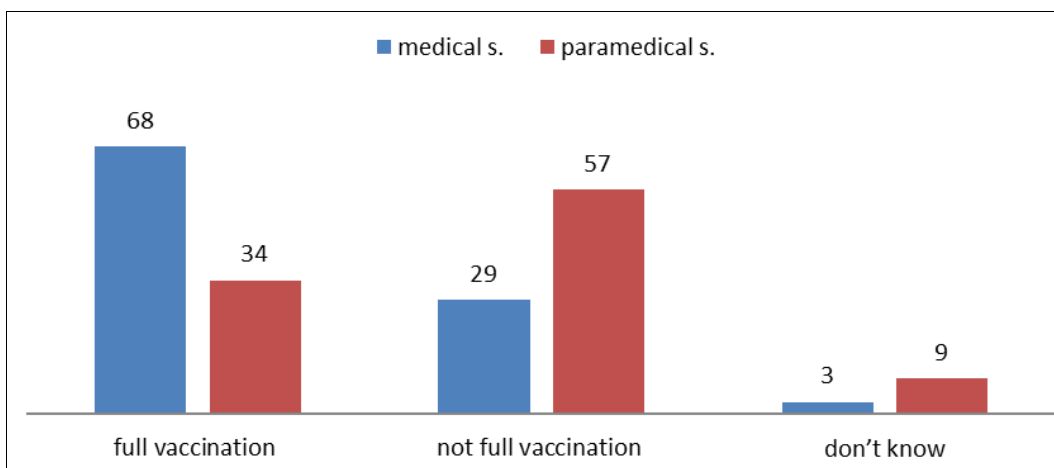


Fig 3: Vaccination status of health workers

Fifth: the out comes

The overall both HCWs attitude is more than the knowledge

and practice (75%), (68%) and (58%) respectively as shown in table (7).

Table 7: Shown the over all scoring KAP of healthcare providers (HCPs)

Kap	Hcp s	%	Scoring
Knowledge	Medical	75	Good
	Paramedical	60	Poor
	Overall	68	Poor
Atitude	Medical	89	Positive
	Paramedical	60	Negative
	Overall	75	Good
Practice	Medical	68	Negative
	Paramedical	33	Negative
	Overall	58	Malpractice

Discussion

Health workers are at risk of hepatitis B from direct patient contact (blood, secretions, and contaminated instruments). HBV is most commonly transmitted by dentists during tooth extraction, endodontics, and gingivectomy, (T. Gebremeskel, *et al.*, 2020) ^[12]. As a result, HCWs are more likely to become infected with HBV while practicing and working. Therefore, assessment of knowledge, attitude, and practice towards HBV infection and vaccination are of great importance and information obtained by such method are used to design proper preventive measures,

In this study, HCWs' overall knowledge of HBV was 68%, which was lower than the study by (Roien R, *et al.*, 2021) ^[5] in Kabul, which found 86.58% (five), the study in Nigeria by (Hassan M, *et al.*, 2016) ^[12], which found 86%, and the Ethiopian study by (Ayalew MB, *et al.*, (2016) ^[13] which found 73%.

In other side our study it was higher than the study of Mesfin YM, Kibret KT, 2013 ^[26] it was (56.2%) knowledge levels at Haramaya University, Ethiopia and the study by Othman SM, 2013 ^[27] it was (59%) in Erbil city, Iraq. The difference between our study and other studies may come from the different approaches in fighting the disease in both countries. Our study revealed that the medical staff has higher knowledge than the paramedical staff, mimic the results to the studies done by (Bakry, S.H, 2012, ^[14], in Sudan, the study done in Tikrit by Areej. *et al.*, 2012 ^[15], and the study of Mukesh *et al.*, 2016) ^[17].

Similar to another review paper that was written in 2012 and was published in the Journal of Gastroenterology (Alam M., 2012) ^[18], the current study discovered that the majority of participants had a positive attitude on HBV infection. The majority of healthcare professionals, as revealed by our survey, are aware that their work puts them at risk for HBV infection. This attitude (70%) is beneficial for the promotion and uptake of HBV infection prevention strategies, such as HBV vaccine. And the study by Sanaa *et al.*, 2019 ^[19] found two-thirds of the respondents had a safe practice, and the majority of the respondents had a favorable attitude towards HBV preventive measures, as the study by Areej M. *et al.*, 2012 ^[15] found, The medical staff has a more positive attitude toward immunization than paramedical staff.

The World Health Organization has estimated that the mean HBV vaccination rate among HCWs ranges from 18-39% in developing countries to 67-79% in developed countries (Zelalem D, *et al.*, 2011) ^[22] Our study's results ^[22] were (61%) close to the range of developed countries on the other side. The overall percentage of HCWs found to be fully vaccinated in our study was 61%, which was higher than the result reported by Tsega Ab *et al.* 2017 ^[21] that (13%) of respondents were found to be fully vaccinated, and the study of (Gadour, A. 2011) ^[23] in AL Sudan revealed that (27%)

of respondents were not vaccinated against HB. While the study by Abdnur A, *et al.*, 2016) ^[25].

On the other hand, the medical staff at Gulu Regional Referral Hospital in Northern Uganda possessed good understanding of HBV; for instance, the majority of respondents were aware that hepatitis B vaccine was offered and were familiar with the recommended dosages. According to this study's findings, the HBV vaccine's widespread sensitization campaigns carried out by the Ugandan Ministry of Health in recent years may be to blame for the high level of knowledge about its availability among healthcare professionals at Gulu Regional Referral Hospital (Morris *et al.* 2021) ^[25].

Regarding the respondents checking the efficiency of the vaccination after vaccination in our study is very low and mainly by medical staff (15%) in comparison with the study of Almustafa, *et al.*, 2015 ^[16] This study revealed that 71.3% did not obtain the post-vaccination test to ensure the efficiency of the vaccination. Our study reveals higher results than the study of Ali AL-Janabi, 2009 ^[20] found that in Karbala, all laboratory workers gave negative results after ELISA assaying blood, and only two male technicians at Al-Hussein general hospital showed positive IgG anti-HBsAg, which may be related to vaccine response.

Conflict of Interest

Not available

Financial Support

Not available

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