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NURSES' AWARENESS REGARDING PREVENTION OF HEPATITIS B VIRUS AT BAGHDAD TEACHING HOSPITAL

Annotation:

Background: *Healthcare workers are exposed to many occupational risks. Viral infections may be a common occurrence among nurses, including viral hepatitis B because they come into contact with the blood and body fluids of patients through exposure to a sharp instrument or in accidents and facilitate the transmission of blood-borne diseases.*

Objectives: *To evaluate the knowledge of nurses in Baghdad Teaching Hospital about the prevention of viral hepatitis B and Find out the relationship between nurses' knowledge and demographic data.*

Method: *A cross-sectional design study using a stratified random sampling method. 98 nurses working in Baghdad Teaching Hospital were included. Participants were randomly selected after obtaining verbal consent. A knowledge questionnaire on hepatitis B prevention was developed and distributed to relevant participants. The collected data were analyzed using SPSS version 23.*

Result: *The study indicates that the nurses have a pass level of knowledge with a percentage of 54.1 % and no significant association between knowledge of preventive measures for HBV and their demographic characteristics. However, there are significant differences between education level and knowledge*

Conclusion: *The results indicate that less than half of the sample had good information, and the majority of participants had acceptable information regarding measures to prevent HBV.*

Keywords: *hepatitis, nurses, knowledge, prevention, infectious diseases.*

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Introduction

Hepatitis is a group of viruses known as hepatitis (A, B, C, D, and type E, that infect millions of people around the world, causing acute and chronic liver diseases. and type B is a major global health problem These viruses are usually transmitted through contaminated blood, contaminated blood products, or contaminated equipment during medical and surgical procedures. [1] [2(

About one-third of the world's population has been infected with hepatitis at some point in their lives, including 350,000,000 people who have chronic diseases. In 2013, another 129 million new infections occurred. [3] It is worth noting that more than 750,000 people die from hepatitis B every year, and about 300,000 of these deaths were the result of other complications caused by viral hepatitis, such as liver cancer. [4] Viral hepatitis is considered one of the most endemic diseases in East Asia and Sub-Saharan Africa, the prevalence of chronic diseases varies, with infection rates ranging from 5% to 10%. In

Europe and North America, the infection rate is comparatively lower, standing at less than 1%. Additionally, there is another type, known as serous hepatitis, referred to as type B. [5] Infection B type in adults causes less than 5% of cases, while infection in infants and early childhood causes about 95%. The virus survives outside the body for at least seven days, and during this period, it may continue to cause infection if it enters the body of a person without being prevented by the vaccine. The incubation period ranges between 30-180 days. The virus can be detected within 30–60 days after infection; furthermore, a virus is 50-100 times more contagious than HIV [6]

Early infection is associated with asymptomatic symptoms and begins with sickness, loss of appetite, nausea, vomiting, mild fever, and dark urine, and then progresses to jaundice. It has been noted that itching may be an indicator and a possible symptom of viral hepatitis. In most people, the disease lasts for a few weeks and then develops gradually. [7] There is a rare condition that affects a small number of patients who suffer from one of the most severe forms of liver disease, which is known as liver failure. [8]

Most people who suffer from chronic disease do not have any symptoms, but over time, more serious complications may appear, such as cirrhosis and liver cancer Such complications may lead to the death of 15–25% of those suffering from this disease. There is still limited access to diagnosis and treatment of hepatitis B in many resource-constrained settings· [6][7] .

"Long-term complications of HBV infections, cirrhosis, and hepatocellular carcinoma cause a large disease burden. Liver cancer progresses rapidly, and since treatment options are limited, that causes high mortality Patients with liver cancer die within months of diagnosis. In high-income countries, surgery and chemotherapy can prolong life for up to a few years· Liver transplantation is sometimes used in people with cirrhosis in high-income countries, with varying success." [9]

Health care providers are considered among the people most exposed to these occupational hazards, such as sharp tools, including scalpels, scissors, surgical instruments, and needles, in addition to exposure to bodily fluids, blood spatter, and patient secretions inside the eyes, nose, mouth, and unhealthy skin [10]

Hepatitis B is a vaccine-preventable disease for which a safe, immunogenic, and effective vaccine has been recommended since 1982, though its implementation is still insufficient and a sizable proportion of HCWs never get vaccinated despite potential occupational risk. also, The use of personal protective equipment, occupational safety, and proper disposal of medical waste, especially sharps items. [11] [16] Therefore, the current study aimed to evaluate the awareness of nurses regarding the prevention of hepatitis B viruses.

Methodology

Design of the study: A descriptive study was conducted to evaluate nurses' awareness of the prevention of viral hepatitis B at Baghdad Teaching Hospital for the period from October 5, 2023, to January 15, 2024.

Study Instruments: A questionnaire was developed by the researcher after an extensive review of previous studies, which included two sections. The first section is related to demographic information, including (age, gender, educational level, years of service, and source of knowledge), and the second section concerns the study questions, consisting of 14 questions divided into two axes. The first axis contains seven questions about general information about hepatitis B, and the second axis contains seven questions about preventive measures for HBV. One point was awarded for the correct answer While I gave a zero for both wrong answers and I do not know, this gives a score of no less than (7). A maximum of 14 points

It was distributed to 98 volunteer participants in this study, where the sample was selected randomly from the morning shift of the nursing staff after obtaining approvals from the official authorities. Reliability was assessed through the alpha Cronbach test, and the result was (.785). Data were

analyzed using SPSS (Statistical Process for Social Sciences) version 23.0 and the Excel application. The normality of the data was tested using the Kolmogorov-Smirnov test. The analysis of descriptive data involves frequencies and percentages used to obtain the overall results for the sample and to describe the variables, finally, the chi-square test is used to test the independence of the variables.

Ethical considerations:

- Verbal consent was obtained from the participants after explaining the purpose of the study, emphasizing the confidentiality of the data, and using the data for the study only.
- The questionnaire did not include anything unethical or sensitive information

Results:

Table 1: Distribution Socio-demographic characteristics of participants (n=98)

Variables		F	%
Sex	Female	58	59.2
	Male	40	40.8
Age	23-29	20	20.4
	30-39	26	26.5
	40-49	29	29.6
	50-over	23	23.5
Education	Secondary	34	34.7
	Institute	30	30.6
	BSc	34	34.7
Experience	1-5	44	44.9
	6-10	21	21.4
	11-15	9	9.2
	16&over	24	24.5
Sources	Academic study	47	48.0
	social media sites	15	15.3
	Books	10	10.2
	continuous education	26	26.5

Table 1 showed that more than half of the sample were women (59.2%), and the majority were in the age group 40–49 (29.6%). The level of education was 34.7% for each secondary and BSc degree in nursing sciences Regarding the experience of years, the highest was 44.9% for years between 1-5 Finally, 48.0% sourced their knowledge from academic studies.

Table 2: The Mean of Score of Nurses Knowledge overview hepatitis B virus. (n=98)

No.	Question knowledge		True	False	MS	SD	A. D
1	Hepatitis B is a viral infection	F	69	29	.704	.458	G
		%	70.4	29.6			
2	transmitted from mother to child	F	57	41	.581	.495	P
		%	58.2	41.8			
3	transmitted through blood and body fluids	F	79	19	.806	.397	G
		%	80.6	19.4			
4	HBV survives outside the body for 7 days	F	75	23	.765	.425	G
		%	76.5	23.5			
5	incubation period ranges from 30-180 days	F	77	21	.785	.412	G
		%	78.6	21.4			

6	HBV detected within 30-60 days of infection	F	63	35	.642	.481	P
		%	64.3	35.7			
7	needle stick injuries risk for HBV	F	79	19	.806	.397	G
		%	80.6	19.4			
Total					.727		G

A.D.): Assessment Degree, M. S=mean of score [(0 -. 33=low =L) (0. 34 – 0.66=pass =P) (0. 67 – 1 = good=G)]

The results of Table 2 showed that the total mean score of nurses' answers related to overview 'knowledge of HBV was (0.727= good). where Items (1, 3, 4, 5, 7) received a good assessment, while questions (2,6) received a passing assessment

Table 3: Mean of Score of Nurses Knowledge Prevention HBV(n=98)

No.	Question prevention		True	False	MS	SD	A.D
1	Used personal protective equipment	F	69	29	.704	.458	G
		%	70.4	29.6			
2	vaccination	F	48	50	.486	.502	L
		%	49.0	51.0			
3	medical Waste separation	F	66	32	.673	.471	P
		%	67.3	32.7			
4	Using a one-handed technique with injection	F	72	26	.734	.443	G
		%	73.5	26.5			
5	HBV may be asymptomatic	F	59	39	.602	.491	P
		%	60.2	39.8			
6	Avoid sharing needles, personal equipment	F	62	36	.632	.484	P
		%	63.3	36.7			
7	Routine HBV test	F	69	29	.704	.458	G
		%	70.4	29.6			
Total					.648	P	

A.D.): Assessment Degree, M. S=mean of score [(0 -. 33=low =L); (0. 34 – 0. 66=pass =P) (0. 67 – 1 = good =G)]

The results of Table 3 showed that the total mean score of nurses' answers related to prevention 'knowledge of HBV was (0.648= pass). where Items (1, 4, 7) received a good assessment, while questions (3,5,6) received a passing assessment, and except question 2 recorded a low assessment.

Table 4: Association between Socio-Demographic and Level of nurse's awareness toward (HBV)

Variables		Good	Pass	Poor	Total	p. value*
Gender	Male	12(12.2%)	24(24.5%)	4 (4.1%)	40(40.8%)	.408 NS
	Female	25(25.5%)	29(29.6%)	4 (4.1%)	58(59.2%)	
	Total	37(37.8%)	53(54.1%)	8(8.2%)	98(100.0%)	
Age	23-29	10(10.2%)	10(10.2%)	0 (0.0%)	20(20.4%)	. 283 NS
	30-39	6(6.1%)	18(18.4%)	2(2.0%)	26(26.5%)	
	40-49	10(10.2%)	15(15.3%)	4(4.1%)	29(29.6%)	
	50-over	11(11.2%)	10(10.2%)	2 (2.0%)	23(23.5%)	
	Total	37(37.8%)	53(54.1%)	8(8.2%)	98(100.0%)	
Qualify.	Secondary	10(10.2%)	18(18.4%)	6(6.1%)	34(34.7%)	. 004 HS
	institute	7(7.1%)	21(21.4%)	2(2.0%)	30(30.6%)	

	BSc	20(20.4%)	14(14.3%)	0(0.0%)	34(34.7%)	
	Total	37(37.8%)	53(54.1%)	8(8.2%)	98(100%)	
Experiences	1-5	17(17.3%)	24(24.5%)	3(3.1%)	44(44.9%)	. 995 NS
	6-10	7(7.1%)	12(12.2%)	2(2.0%)	21(21.4%)	
	11-15	4(4.1%)	4(4.1%)	1(1.0%)	9(9.2%)	
	16&over	9(9.2%)	13(13.3%)	2(2.0%)	24(24.5%)	
	Total	37(37.8%)	53(54.1%)	8(8.2%)	98(100.0%)	
Source	Academic study	19(19.4%)	25(25.5%)	3(3.1%)	47(48.0%)	. 698 NS
	Books	3(3.1%)	7(7.1%)	0(0.0%)	10(10.2%)	
	Social Media Sites	7(7.1%)	6(6.1%)	2(2.0%)	15(15.3%)	
	Continuous Education	8(8.2%)	15(15.3%)	3(3.1%)	26(26.5%)	
	Total	37(37.8%)	53(54.1%)	8(8.2%)	98(100.0%)	

*** Sig. = significance level ≤ 0.05= significant**

In Table 4, results showed there is no statistical relationship between the demographic variables of the participants in the current study regarding (age, gender, years of experience, and source of information) and their level of knowledge of HBV at a level of significance of more than 0.05. Except for education level, there is high statistical significance indicating a strong relationship between the participants' educational level and level of education, with a value of less than 0.05.

Figure 1: Distribution overall of knowledge score about (HBV) (n=98)

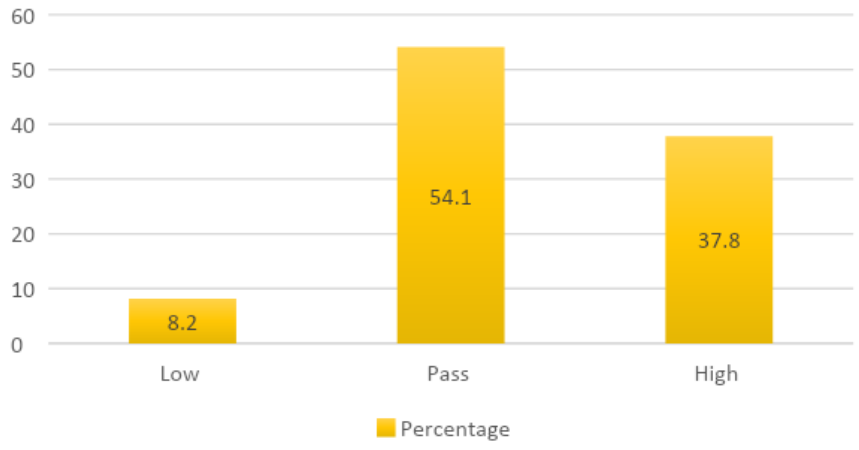

Figure No. 1 shows the highest percentage of levels of participants' knowledge (54.1%,37.8% 8.2%) were as pass, high, and low respectively

Discussion

Nurses' health information and skills are vital in providing patients with effective and safe health care. Among the main health issues that nurses must be aware of and have the necessary knowledge about are infectious diseases, including viral hepatitis [(1).] Qualifying nurses to understand prevention requirements and follow best practices contribute greatly to improving their understanding of the disease, thus improving the quality of health care provided and reducing the spread of viral hepatitis in the community [(2)]

The results in Table 1 showed that the age group 40-49 years constitutes the largest percentage of the sample, which indicates that the sample consists mainly of people in this age group, as more than half

of the sample are females, at (59.2%). In contrast, males constitute (40.8%) of the educational level. The results indicated that (34.4%0 for both secondary and bachelor's degrees, while the percentage of (44.9%) had experience ranging between 1-5 years about the source of their information, was the largest percentage for academic study, with (48.0%.) The results of the current study are consistent with a study conducted in Nigeria published in 2015 to measure healthcare providers' knowledge about preventive measures and factors that influence viral hepatitis infection [(15).]

Figure 1 of the current study shows that (54.1%) of participants had an Acceptable knowledge score, 8.2% had a low knowledge score, and (37.8%) had a high score. The result was supported by the study conducted among nurses working at Rania Hospital in Kurdistan City/Iraq, a non-probability, purposive sample of (303) healthcare workers, in 2019. The results were that most nurses had a moderate level (68.3%) while (29.75) had a high level of knowledge about viral hepatitis, and 2.0% had low knowledge [(12)]. On the other hand, a study contradicts the current research results. It was conducted in India in 2019 to measure nurses' knowledge about viral hepatitis B with the participation of 100 nurses where (86%) of the nurses had high-level knowledge and (12%) had moderate level and (2%) was low [(14)]

Another similar study was conducted among nursing staff in Mukhtar Hospital in Dhaka, Bangladesh. Results of the study showed that (67.3%) of respondents had a sufficient level of knowledge of Hepatitis B, but only half of them (49.3%) had a good level of Preventive practices. In conclusion, it can be said that compared to respondents' knowledge of hepatitis B, their preventive practices were low [(13)]

Table (5) the Chi-Square test to find the association between demographic variables and the participants' knowledge scores. Table 5 shows that there are no statistically significant differences in the demographic variables with the P-value (age =.408) (.283= gender)(.995= year experience)(.698 =source of knowledge)which shows that there is random variation and there is no significant relationship between except the level education, where the result of the (.004) means that participant with a BSc level has higher levels of knowledge than other levels of education regarding hepatitis B virus The result is consistent with the study conducted to evaluate the Knowledge of Healthcare Professionals Regarding Hepatitis Bat Rania Hospital in Iraqi Kurdistan, where P. Value Age (.524), Sex (.926), Education (.004), experience (.552) [(12)]. On the other hand, the results of the present study are opposite to a study published in 2015 conducted in health centers in Ibadan, Oyo state, Nigeria. to determine the knowledge and practicality of the prevention of hepatitis B infection Measures and influencing factors among 210 primary healthcare workers differ in that they evaluate the practical in addition to including doctors, laboratory workers, and others. The hypotheses that were tested showed that knowledge did not significantly affect the practice of preventive measures. [(15)]

Conclusion:

The Current that more than half of the sample had an acceptable level of knowledge regarding measures to protect from hepatitis B virus. In addition, there was no statistically significant relationship between the demographic data of the participants and their level of knowledge regarding measures to prevent hepatitis B virus, except for the educational level, as participants with university education had a higher cognitive level than other participants. The study recommends that There is an urgent need to enhance the level of knowledge of nurses working, especially in critical units such as dialysis and emergency; Emphasis is placed on increasing their awareness of occupational risks and the risk of exposure to hepatitis B. This strengthening contributes significantly to planning continuing education and opening the horizon for organizing advanced educational programs in the future.

Conflict of interest: No conflict of interest.

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