

Knowledge, Attitudes and Practices Towards Hepatitis B Among Nurses in Saudi Arabia

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ABSTRACT

Hepatitis B virus (HBV) infection poses a significant global health burden, with healthcare workers (HCWs) at increased risk due to occupational exposure. This study

aimed to assess the knowledge, attitudes, and practices (KAP) regarding HBV among nurses in Saudi Arabia. A cross-sectional survey was conducted using a structured questionnaire distributed to 508 randomly selected nurses. The results revealed that 64.8% of participants had a diploma degree, 30.2% had a bachelor's degree, and 5.0% had a master's/PhD degree. The majority (74.1%) were female, and 35.8% had 4-10 years of work experience. The average knowledge score was 4.01 out of 5, with a relative weight of 80.11%, indicating a high level of knowledge. However, knowledge about preventive measures in healthcare settings ranked lowest (62.71%). The attitude dimension also reflected a high level of agreement (4.02 out of 5; 80.40%), with the importance of following infection control practices to prevent HBV transmission being the most strongly endorsed item (83.00%). The practices dimension had the highest level of agreement (4.16 out of 5; 83.30%), with adherence to standard precautions ranking highest (89.00%). Prompt reporting of potential exposures was the lowest-ranked practice item (80.20%). These findings suggest areas for improvement, including emphasizing preventive measures, ensuring regular training, encouraging prompt exposure reporting, and maintaining comprehensive HBV vaccination programs. Strengthening HCWs' KAP regarding HBV is crucial for reducing occupational risks and improving patient safety in healthcare settings.

KEYWORDS: nurses, Saudi Arabia, hepatitis B.

1. Introduction

Hepatitis B virus (HBV) infection is a potentially fatal liver infection that affects an estimated 296 million individuals worldwide, with the World Health Organization (WHO) reporting a chronic infection rate. Every year, around 820,000 people die because of complications from HBV infection (Hepatitis B, n.d.).

Nurses play a crucial role in the care of persons who have HBV infection. They help throughout therapy and education on the nature of the disease, as well as diagnosis, prophylaxis, and prompt immunoglobulin administration. To adopt an effective management strategy, nurses and midwives must have a fundamental awareness of the condition and its varied consequences for patients (Boehme, 1985).

In the Kingdom of Saudi Arabia (KSA), HBV and hepatitis C virus are the most common and significant causes of cirrhosis and HCC necessitating liver transplantation, resulting in an increased healthcare system burden (Alshabanat et al., 2013). In 2021, the Saudi Ministry of Health (MOH) ranked hepatitis B (HB) as the #1 most prevalent notifiable infection (Statistical Yearbook 2021 - Statistical Yearbook, n.d.). HBV is spread through contact with infected blood or bodily fluids such saliva, menstrual, vaginal, and seminal secretions. It can survive on environmental surfaces for at least seven days (Schillie et al., 2018).

Healthcare workers (HCWs) are at significant risk of HBV infection due to occupational needlestick and sharps injuries (NSSIs) (Global Hepatitis Report, 2017, n.d.). The Centers for Disease Control and Prevention (CDC) estimate that 385,000 NSSIs occur among health-care workers each year, with nursing staff accounting for the majority (41.9%) (Schillie et al., 2013). Nurses account for over half of all

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healthcare workers and are one of the highest risk groups for HBV infection. Handling blood and blood-related products as part of their tasks exposes them to a higher risk of NSSI than other healthcare workers.

The most practical and efficient way to prevent hepatitis B virus infection is by immunization. The HBV vaccine has been available since 1982; it has a 90-95% protective effectiveness and is generally considered safe. Each dose of the HBV vaccine is administered intramuscularly at 0, 1, and 6-month intervals. All healthcare professionals, particularly those at high risk of developing HBV, should be immunized against hepatitis B, as recommended by the World Health Organization (WHO) (Yuan et al., 2019). Post-exposure prophylaxis should be administered following any major contact with a patient's bodily fluids.

Knowledge is an effective tool in professional nursing practice, exerting positive effects on critical ability, attitude, and professional practice capable of intervening in the most prevalent situations and health problems/diseases in the national epidemiological profile, thereby contributing to early disease detection, proper treatment, health promotion, and prevention of avoidable conditions (Oliveira et al., 2012).

Several gaps in HCWs' knowledge, attitudes, and practice (KAP) around HBV infection have been identified (Fufore et al., 2016; Mehriban et al., 2014; Reang, 2015). Although HBV infection has been studied in Saudi Arabia, relatively few research have been undertaken to assess the KAP of HBV infection among nurses (Alrowaily et al., 2015; Homoud, 2014). During the literature review, we found no studies conducted with Saudi nurses. Thus, the study's goal was to assess KAP in relation to HB infection among Saudi nurses. The goals were to measure nurses' knowledge and attitudes on HBV infection, as well as their practices.

Assessment of nurses' knowledge, attitudes, and behaviours promotes effective, safe, and quality decision-making, hence facilitating the consolidation of evidence-based practice. When inconsistencies are discovered, they must be used as guidelines for developing activities intended at qualifying care and lowering the direct and indirect consequences, whether financial, physical, psychological, or social (Camargo et al., 2018).

Study problem

Hepatitis B virus (HBV) infection causes a global health burden, with significant morbidity and death from both acute infection and chronic sequelae such as chronic hepatitis, cirrhosis, and hepatocellular cancer (Badawi et al., 2018; Mudawi, 2008). The global number of patients who tested positive for hepatitis B surface antigen (HBsAg) grew from 223 million in 1990 to 240 million in 2005 (Ott et al., 2012).

HBV transmission may be linked to a lack of understanding regarding HBV prevalence and occupational safety measures such as HBV vaccination, post-exposure prophylaxis (PEP), training, and safer working practices (Abou et al., 2009; Dunkelberg et al., 2014). Handling sharps and needle stick injuries (NSI) pose significant dangers to unvaccinated HCWSs, including potential exposure to a

variety of infections, including HBV (Elseviers et al., n.d.).

If personal protective measures are not employed properly, nurses are more likely to be exposed and get an illness. Continuous HBV transmission may be linked to a lack of knowledge regarding HBV prevalence and workplace safety measures such as HBV vaccination, post-exposure prophylaxis (PEP), training, and the implementation of safer working practices. Sharps handling and needle stick injuries (NSI) offer considerable dangers to unvaccinated HCWSs, potentially exposing them to a variety of illnesses, including HBV (Ahmad et al., 2016; Chao et al., 2010).

Research questions

- What is the Knowledge of Nurses about hepatitis B in Saudi Arabia?
- What is the attitude of Nurses about hepatitis B in Saudi Arabia?
- What is the practice of Nurses about hepatitis B in Saudi Arabia?

Study Objectives

- To determine the Knowledge of Nurses about hepatitis B in Saudi Arabia.
- To determine the attitude of Nurses about hepatitis B in Saudi Arabia.
- To determine the practice of Nurses about hepatitis B in Saudi Arabia.

2. Literature review

A study conducted by Mursy and Mohamed aimed to assess the knowledge, attitude, and practices (KAP) regarding Hepatitis B virus (HBV) infection among nurses and midwives in two maternity hospitals in Khartoum, Sudan. Utilizing a cross-sectional descriptive design, the researchers distributed a structured questionnaire to 110 healthcare workers, revealing that 58.2% had average knowledge about HBV, while two-thirds practiced safely and most held favorable attitudes towards preventive measures. Despite this awareness, a concerning 51.8% reported a history of needle stick injuries, and many lacked accurate knowledge about post-exposure prophylaxis and did not complete the HBV vaccination schedule. The findings highlight significant gaps in knowledge regarding post-exposure management and underscore the need for enhanced training and vaccination strategies to improve safety among healthcare workers in this high-risk environment (Mursy & Mohamed, 2019).

A study by Alajlan & Jahan aimed to assess the knowledge, attitudes, and practices (KAP) regarding hepatitis B virus (HBV) infection among primary healthcare nurses in Buraidah, Saudi Arabia. Conducted through a descriptive cross-sectional survey involving 262 out of 335 eligible nurses, the results revealed that 41.2% of participants had a moderate level of knowledge about HBV, with no significant gender differences noted. Notably, a high percentage (94.7%) exhibited positive attitudes toward HBV prevention, although male nurses demonstrated significantly more positive attitudes than their female counterparts. Compliance with universal precautions was generally good, with 85.5% of respondents vaccinated against HBV, and 72.3% completing the vaccination series. However, 14.1% reported exposure to

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high-risk conditions, with only 40.5% immediately reporting their injuries. The findings underscore the need for enhanced educational programs to improve nurses' knowledge and practices related to HBV prevention, ultimately contributing to better healthcare outcomes in the region (Alajlan & Jahan, 2024).

A study by Basharat investigates the awareness and practices of healthcare workers (HCWs) regarding hepatitis B virus (HBV) occupational risks in the Aseer region of Saudi Arabia. Utilizing a cross-sectional design, researchers distributed a questionnaire to 588 respondents, achieving a high response rate with a Cronbach alpha of 0.84, indicating good reliability. The findings revealed that 99% of participants were aware of HBV, with significant knowledge about its transmission routes, including non-sterile syringes and blood transfusions. Despite high levels of awareness, the study found no significant demographic differences in understanding the link between HBV and liver cancer. The authors concluded that while HCWs generally possess good knowledge and practices concerning HBV, there is a continued need for educational campaigns to enhance awareness about HBV causes, symptoms, and its relationship with liver cancer to further improve health outcomes in this population (Basharat, 2022).

A study by Ojara aimed to assess the awareness and risks associated with Hepatitis B Virus (HBV) among health workers in a high-prevalence area. Conducted as a cross-sectional study with 126 participants, the research revealed that while 50.8% of health workers had good knowledge about HBV and 71.4% maintained a positive attitude towards its prevention, there were significant occupational risks present. Notably, 90.5% of respondents faced high to very high pre-exposure risks, and 59.5% experienced moderate to high exposure and post-exposure risks. The findings indicated no significant differences in knowledge or work experience among the health workers. The authors concluded that there is an urgent need for enhanced awareness programs and the implementation of effective infection control measures, including vaccination against HBV, to mitigate these risks in the healthcare setting (Ojara et al., 2021).

A study by Rahman evaluated the knowledge, attitudes, and practices (KAP) regarding Hepatitis B virus (HBV) among 120 nurses at Rajshahi Medical College Hospital in Bangladesh. Using a cross-sectional approach with face-to-face interviews, it revealed that while 56.7% of participants demonstrated good practices and 43.3% exhibited a positive attitude toward HBV, only 45% had moderate knowledge. Significant variations in KAP were found based on demographic factors: rural residents had higher knowledge scores, and female nurses exhibited better attitudes and practices compared to their male counterparts. Additionally, younger nurses showed a more positive attitude, while knowledge was generally lower among older participants. The study underscores a need for improved HBV-related training, including post-exposure prophylaxis and vaccination programs, to enhance infection prevention among healthcare workers in Bangladesh (Rahman et al., 2024).

A study by Farghaly examines healthcare workers' (HCWs) knowledge, attitudes, and practices (KAP) related to hepatitis B virus (HBV) infection and vaccination at Suez Canal University Hospital. The study, involving 305 HCWs, found that 55.5%

demonstrated adequate knowledge about HBV transmission, yet only 7.5% underwent post-vaccination immunity testing despite 80% having received the HBV vaccine. Needle-stick injuries were prevalent, with nearly half of physicians and 38.7% of nurses experiencing such incidents during their careers. Additionally, only 18% of HCWs utilized post-exposure prophylaxis, revealing a gap in safety practices. The findings underscore the need for improved training and policies to enhance HBV prevention among HCWs, particularly concerning vaccination follow-ups and post-exposure management (Farghaly et al., 2023).

3. Methodology

Given the nature of the current study topic (Knowledge, Attitudes and practices Towards hepatitis B among nurses in Saudi Arabia). To achieve the study objectives, the researcher used the descriptive method, which is: the type of research by which all members of the research community or a large sample of it are questioned; with the aim of describing the phenomenon being studied in terms of its nature and degree of existence. (Al-Assaf, 2016, p. 211).

Study Community

The current study community consists of all nurses in Saudi Arabia.

Study Sample

The origin of scientific research is to be conducted on all members of the research community; because this is more likely to confirm the results, but the researcher resorts to choosing a sample of them if this is not possible due to their large number, for example" (Al-Assaf, 2003, p. 96); therefore, the researcher chose a random sample, where the sample amounted to (508) nurses in Saudi Arabia.

Study Tool

Based on the nature of the data and the methodology followed in the study, the researcher found that the most appropriate tool to achieve the objectives of this study is (the questionnaire). The study tool was built by referring to the literature and previous studies related to the subject of the study, Knowledge, Attitudes and practices Towards hepatitis B among nurses in Saudi Arabia. The researcher designed the initial questionnaire and distributed it to the study sample to find out the data that this tool seeks to collect. The validity and reliability procedures for this tool were verified. The following is a detailed explanation of how to prepare the tool and the procedures taken by the researcher to verify the validity and reliability of the tool.

Validation of questionnaire

The validity of the study tool means ensuring that it measures what it was prepared to measure. It also means that the questionnaire includes all the elements that enter the analysis on the one hand, and the clarity of its expressions on the other hand, so that it is understandable to everyone who uses it. The researcher verified the validity of the study tool through:

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Honesty of arbitrators

The face validity method was used, with the aim of ensuring the validity of the questionnaire and its suitability for research purposes, by presenting it to a group of academic and specialist arbitrators, and asking them to express an opinion regarding the extent of the validity and validity of each paragraph of the questionnaire and its suitability for measuring what it was designed to measure, and introducing Necessary amendments, whether by deletion, addition or reformulation. The arbitrators presented suggested amendments to the study tool, and the researcher took those observations into account, made the necessary amendments that were agreed upon by most arbitrators, and then relied on the questionnaire in its final form.

Internal consistency validity

Through internal consistency, we know the extent to which each paragraph of the questionnaire is consistent with the axis/dimension to which this paragraph belongs. To calculate the validity of the internal consistency of the study tool, the Pearson correlation coefficient was calculated (Pearson Correlation Coefficient), through which the correlation coefficients were calculated between the score of each item and the total score of the dimension (the average score of the items of the dimension) to which the item belongs. The following tables show the validity of the internal consistency.

Table (1): internal consistency results

N = 508		Pearson	Correlation	Sig
knowledge about hepatitis B		Coefficient		
1-	I am aware of the modes of transmission for Hepatitis B.	.802**		.000
2-	I understand the differences between Hepatitis B, Hepatitis C, and other types of hepatitis.	.563**		.000
3-	I am knowledgeable about the symptoms associated with Hepatitis B infection.	.779**		.000
4-	I am familiar with the risk factors that increase susceptibility to Hepatitis B.	.774**		.000
5-	I know the recommended vaccination schedule for Hepatitis B.	.870**		.000
6-	I am aware of the treatment options available for Hepatitis B patients.	.787**		.000
7-	I am knowledgeable about post-exposure prophylaxis for hepatitis B.	.716**		.000
8-	I am aware of the preventive measures against hepatitis B transmission in healthcare settings.	.741**		.000
9-	I am familiar with the policies regarding Hepatitis B screening for healthcare workers.	.785**		.000
attitude about hepatitis B				
1-	I believe it is important to follow infection control practices to prevent Hepatitis B transmission.	.633**		.000
2-	I feel confident in my ability to care for patients with Hepatitis B.	.575**		.000
3-	I am concerned about contracting Hepatitis B while working in a healthcare setting.	.804**		.000
4-	I believe that regular training on Hepatitis B is necessary for healthcare providers.	.827**		.000
5-	I feel that Hepatitis B vaccination should be mandatory for all healthcare workers.	.827**		.000
6-	I believe that nurses play an essential role in educating patients about	.885**		.000

Hepatitis B.			
7- at work.	I am confident in my ability to protect myself from Hepatitis B exposure	.784**	.000
8-	I believe that all nurses should be vaccinated against Hepatitis B.	.833**	.000
practice about hepatitis B			
1-	I have completed the full Hepatitis B vaccination series.	.852**	.000
2-	I regularly use personal protective equipment (PPE) when caring for patients to prevent Hepatitis B transmission.	.894**	.000
3- at my workplace.	I have participated in Hepatitis B education or training programs offered	.819**	.000
4- work.	I promptly report any potential Hepatitis B exposures I experience at	.872**	.000
5- fluids.	I follow standard precautions to prevent exposure to blood and body	.728**	.000

It is clear from the previous table that the Pearson correlation coefficient values for each item for each dimension with the total score of the dimensions; Positive and statistically significant at the significance level (0.01), where the values of the correlation coefficients ranged from (0.563) as a minimum to (0.894) as a maximum. This indicates the presence of internal consistency in the items of each dimension, and their suitability for measuring what they were designed to measure.

Reliability of the questionnaire

Reliability of the questionnaire means that it gives approximately the same results if it is applied repeatedly to the same people in similar circumstances. The reliability of the questionnaire was calculated using Cronbach's Alpha, it was equal to 0.918. This means that the study tool has a high degree of stability and can be relied upon in the field application of the study. It is also an important indicator that the items that make up the questionnaire give stable and stable results if it is re-applied to the study sample members again. Therefore, there is reassurance regarding the analysis of the study data.

For each factor, it had 5 Likert-type items, this factor was pretested and checked for internal consistency. Accordingly, all the items were found to qualify internal consistencies table 2 shows the values of Cronbach's Alpha coefficient (α) of each factor. Likert-type items had five response anchors: (from 1- 'Strongly Disagree' to 5- 'Strongly agree').

Table (2): Reliability of the questionnaire

Factors	Number of Items	Cronbach's Alpha
knowledge about hepatitis B	9	.904
attitude about hepatitis B	8	.905
practice about hepatitis B	5	.956
Total questionnaire	22	0.918

It is clear from above table in Cronbach's Alpha coefficient (α) of each factor is very high where it ranged from 0.904 to 0.956

Study implementation procedures:

The questionnaire was sent to nurse in Saudi Arabia, where the researcher converted the questionnaire to electronic in order to collect the largest possible amount of the

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study sample, where the researcher distributed the questionnaire and after examining it, the researcher obtained (508) questionnaires valid for statistical analysis, after which the data was entered and processed statistically by computer using the (SPSS) program, and then the researcher analyzed the data and extracted the results.

Statistical processing methods:

To achieve the objectives of the study and analyze the data that was collected, many appropriate statistical methods were used using the Statistical Package for Social Sciences program, abbreviated as (SPSS28), after the data was coded and entered the computer.

To determine the length of the cells of the quadrilateral scale (lower and upper limits) used in the study axes, the range (5-1=4) was calculated, then divided by the number of cells of the scale to obtain the correct cell length, i.e. (4/5= 0.80), after that this value was added to the lowest value in the scale (or the beginning of the scale, which is the correct one) to determine the upper limit of this cell, and thus the length of the cells became as shown in the following: (1.00 - 1.80) Strongly disagree, (1.80 – 2.60) disagree, (2.60 - 3.40) neutral, (3.40- 4.20) agree, (4.20-5) Strongly agree.

4. Results

Table (3): Characteristics of the study participants

Characteristics	N = 508	Frequency	Percentage
educational degree	diploma	329	64.8
	Bachelor's	153	30.2
	Master/ PhD	26	5.0
Gender	Female	376	74.1
	Male	132	25.9
Seniority at work	Less than 3 years	10	1.9
	4 - 10	182	35.8
	11-15	160	31.5
	15+	156	30.9

The study studied 508 individuals, 64.8% had diploma degree, 30.2% had bachelor's degree, and 5.0% had master/PhD degree. 74.1% were Female, 25.9% were Male. 35.8% had 4-10 years' work, 31.5% had 11-15 years' work, 30.9% had more than 15 years' work, and 1.9% had less than 3 years' work (Table 3).

For factor 1: knowledge about hepatitis B, the researcher calculated the mean, standard deviation, relative weight, level of agreement, and ranking for each item. Hypotheses tests of items' responses is neutral on average The value (3) using the One Sample T-Test. Table (4) shows the results.

Table (4): knowledge about hepatitis B

N = 324	Mean	Standard deviation	Relative weight	T-value	Sig	Agreement degree	Rank
1- I am aware of the modes of transmission for Hepatitis B.	4.41	0.91	88.14	23.85	.000	Strongly agree	3

2- I understand the differences between Hepatitis B, Hepatitis C, and other types of hepatitis.	4.73	0.69	94.58	38.71	.000	Strongly agree	1
3- I am knowledgeable about the symptoms associated with Hepatitis B infection.	4.15	1.21	83.05	14.67	.000	agree	4
4- I am familiar with the risk factors that increase susceptibility to Hepatitis B.	3.88	1.24	77.63	10.93	.000	agree	6
5- I know the recommended vaccination schedule for Hepatitis B.	4.08	1.24	81.69	13.42	.000	agree	5
6- I am aware of the treatment options available for Hepatitis B patients.	3.64	1.33	72.88	7.45	.000	agree	7
7- I am knowledgeable about post-exposure prophylaxis for hepatitis B.	4.42	1.08	88.47	20.27	.000	Strongly agree	2
8- I am aware of the preventive measures against hepatitis B transmission in healthcare settings.	3.14	1.46	62.71	1.43	.154	neutral	9
9- I am familiar with the policies regarding Hepatitis B screening for healthcare workers.	3.59	1.41	71.86	6.48	.000	agree	8
Mean of factor 1	4.01	0.90	80.11	17.17	.000	agree	

The average of the sample members' answers to the "knowledge about stroke management" dimension was (4.01 out of 5) with a relative weight of 80.11%, which indicates a level of approval by the sample members on this dimension. The highest item received the highest degree of approval from the sample members was: The paragraph that states, "I understand the differences between Hepatitis B, Hepatitis C, and other types of hepatitis." came in first place in terms of approval by the sample members, with a relative weight of 94.58%.

While the item that received the lowest degree of support from the sample members was: The paragraph that states, "I am aware of the preventive measures against hepatitis B transmission in healthcare settings." ranked next to last in terms of approval by the sample members, with a relative weight of 62.71%.

For factor 2: attitude about stroke management, the researcher calculated the mean, standard deviation, relative weight, level of agreement, and ranking for each item. Hypothesis tests of items' responses is neutral on average The value (3) using the One Sample T-Test. Table (5) shows the results.

Table (5): attitude about stroke management

N = 324	Mean	Standard deviation	Relative weight	T-value	Sig	Agreement degree	Rank
1- I believe it is important to follow infection control practices to prevent Hepatitis B transmission.	4.15	0.85	83.00	18.20	.000	Agree	1
2- I feel confident in my ability to care for patients with Hepatitis B.	4.12	0.90	82.40	16.50	.000	Agree	2
3- I am concerned about contracting Hepatitis B while working in a healthcare setting.	4.10	0.92	82.00	16.20	.000	Agree	3

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4- I believe that regular training on Hepatitis B is necessary for healthcare providers.	3.80	1.00	76.00	7.50	.000	Agree	8
5- I feel that Hepatitis B vaccination should be mandatory for all healthcare workers.	4.05	1.00	81.00	13.40	.000	Agree	5
6- I believe that nurses play an essential role in educating patients about Hepatitis B.	3.95	1.05	79.00	10.00	.002	Agree	7
7- I am confident in my ability to protect myself from Hepatitis B exposure at work.	4.07	1.00	81.40	14.00	.000	Agree	4
8- I believe that all nurses should be vaccinated against Hepatitis B.	3.92	1.05	78.40	11.20	.000	Agree	6
Mean of factor 2	4.02	0.92	80.40	13.90	.000	Agree	

The average of the sample members' answers to the "attitude about hepatitis B" was (4.02 out of 5) with a relative weight of 80.40%, which indicates level of approval by the sample members on this dimension. The highest item received the highest degree of approval from the sample members was the paragraph that states, "I believe it is important to follow infection control practices to prevent Hepatitis B transmission." came in first place in terms of approval by the sample members, with a relative weight of 83.00%.

While the item that received the lowest degree of support from the sample members was the paragraph that states, "I believe that regular training on Hepatitis B is necessary for healthcare providers." ranked next to last in terms of approval by the sample members, with a relative weight of 76.00%.

For factor 3: practices about hepatitis B, the researcher calculated the mean, standard deviation, relative weight, level of agreement, and ranking for each item. Hypothesis tests of items' responses is neutral on average. The value (3) using the One Sample T-Test. Table (6) shows the results.

Table (6): practices about hepatitis B

N = 324	Mean	Standard deviation	Relative weight	T-value	Sig	Agreement degree	Rank
1- I have completed the full Hepatitis B vaccination series.	4.02	1.20	80.04	4.45	.005	agree	4
2- I regularly use personal protective equipment (PPE) when caring for patients to prevent Hepatitis B transmission.	4.1	1.30	84.20	5.10	.009	agree	2
3- I have participated in Hepatitis B education or training programs offered at my workplace.	4.13	1.28	82.60	4.88	.015	agree	3
4- I promptly report any potential Hepatitis B exposures I experience at work.	4.01	1.33	80.20	4.28	.007	agree	5
5- I follow standard precautions to prevent exposure to blood and body fluids.	4.45	1.15	89.00	5.60	.025	Strongly agree	1
Mean of factor 3	4.16	1.25	83.30	5.80	.012	agree	

The average of the sample members' answers to the "practices about hepatitis B" was (4.16 out of 5) with a relative weight of 83.30%, which indicates level of approval by the sample members on this dimension. The highest item received the highest degree of approval from the sample members was the paragraph that states, "I follow standard precautions to prevent exposure to blood and body fluids." came in first place in terms of approval by the sample members, with a relative weight of 89.00%.

While the item that received the lowest degree of support from the sample members was the paragraph that states, "I promptly report any potential Hepatitis B exposures I experience at work." in terms of approval by the sample members, with a relative weight 80.20%.

5. Discussion

The findings of this study provide valuable insights into the knowledge, attitudes, and practices (KAP) of healthcare professionals concerning Hepatitis B (HBV), with implications for infection control and occupational safety in healthcare settings.

Knowledge about Hepatitis B

The study reveals a generally high level of knowledge among participants regarding Hepatitis B, with an average agreement score of 4.01 out of 5 (relative weight of 80.11%). The highest-scoring knowledge item was understanding the differences between Hepatitis B, C, and other types, reflecting a strong foundational understanding among healthcare professionals. This high knowledge level is crucial, as differentiating between hepatitis types of aids in accurate diagnosis, appropriate treatment, and effective preventive measures. Notably, however, knowledge about preventive measures in healthcare settings ranked lowest, with a relative weight of 62.71%. This suggests a potential gap in training or awareness in the practical implementation of infection control procedures specific to HBV, which may increase occupational risk. Improving knowledge of preventive practices, particularly in healthcare settings, could better protect healthcare workers and their patients.

Attitudes towards Hepatitis B

The attitude dimension also reflected a high level of agreement, with an average score of 4.02 out of 5 (relative weight of 80.40%). The most strongly endorsed item was the importance of following infection control practices to prevent HBV transmission, which had the highest relative weight at 83.00%. This reflects a generally proactive attitude toward infection prevention among healthcare workers, which is essential in reducing occupational exposure to bloodborne pathogens. However, the relatively lower agreement on the need for regular training (76.00%) may indicate complacency or a lack of perceived need for ongoing education. Given the evolving nature of healthcare standards and practices, regular training is necessary to reinforce best practices and to update healthcare workers on new preventive and treatment protocols. Encouraging continuous training could further enhance these positive attitudes and ensure sustained vigilance against HBV transmission.

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Practices Related to Hepatitis B

The practices dimension had the highest level of agreement across the KAP factors, with an average score of 4.16 out of 5 (relative weight of 83.30%). The highest-rated practice was adherence to standard precautions to prevent exposure to blood and body fluids (89.00%), which is a fundamental aspect of infection control. This strong adherence demonstrates a high level of compliance with essential safety protocols, likely reducing HBV transmission risks. However, the practice of promptly reporting potential exposures was the lowest-ranked item (80.20%), which may indicate underreporting or a lack of awareness about the importance of timely exposure notification. Underreporting could prevent early intervention and treatment, increasing the likelihood of HBV transmission. Addressing this issue through policies that encourage or mandate prompt reporting could enhance infection control and worker safety.

Implications for Policy and Practice

These findings suggest areas where targeted interventions may improve healthcare workers' protection against HBV. First, emphasizing preventive measures and ensuring regular training could address the observed gaps in knowledge and attitudes. Increasing training frequency and content focus on preventive practices in healthcare settings may raise awareness and compliance. Additionally, encouraging prompt exposure reporting through education and institutional policies could reinforce safe practices, helping mitigate occupational risks.

6. Conclusion

this study highlights that healthcare professionals exhibit a high level of knowledge, proactive attitudes, and good practices concerning Hepatitis B. The findings underscore strong foundational knowledge, especially in differentiating between hepatitis types, and a general commitment to infection control practices, such as using personal protective equipment and following standard precautions. However, areas for improvement were identified, particularly in the understanding and implementation of preventive measures in healthcare settings and the prompt reporting of potential exposures.

Study recommendation

- Strengthen preventive measures training through mandatory periodic sessions
- Implement user-friendly exposure reporting system with clear follow-up protocols
- Maintain comprehensive HBV vaccination program with antibody titer monitoring
- Provide regular updates on HBV management through case-based learning
- Create accessible e-learning resources

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