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Knowledge of Healthcare Professionals Regarding Hepatitis B in Rania Hospitals

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ABSTRACT

Hepatitis B virus (HBV) infection is a major public health problem worldwide especially for healthcare professionals (HCPs). It is a potentially life-threatening condition because leads to liver infection, and liver cancer. There is a shortage of research on undergraduate students. The main aim of this study was conducted to assess the level of knowledge of health care professionals regarding HBV at Rania hospitals in the Kurdistan region of Iraq during the period of 20th October 2019 to 16th April 2020. Non- probability purposive sample of (303) HCPs; for data collection, the study instrument was constructed and designed through reading literature, books, and articles which included (42) items. Reliability of the instrument was determined through the use of stability reliability (test and retest) approach which was estimated as r = (0.83.)The data were collected through the use of the interview technique then organized and coded into computer files. Statistical approaches were uses for data analysis, which includes: descriptive and inferential statistics and chi-square, data analysis (SPSS version 25). The results indicated that the majority of the study samples were in the age group (≤ 30)) years and the female participants was more than male, three-quarters of the participants were married, most of them were graduated from institute nursing and

less than half of HCPs had 6-10 years of employment, but the majority of the participants were not trained at all, and most of them had not immunized against HBV vaccine. Three-quarters of HCPs had moderate knowledge regarding HBV infection. Also, the current study demonstrated a significant association between the educational level and HCP's knowledge regarding HBV, at a P value less than 0.05. On the other hand, there was no significant association between HCP's age, gender, marital status, years of employment, and training course concerning hepatitis with the level of knowledge regarding HBV. The researchers recommended to the ministry of health and directorate of health in Rania city to complete vaccinate against HBV for all HCPs and participating their staff in healthy scientific issues and symposiums.

1. INTRODUCTION

Hepatitis B is a viral infection and is one of the very serious infections that can cause both acute and chronic diseases [1]. According to a 2020 World Health Organization As of 2016, 27 million people (10.5%) of all people estimated to be living with hepatitis B) were aware of their infection, while 4.5 million (16.7%) of the people diagnosed were on treatment [2]. Hepatitis B virus infection primarily affects the liver. Typically the incubation period for hepatitis B in 90 days (range, 60- 150 days). Newly acquired acute HBV infections only cause symptoms some of the time. The presence of signs and symptoms varies by age. Most children under age 5 years and generally asymptomatic, whereas 30%- 50% of people aged ≥5 years have signs and symptoms of acute infection include malaise, fatigue, poor appetite, nausea, vomiting, abdominal pain, fever, dark urine, light color(clay-colored) stool, joint pain, and jaundice. Hepatitis B virus transmission can take place through exposure to infectious blood, semen, and other body fluids. This is termed horizontal transmission. Infected mothers can transmit to infants at the time of birth or an infected family member to an infant in early childhood. This is termed perinatal transmission (sometimes also called vertical transmission). Transfusions of HBV- contaminated blood and blood products and contaminated injections during medical procedures may also be responsible for HBV transmission [3]. The standard precautions can take as measures to prevent the spread of infection and to reduce transmission of micro-organisms to other patients or HCPs. Standard precautions include the use of personal protective equipment (PPE) when performing certain tasks. PPE consists of garments and apparel that protect the health care professional from contracting a disease from a resident. Standard precautions are used anytime the HCPs anticipate contact with blood or any moist body fluid(except sweat), secretions, or excretions and also used anytime will have mucous membrane contact [6]. HCPs are closely related to the patient's blood or body fluid due to occupational exposure. They are likely to sustain non-sterile exposures either in the form of needle-sticks, sharps-related injuries, or splashes of body fluids to eyes and mucus membranes. If one sustains a needle stick and the source (patient) is an infected one, the risk of transmission of HIV, HBV, and HCV per exposure is 0.3%, 37-62%, and 1.8% per exposure respectively[5]. Each year it is predestined that about 66,000 of HCPs globally Sharps-related injuries cause HBV [6]. Throughout the world, a safe and effective vaccine

against HBV is available but one of the reasons for not vaccinated against HBV is the resource-poor countries and maybe lack of knowledge regarding the vaccine [7].

2. METHODS AND MATERIALS

A non-probability, purposive sample of (303) healthcare professionals, male and female. Had been executed to assess the level of HCPs knowledge towards hepatitis B at Rania Hospitals (Chwarqurna Hospital, Rania Pediatric and Maternity Hospital, Raparin Health Center in Rania District, Shahid Ahmad Ismail Hospital, Rania Teaching Hospital, Dialysis Center, and Rania Dental Center) from the period of 20th of October 2019 up to 16th of April 2020. The written official, consent was obtained from the College of the Nursing/ University of Raparin, and Rania Directorate of Health to perform the study at the Rania Hospitals. The data were collected through the utilization of the constructed tool; interview techniques were entered and analyzed with a statistical package for social sciences version 25 software.

The Content Validity of the tool resolve through a panel of (5) specialists with average years of expertise of 13.6 years, in various fields of science (Nursing, and Medicine) to explore the clarity, relevancy, and adequacy of the items of the instrument. A pilot study is applied to (20) male and female HCPs, during the period of 8th of January 2020 to 22th of January 2020. Reliability of the sheet was determined through the use of items, stability (test and re-test) approach; using pretest for the (20) HCPs to assess the level of knowledge regarding hepatitis B and after two week's applied the same questionnaire for the same HCPs to assess the level of knowledge. The items rated and scored according to the following patterns: Three-point type Likert Scale is used for rating the items as Yes, No, and I don't know. Is scored as (2) for Yes, (1) for I don't know, and (0) for No for positive questions, but negative questions are scored as (0) for Yes and (2) for No and (1) for I don't know.

3. RESULTS

(Table 1) showed (≤ 30) that the highest age of the participants, (50.5%) of them were female, (64.0%) were graduated from Institute, (31.4%) of them were Years of Employment between (6 – 10), (86.8%) were not trained concerning hepatitis, (63.0%) of them were completely vaccinated, (65.3%) were believed that the doses of hepatitis B vaccines they needed for complete protection were (3) doses.

Table 1: Socio-demographic Descriptive (n = 303)

Variables	Categories	No.	(%)
Age (Years)	≤ 30	87	28.7
	31 - 35	63	20.8
	36 - 40	72	23.8
	≥ 41	81	26.7
Gender	Male	150	49.5
	Female	153	50.5
Marital Status	Single	73	24.1
	Married	225	74.3
	Divorced	5	1.7
Educational Level	Intermediate School	7	2.3
	Secondary School	28	9.2
	Institute Graduate	194	64.0

	College and postgraduate	74	24.4
Years of Employment	≤ 5	62	20.5
	6 - 10	95	31.4
	11 - 15	56	18.5
	≥ 16	90	29.7
Did you train concerning hepatitis?	Yes	40	13.2
	No	263	86.8
Completely vaccinated?	Yes	191	63.0
	No	112	37.0
How many doses of hepatitis B vaccines needed for complete protection?	1	2	0.7
	2	6	2.0
	3	198	65.3
	4	34	11.2
	5	24	7.9
	I do not know	39	12.9

(Table 2) showed that that the severity of item (1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 23, 24, 29, 30) were high and items (4, 5, 13, 14, 21, 22, 25, 26, 27, 28) were moderate in severity.

Table 2: Participant's response rating regarding each item

No.	Items	Yes (%)	No (%)	I Don't know	MS	Severity
1	The Kidneys affected by Hepatitis B infection	199 (65.7)	59 (19.5)	45 (14.9)	1.46	H
2	Hepatitis B is a risk factor for liver cancer	228 (75.2)	41 (13.5)	34 (11.2)	1.62	H
3	Hepatitis B affects liver function	285 (94.1)	7 (2.3)	11 (3.6)	1.92	H
4	Hepatitis B transmitted through food	96 (31.7)	168 (55.4)	39 (12.9)	1.24	M
5	Hepatitis B transmitted through drink	111 (36.6)	154 (50.8)	38 (12.5)	1.14	M
6	Hepatitis B transmitted through blood to blood contact	296 (97.7)	3 (1.0)	4 (1.3)	1.97	H
7	Hepatitis B transmitted through unsafe sex	261 (86.1)	22 (7.3)	20 (6.6)	1.79	H
8	Hepatitis B transmitted through tattoos	238 (78.5)	26 (8.6)	39 (12.9)	1.70	H
9	Hepatitis B transmitted through sharing needles	294 (97.0)	2 (.7)	7 (2.3)	1.96	H
10	Hepatitis B transmitted by unsterilized surgical instruments	286 (94.4)	8 (2.6)	9 (3.0)	1.92	H
11	Hepatitis B is transmitted through infected mother to infant during birth.	258 (85.1)	21 (6.9)	24 (7.9)	1.78	H

12	Hepatitis B is transmitted through hugging each other and shaking hands with an infected person.	28 (9.2)	228 (75.2)	47 (15.5)	1.66	H
13	Hepatitis B transmitted through sneezing	151 (49.8)	151 (49.8)	36 (11.9)	1.12	M
14	Hepatitis B spread through the air in an enclosed environment	65 (21.5)	144 (47.5)	94 (31.0)	1.26	M
15	Following the infection control guidelines in the workplace prevented hepatitis B.	266 (87.8)	17 (5.6)	20 (6.6)	1.82	H
16	Using (Personal Protective Equipment) like gloves, masks, gown, and eye goggle prevented Hepatitis B in the hospital.	273 (90.1)	17 (5.6)	13 (4.3)	1.84	H
17	Recapping needles is one way to transmit the hepatitis B virus in the hospital.	263 (86.8)	20 (6.6)	20 (6.6)	1.80	H
18	Signs and symptoms of acute Hepatitis B within the first 6 months of exposure to it.	175 (57.8)	37 (12.2)	91 (30.0)	1.46	H
19	Asymptomatic cause with chronic hepatitis B can transmit the disease to other	217 (71.6)	24 (7.9)	62 (20.5)	1.64	H
20	Hepatitis B virus detected in the blood test	292 (96.4)	5 (1.7)	6 (2.0)	1.95	H
21	Hepatitis B virus detected in semen test	113 (37.3)	93 (30.7)	97 (32.0)	1.07	M
22	Hepatitis B virus detected in a saliva test	100 (33.0)	102 (33.7)	101 (33.3)	0.99	M
23	Hemodialysis patients are at risk for Hepatitis B virus	241 (79.5)	23 (7.6)	39 (12.9)	1.72	H
24	After all doses of vaccination for hepatitis B, the test for the immune system is very important.	253 (83.5)	15 (5.0)	35 (11.6)	1.79	H
25	Hepatitis B virus can survive outside the body for at least 7 days.	92 (30.4)	58 (19.1)	153 (50.5)	1.11	M
26	During the cleaning of surgical instrument the hepatitis B virus kills by alcohol or Iodine	142(46.9)	87(28.7)	74 (24.4)	0.82	M
27	The use of Hookah is one of the causes of the spread of hepatitis B virus	99 (32.7)	92 (30.4)	112 (37.0)	1.02	M
28	Alcohol consumption is the cause of getting hepatitis B.	154 (50.8)	64 (21.1)	85 (28.1)	1.30	M
29	Addiction to drug one of the cause of hepatitis B	164 (54.1)	43 (14.2)	96 (31.7)	1.40	H
30	Hepatitis B is transmitted from scissors and blade razors through salon and barbershops.	256 (84.5)	13 (4.3)	34 (11.2)	1.80	H

(Table 3) showed that most (68.3 %) of the study sample had a moderate level of knowledge regarding the hepatitis B virus.

Table 3: Level of HCP's knowledge regarding hepatitis B

	Frequency	Percent
Low	6	2.0
Moderate	207	68.3
High	90	29.7
Total	303	100.0

(Table 4) indicated that there was no significant relationship between levels of health care worker's knowledge with age, gender, marital status, years of employment, and training course concerning the hepatitis B virus at p-value greater than 0.05, except educational level at p-value less than 0.05.

Table 4: Relationship between of HCP's knowledge regarding hepatitis B virus and some Sociodemographic characteristics

Variables	Categories	Low No. (%)	Moderate No. (%)	*High* No. (%)	*Total* No. (%)	*P-value*
Age (Years)	**≤ 30**	1 (1.1)	59 (67.8)	27 (31.0)	87 (100)	.524
	31 - 35	1 (1.6)	42 (66.7)	20 (31.7)	63 (100)	
	36 - 40	2 (2.8)	46 (63.9)	24 (33.3)	72 (100)	
	≥ 41	2 (2.5)	60 (74.1)	19 (23.5)	81 (100)	
Gender	**Male**	3 (2.0)	104 (69.3)	43 (28.7)	150(100)	.926
	Female	3 (2.0)	103 (67.3)	47 (30.7)	153(100)	
Marital Status	**Single**	0 (0.0)	50 (68.5)	23 (31.5)	73(100)	.443
	Married	6 (2.6)	153 (68.0)	66 (29.3)	225(100)	
	Divorced	0 (0.0)	4 (80.0)	1 (20.0)	5(100)	
Educational Level	**Intermediate School**	0 (0.0)	6 (85.7)	1 (14.3)	7(100)	.004
	Secondary School	0 (0.0)	21 (75.0)	7 (25.0)	28(100)	
	Institute Graduate	3 (1.5)	142 (73.2)	49 (25.3)	194(100)	
	Collage and Post Graduate	3 (4.1)	38 (51.4)	33 (44.6)	74(100)	
Years of Employment	**≤ 5**	1 (1.6)	40 (64.5)	21 (33.8)	62(100)	.552
	6 - 10	2 (2.1)	65 (68.4)	28 (29.5)	95(100)	
	11 - 15	1 (1.8)	36 (64.3)	19 (33.9)	56(100)	
	≥ 16	2 (2.2)	66 (73.3)	22(24.4)	90(100)	
Did you train	**Yes**	0 (0.0)	22 (55.0)	18 (45.0)	40(100)	.057

concerning hepatitis?	**No**	6 (2.3)	185 (70.3)	72 (27.4)	263(100)
Total		6 (2.0)	207 (68.3)	90 (29.7)	303(100)

4. DISCUSSION

Regarding the findings of first part of the data analysis which about Socio demographic of the study participants, showed that the highest age of participants was (≤ 30) years old, more than half of the study sample were female three-quarters of the study samples were married, the most of them were graduated from the institute, less than half of the HCPs are the years of employment between (6-10) years. The number of HCPs who participate in training was 40 (13.2%). Most of the HCPs are completely vaccinated and they believe that they needed three doses of hepatitis B vaccines.The majority of the participants aware that HBV can affect kidneys, liver cancer, and liver function agree with the study was done in a district south, Karachi [8]. About more than half provided the correct answer to the HBV is not transmitted through food and drink, the present finding disagrees with another study done in Southern Nigeria [9]. The respondents demonstrated that the (9.3%) provided the correct answer. The vaccine against hepatitis B infection has been available since 1982[10]. Hepatitis B vaccine is 95% effective in preventing HBV infection and its long-term effects. Although vaccination rates are found to be lower among healthcare providers, their risk level is considered to be higher vaccine coverage rates [11]. In the current study, although many HCPs had a positive attitude toward hepatitis B infection and vaccination, only 191 (63%) of participants were completely vaccinated against hepatitis B, the result of the present study is less than another study carried out in the tertiary hospital in India were 71% [12]. The (86.8%) of HCPs knew that recapping needles is one way the transmitted HBV, needle stick injuries may occur when HCPs dispose of needles, collect and dispose of materials used during patient care procedures, administer injections, draw blood, or handle trash or dirty linens where needles have been inappropriately discarded [13]. The safest way to dispose of a used needle is immediately placing the needle in a sharps disposal container to reduce the risk of needle sticks, cuts, and punctures, in the present study found only (86.8%) were aware that recapping needles is one way to transmit hepatitis B virus in hospital, the present finding disagrees with a study done in Northern Vietnam [14] half (48.2%) of the participants reported they routinely recapped the used needles with two hands after injection, putting them at greater risk of needle stick injury. The numbers of participant attended training concerning hepatitis (13.2%) it disagrees with findings obtains from another study that mentioned the majority of the study sample was trained (80%) [15].The knowledge of the HCPs on HBV detected in semen, or saliva test was moderate compared with the study was done by [16] has good knowledge of the HBV found in semen or saliva test among healthcare workers of Bahir dar city administration. Studies have shown that HBV can be transmitted through the sexual route [17][18], these findings agree with the present study with high knowledge modes of transmission of HBV. An important risk for blood-borne viral spread in some studies carried out around the world was Razor sharing and shaving at barbershops have been identified. More so, razor sharing and shaving from barbershops have been identified as a risk factor for HBV the present study showed the participants had moderate knowledge about hepatitis B transmitted from scissors and blade razors through salon and barbershops, these results disagree with another study in Kumasi, Ghana showed that Knowledge and occupational hazards of barbers in the transmission of hepatitis B and C was low [19]. The current study noted that the majority of 241(79.5) of HCPs knew that hemodialysis patients are at risk for the Hepatitis B virus which is convenient with the findings of a study conducted in Libyan dialysis centers by [20]. Where reported patients with maintenance hemodialysis were at high risk for hepatitis B virus infection than the general population, in some countries, this infection has been controlled in dialysis centers by adherence to hemodialysis-specific infection-control measures to prevent nosocomial transmission and to hepatitis B vaccination. Nevertheless, HBV infection outbreaks are still seen when failures in infection control procedures occur. Many people with

a hepatitis B virus infection do not know they are infected since they do not feel or look sick. However, they can still spread the virus to others [21], this report comes along with the current study revealed that three-quarters of the HCPs correctly responded that hepatitis B virus transmitted the disease to another person even Asymptomatic cause with chronic hepatitis B. Incorrectly identified routes of transmission by the respondents include sharing the mouthpiece during a hookah the current finding is however at variance with another a study was done by [22] reported that sharing the mouthpiece during hookah group smoking was a probable source of transmission of pathogens such as viruses, bacteria, and fungi. For instance, a study reported a potential risk for transmission of communicable diseases such as hepatitis C when sharing the mouthpiece between users with gingivitis or any other type of lesion in the oral cavity makes them likely to transmit or be infected. The majority of the HCPs knew about the transmission of HBV to the infant at the time of birth as a result of exposure to maternal cervical secretions and maternal blood that contain the virus, the current study agrees with the study done by [23] on the hepatitis B Virus Infection during Pregnancy: Transmission and Prevention. The current study showed that most of the HCPs had moderate knowledge of possible risk and mode of disease transmission. However knowledge about preventive aspect was found high, the study conducted in Karachi reported similar findings of knowledge, attitude, and practice of hepatitis B and C, which showed that most of the HCPs had enough knowledge of possible risk and mode of disease transmission [24]. Whereas a statistically significant difference was found between the educational level and HCPs knowledge regarding hepatitis B, this finding is, however, at variance with another study done in Karachi (Pakistan) where the respondents demonstrated a very low knowledge of hepatitis B.

5. CONCLUSION

Most of the healthcare professionals in the study sample had a moderate level of knowledge regarding the hepatitis B virus. Also, the current study demonstrated a significant association between the educational level and HCP's knowledge regarding HBV, at P value less than (0.05). On the other hand, there was no significant association between HCP's age, gender, marital status, years of employment, and training course concerning hepatitis B with the level of knowledge regarding HBV. The researcher recommended that the training course must be designed by the ministry of health/infection control department for theater HCPs staff to provide appropriate performance HCPs updating because of changing knowledge and practices. The theater healthcare professional's staff should be given more appropriate to attend symposia regarding infection control the member of HCPs should train on hepatitis.

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