Knowledge and Awareness of Hepatitis B and Its Associated Factors Among Students of Medical Faculties at the International Islamic University Malaysia's Kuantan Campus

Wisam Nabeel Ibrahim[1], Ain Nadiah Mazlan[1], Sinan Mohammed Abdullah Al-Mahmood[2]*, Noratikah Othman[1]

[1]*Department of Basic Medical, Kulliyyah of Nursing, International Islamic University Malaysia, Pahang, Malaysia.*
[2]*Pharmacy College, Al-Kitab University, Kirkuk, Iraq*

ABSTRACT

Objective: this study aims to assess the knowledge and awareness of hepatitis B and its associated factors among students of medical colleges at Kuantan Campus, the International Islamic University Malaysia. **Methods**: A cross-sectional study design was used, and data collection was carried out using a self-structured close-ended questionnaire. Descriptive and analytic statistics were performed with independent t-test, One Way ANOVA and a correlation analysis determine any significant differences between the groups with $p < 0.05$ significance value **Results**: According to the results, there was a significant ($p < 0.001$) association between the type of Faculty with knowledge and awareness about hepatitis B. In addition, the results showed an association between year of study with the knowledge and awareness of hepatitis B ($p < 0.001$). Furthermore, there was an association between duration of clinical experience with knowledge and awareness of hepatitis B ($p < 0.001$). The results showed that there was no association between gender with knowledge and awareness of hepatitis B ($p > 0.05$). **Conclusion**: levels of knowledge showed a strong correlation with levels of awareness, meaning that students with high knowledge also had high awareness of hepatitis B. On the whole, students were aware of and knowledgeable about hepatitis B.

KEYWORDS: Knowledge, Awareness, Hepatitis B, Associated Factors, Medical Faculties

INTRODUCTION

Hepatitis virus has seven types, A to G, where F is hypothesised. Among these, hepatitis B is considered the most serious type, with a high risk of death due to liver cirrhosis and cancer (1). Hepatitis B remains a major public health problem worldwide. More than two thousand million people across the world have previously suffered or are currently suffering from a hepatitis B virus (HBV) infection. Out of these, between 350 and 400 million people, 5-7 % of the world's population, have experienced chronic infection. 40% of patients suffering from hepatitis B experience liver cirrhosis, hepatocellular carcinoma and liver failure. Each year, at least 500,000 people die from hepatocellular carcinoma (2). Hepatitis B is a preventable disease, but the spread of infection is high. Neglect of instrument sterilisation can increase the risk of infection. When treating patients, doctors can make mistakes due to a lack of time or over-familiarity with a procedure leading to over-confidence, and this can lead to a breach of procedure, increasing the risk of hepatitis B infection (3). This is why knowledge alone is not enough. Awareness also plays an important role in reducing infection. Students of medicine, nursing and dentistry can be considered health care providers because they carry out work in hospitals just as other health care workers do. This gives them the same level of exposure to risk while treating patients and coming into contact with contaminated instruments. During placements, students are considered as part of the team giving patients medical attention and care. Therefore, this study aims to assess the knowledge and awareness of hepatitis B and its associated factors among students of medical colleges at Kuantan Campus, the International Islamic University Malaysia (IIUM).

* Corresponding Author

Email: sinanpharmacy@gmail.com
Tel: 009647701611876
Sinan Mohammed Abdullah Al-Mahmood
Pharmacy College, Al-Kitab University
Kirkuk, Iraq

METHODS

A cross-sectional study design was used and data collection was carried out using a self-structured close-ended questionnaire, comprised of two parts. Part A consisted of socio-demographic data, including aspects such as type of college, year of studies, duration of clinical experience, and gender. Part B consisted of brief questions regarding knowledge and awareness related to hepatitis B. The questionnaire used in this study was adopted from a previous study done by Gowda et al. (4). The questionnaire was tested for reliability and validity by conducting a pilot study prior to data collection. The study population consisted of 533 students from medical, nursing and dental undergraduate students from the International Islamic University Malaysia's Kuantan Campus. Only 479 students completed the questionnaire survey. Ethical approval was obtained from the institutional ethical committee. Students were informed about the study. Participation was voluntary, and only students who were willing to participate were included in the study. Students were given 10-15 minutes to answer the questionnaire. All questionnaires were collected on the same day. The questionnaire was used to assess knowledge and awareness levels regarding hepatitis B. Some questions were constructed with 'yes' or 'no' answers and some had multiple choice

answers. There were 13 questions on knowledge and 6 questions on awareness. The results were categorised as follows; if a student got more than 50% of the knowledge-related answers correct, their knowledge was considered high. Student received one point for each correct answer and zero points for wrong answers. For each student, the score was added up before being divided by 13 and multiplied by 100 to calculate the percentage of the knowledge score.

A total 6 of questions were asked on awareness of hepatitis B. The questions were categorised as follows; 1-3 correct answers (≤50%) was taken to mean the student had low awareness and 4-6 correct answers (>50%) was taken to mean high awareness. Students received one point for each correct answer and zero points for wrong answers. For each student, the score was added up before being divided by 6 and multiplied by 100 to calculate the percentage of the awareness score.

Stastical Analysis

Descriptive analysis was carried out and results were presented as a set of numbers and percentages. An independent t-test, One Way ANOVA and a correlation test were used to determine any significant differences between the groups.

RESULTS

Socio-Demographic Data Characteristics

The response rate was 89.9% (n=479) where only 479 out of 533 students completed the questionnaires – those who did not claimed lack of time as the reason. 230 of the students who completed the questionnaire were from the Kulliyyah (Faculty) of Medicine (48.0%), 114 were from the Kulliyyah of Nursing (23.8%), and 135 students were from the Kulliyyah of Dentistry (28.2%). 84.6% (n=405) of the total sample size was female, as each Kulliyyah had more female than male students. For each year of study, the number of participants was as follows: year 1 n=101 (21.1%), year 2 n=100 (20.9%), year 3 n=105 (21.9%), year 4 n=112 (23.4%), and year 5 n=61 (12.7%). Levels of clinical experience differed across these years of study. The total number of respondents with no clinical experience was n=171 (35.7), less than 20 weeks n=30 (6.3%), 20-40 weeks n=105 (21.9%), and more than 40 weeks n=173 (36.1%). The sociodemographic data for all study students is shown in Table 1.

Association Between Socio-Demographic Factors and Hepatitis B Knowledge and Awareness

According to the results, there was a significant ($p < 0.001$) association between the type of Faculty with knowledge and awareness about hepatitis B. The results showed that the students of the Faculty of Dentistry had greater knowledge (91 ± 8.9) and awareness (97 ± 6.2) of hepatitis B compared to the Facultys of Nursing and Medicine.
In addition, the results showed an association between year of study of hepatitis B ($p < 0.001$). Students in their fifth year had greater knowledge (97.7 ± 5.7) and awareness (99.2 ± 3.6) of hepatitis B compared to other years.
Furthermore, there was an association between duration of clinical experience with knowledge and awareness of hepatitis B ($p < 0.001$). The students with 20-40 weeks' clinical experience had greater knowledge (92.5 ± 7.9) compared to other clinical experience durations but students with less than 20 weeks' clinical experience had greater awareness (97.2 ± 6.3) compared to other clinical experience durations (Table 2).

Table 1: Socio-Demographic Data

Variables	N	%	Total
Faculty			
Medicine	230	48.0	479
Nursing	114	23.8	
Dentistry	135	28.2	
Gender			
Male	74	15.4	479
Female	405	84.6	
Year of study			
1	101	21.1	479
2	100	20.9	
3	105	21.9	
4	112	23.4	
5	61	12.7	
Duration of clinical experience			
None	171	35.7	479
< 20 weeks	30	6.3	
20-40 weeks	105	21.9	
> 40 weeks	173	36.1	

Table 2: Association Between Socio-Demographic Factors and Hepatitis B Knowledge and Awareness

Variables	N	Knowledge Mean ± SD	Awareness Mean ± SD	P-value
Faculty				< 0.01
Medicine	230	87.1 ± 11.4	95.6 ± 8.30	
Nursing	114	84.6 ± 16.0	94.3 ± 8.30	
Dentistry	135	91.0 ± 8.90	97.3 ± 6.18	
Year of study				< 0.001
1	101	76.5 ± 14.42	91.6 ± 9.90	
2	100	87.1 ± 11.03	96.2 ± 7.05	
3	105	92.5 ± 7.87	97.1 ± 6.72	
4	112	89.0 ± 10.0	96.0 ± 7.50	
5	61	97.7 ± 5.70	99.2 ± 3.63	
Clinical experience				< 0.001
None	171	80.4 ± 13.74	93.3 ± 9.14	
< 20 weeks	30	89.5 ± 12.20	97.2 ± 6.32	
20-40 weeks	105	92.5 ± 7.87	97.1 ± 6.72	
> 40 weeks	173	91.3 ± 9.28	97.1 ± 6.58	

Association Between Gender with Knowledge and Awareness of Hepatitis B

The results showed that there was no association between gender with knowledge and awareness of hepatitis B ($p > 0.05$) (Table 3). Females knowledge of hepatitis B (87.8 ± 12.26) was typically greater than males (86.2 ± 12.15), while males' awareness of hepatitis B (96.9 ± 6.57) was typically greater than females (95.6 ± 8.01) (Table 3).

Table 3: Association between gender with knowledge and awareness of hepatitis B

Variables	Female, n=405 Mean ± SD	Male, n =74 Mean ± SD	p-value
Total Knowledge	87.8 ± 12.26	86.2 ± 12.15	0.281
Total Awareness	95.6 ± 8.01	96.9 ± 6.57	0.191

DISCUSSION

According to the results, all students of the medical faculties had high knowledge and awareness of hepatitis B. All questions in the awareness section of the questionnaire were about vaccinations, while the knowledge part was generally about the hepatitis B virus. The results show that the students of the Faculty of Dentistry had the highest knowledge and awareness, demonstrating that they were aware of the vaccination against hepatitis B. In contrast, in a study done on dental students in Nigeria, the results showed that no more than 10% of the students had been immunised; it was reported that in Nigeria, out of 112 respondents from three dental schools, only 36.6% had received hepatitis B immunisation abd it also showed that the least rate of vaccination was ranging between 9% and 13% and Faculty of Dentistry was included (5). However, in Malaysia, all newborns who are taken to clinics for regular health check-ups are immunised against hepatitis B; therefore all the students included in the present study had already received immunisation. This study showed that the gender of the participants, whether male (n=74) or female (n=405), did not affect hepatitis knowledge or awareness. Similarly, in a past study conducted among health care students in Nigeria found that level of knowledge related to hepatitis B was unrelated to gender (5). Another similar study conducted in Erbil city (Iraq) presented the same results: students' gender did not associate significantly with their level of knowledge on hepatitis B (6). The results of the present study showed an association between year of study and duration of clinical experience and hepatitis B knowledge and awareness. The greater their clinical experience and/or the older they were, the more knowledge and awareness the students possessed. This is supported by a study conducted on fifth and sixth-year students at the medical school of the Aristotle University of Thessaloniki regarding hepatitis B knowledge, which showed that final year students had a greater knowledge level than their juniors (7). In Iran, a survey done on the general population showed that people with higher levels of education had greater knowledge about HBV compared to people with lower levels of education (8). This can be assimilated with year of study and clinical experience duration as well. In this study, the pre-clinical students were juniors who had not yet done their placements, while clinical year students were already involved in hospital placements. The study from Iraq reported that clinical students were more knowledgeable about HBV than pre-clinical students; this is likely because of the knowledge clinical students gained during their practical experience (6). In conclusion, levels of knowledge showed a strong correlation with levels of awareness, meaning that students with high knowledge also had high awareness of hepatitis B. On the whole, students were aware of and knowledgeable about hepatitis B.

ACKNOWLEDGEMENTS

This work was sponsored by International Islamic University Malaysia (no. RIGS 16-286-0450).

CONFLICT OF INTEREST

The authors have no conflict of interest to declare with regard to this work.

REFERENCES

1. Kasetty S, Mohania A, Dwivedi D, Tijare M, Kallianpur S, Gupta S. A cross-sectional study on the knowledge of hepatitis B infection among dental professionals. Journal of Virology & Microbiology. 2013; 2013:1-5.
2. Khalighi H-R, Mortazavi H, Parhiz H, Motamedi MHK. Screening for Hepatitis B Knowledge Among Dental Patients: How Much Do they Know? Global Journal of Dermatology & Venereology. 2013;1(1):11-4.
3. Franco E, Bagnato B, Marino MG, Meleleo C, Serino L, Zaratti L. Hepatitis B: Epidemiology and prevention in developing countries. World journal of hepatology. 2012;4(3):74-80.
4. Gowda A, Goud BR, Patil A, Khatib M, Mail I. Hepatitis awareness among students of a women's college in Bangalore city, India: A cross-sectional study. Health (N Y). 2014;2 (2):1-6.
5. Utomi I. Occupational exposures and infection control among students in Nigerian dental schools. Tropical dental journal. 2006;29 (116):35-40.
6. Othman SM, Saleh AM, Shabila NP. Knowledge about hepatitis B infection among medical students in Erbil city, Iraq. European Scientific Journal. 2014;9(10): 299-305.
7. Gioula G, Vasilakis T, Vassiliadou D, Xanthopoulos K, Triantafyllaki E, Kyriazopoulou-Dalaina V. Knowledge of medical students about Hepatitis B. Aristotle University Medical Journal. 2008;35(3):55-58.
8. Roushan N, Toosi MN, Meysamie A, Esteghamati A-R, Hajrassuliha H. Hepatitis B knowledge among Iranian adolescents: a national survey. Iranian Red Crescent Medical Journal. 2013;15(12):1-9.