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Research Article

Knowledge, Perceived Threat and Prevention Behaviors Intention of Hepatitis B among Nurse

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ABSTRACT

Background: Hepatitis B is an acute systemic infection, caused by HBV, and possible long-term complications such as liver failure, liver cancer, and hepatocellular carcinoma. The aim of this study was to determine the status of knowledge, perceived threat and prevention behaviors intention of hepatitis B among nurse.

Methods: In this cross-sectional study, conducted in Kermanshah County, the west of Iran, a total of 330 nurses who working in medical training hospitals in Kermanshah, Iran, during 2016, were randomly selected to participate voluntarily in the study. Participants filled out a self-administered questionnaire. Data were analyzed by SPSS version 16 using bivariate correlations, and t-test at 95% significant level.

Results: Our results indicated behavior intention to doing hepatitis B prevention behaviors was significantly inversely correlated with age (r=-0.115), and significantly related to perceived threat about side effect of Hepatitis B (r=0.341). There was a significant correlation (P<0.013) between higher education level and behavior intention to doing hepatitis B prevention behaviors.

Conclusion: Based on our result, it seems that designing and implementation of educational programs to increase seriousness about side effect of Hepatitis B may be usefulness of the results in order to doing hepatitis B prevention behaviors.

Keyword: Hepatitis B, Nurse, Perceived Threat

INTRODUCTION

Hepatitis B is an acute liver infection caused by the HBV virus, causing liver swelling, cirrhosis of the liver and even liver cancer (1). This disease causes physical and psychological complications in patients and affects their quality of life (2). Viral hepatitis is one of the five infectious agents of premature death and is the most common viral infection. It affects millions of people worldwide and is reported as the leading cause of hepatocellular carcinoma worldwide; About two billion people in the world are at risk for hepatitis B and about 400 million are actually affected by the disease (3). The prevalence of hepatitis B in different regions of the world is reported to be 1 to 10; in terms of the rate of infection with the hepatitis B virus, people in the world are exposed to three areas with low levels of infection (contamination less than 1%), such as North

America and Western Europe; areas with moderate pollution (contamination of about 2-5%), such as parts of the Middle East and the Indian subcontinent; and areas with the highest contamination (contamination of about 5 to 10%), such as China and the countries of Southeast Asia, Amazon and The center of Europe (4). In Iran, about 2 to 3% of the population is infected with hepatitis B virus, and is known to be categorized in the second group as average infection (5). Due to its relatively high prevalence and inadequate awareness of the community, active interventions in this field seems essential and prevention of the disease should be addressed in order to prevent its occurrence among individuals and in community. In this regard, initial prevention can be the most effective and effective way to deal with the disease (6). On the other hand, hepatitis B is one of the most common occupational diseases (7). Meanwhile, nurses are at particular risk according to their type of work, including occupational injuries due to using sharp tools infected by blood and it products that may expose them hepatitis B infection (8). It is worth noting that although the level of hepatitis B infection can be reduced with the vaccine, but 10 years after vaccination, the hepatitis B antibody rate decreases in 33% of the vaccine population and 15 years after the vaccination does not support the vaccine (9). Therefore, serious adherence to infection control methods and health and behavioral behaviors are the best ways to prevent infection among health care providers (10). On the other hand, several studies have reported that, the more the behavioral determinants are studied, the more successful interventions will be to reform the behavior (11-15). In this regard, in several studies reported the important roles of perceived sensitivity and severity, awareness and intention in conducting preventive behaviors (16, 17). Considering the importance of the subject, the present study aims to determine the status of awareness, perceived common risk, and behaviors of hepatitis B preventive behaviors among nurses working in educational hospitals affiliated to Kermanshah University of Medical Sciences, Iran. The results are expected to provide a basis for educational design to prevent hepatitis B infection.

METHODS

It is a cross sectional study which studied 330 nurses working in medical training hospitals in Kermanshah, Iran, during 2016. Coordinating medical science university responsible and chairman of training hospitals in Kermanshah, samples were selected through simple random sampling and were asked to complete designed questionnaires; data was gathered accordingly. All samples were justified on goals and information security of study. They all participated in investigation based on their tendency. Removing incomplete questionnaires, 300 questionnaires were analyzed (answering rate was reported to be 90percent). This study has been approved by the Institutional Review Board at the Kermanshah University of Medical Sciences (KUMS.REC.1395.746).

Measures

Measurement included two parts and information was gathered as self-reports by participants.

A: Demographics

The variables assessed in this study included: age (year), gender (male, female), educational level (BSc, MSc), job history (years), and marital status (married, single).

B: Cognitive variable:

Cognitivescale was designed based on standard questionnaires (7) and included 17 items under three constructs including (a) knowledge; (b) perceived threat; and (c) behavior intention. Seven items were designed to measure knowledge of Hepatitis B transmission (e.g. “through to shake hands with an infected person.”). Four items were designed to perceived threat for side effect of Hepatitis B (e.g., “I think that Hepatitis B is a serious disease”). Two items were designed to evaluate behavior intention to doing hepatitis B prevention behaviors (e.g., “I intend to get more information toward prevention behaviors of hepatitis B.”). In order to facilitate participants’ responses to the items, perceived threat,

andbehavior intention items were standardized to a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Knowledge items were standardized to a 3-point scale (yes, no, I don't now).

Prior to conducting the main project, a pilot study was carried out. Initially the relevant questionnaires were administered to 30 nurses who were similar to study population in order to estimate the duration of the study conduction and to evaluate the reliability of the questionnaire. Estimated reliability using alpha Cronbach coefficient and split-half for each cognitive constructs questionnaire were as follows: knowledge (α = 0.61); perceived threat (α = 0.78); and behavior intention (α = 0.75).

STATISTICAL ANALYSIS

Data were analyzed by SPSS version 16 using appropriate statistical tests including bivariate correlations, and t-test at 95% significant level.

RESULTS

According to the results the age range of the participants is 21-50 years and their mean age is 32.27 with a standard deviation of 7.18. The mean of the employees' work experience was 8.74 years with a standard deviation of 6.95. In addition, 55.7% of the participants (167 individuals) were male and 44.3% (133 individuals) were female. Also, 47 % of the participants (141 individuals) were single and 53 % (159 individuals) were married. Furthermore, 81 % (243 individuals) were BSc and 19 % (57 individuals) were MSc.

Table 1 show the correlations and significance levels at the 0.01 and 0.05 were the criteria for the analysis. Our results showed that for the sample, behavior intention was significantly inversely correlated with age (r=-0.115), and significantly related to perceived threat (r=0.341).

Table 1: Correlation between Age, Job History, Knowledge, Perceived Threat, and Behavior Intention

Component	X1	X2	X3	X4
X1. Age	1			
X2. Job History	0.946**	1		
X3. Knowledge	0.055	0.041	1	
X4. Perceived Threat	-0.061	-0.045	-0.096	1
X5. Behavior Intention	-0.115*	-0.065	0.040	0.341**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

In addition table 2 show, mean, standard deviation and maximum achievable score of knowledge, perceived threat, and behavior intention.

Table 2: Mean, standard deviation and maximum achievable score of knowledge, perceived threat, and behavior intention

Component	Mean	SD	Range	Maximum Achievable Score
X3. Knowledge	5.31	1.06	0 - 7	75.8 %
X4. Perceived Threat	26.58	3.81	8 - 40	66.4 %
X5. Behavior Intention	6.54	1.96	2 - 10	65.4 %

Furthermore, Table 3 shows the relationship of behavior intention to doing hepatitis B prevention behaviors score with sex, education level, and marital status.

Table 3: Comparing of behavior intention to doing hepatitis B prevention behaviors score according to sex, marital status, and education level

Variables		Mean	SD	t	P
Sex	Male	6.53	2.07	-0.102	0.919
	Female	108.71	6.92		
Marital Status	Single	6.67.	2.04	1.081	0.281
	Married	6.42	1.89		
Education Level	BSc	6.40	1.99	-2.491	0.013
	MSc	7.12	1.76		

DISCUSSION

The findings of the present study showed that 82.7% of participants received hepatitis B vaccine three times. In this regard, Tibdewal et al reported in their study that 55.9% of medical and dental students completed the immunization program against hepatitis B (17). As stated, 10 years after vaccination, the rate of hepatitis B antibodies in the vaccine is reduced by 33% (9). Therefore, nurses need to have better preventive behaviors.Our findings showed that participants required 75.8, 66.4 and %65.4 of the maximum achievable scales for awareness-raising structures of hepatitis B virus transmission pathways, the perceived risk of hepatitis B and the prevention of infection Hepatitis B. Also, the prevention of hepatitis B infection had a direct and significant relationship with general risk perception. In addition, Tuma and colleagues also showed that perceived sensitivity was correlated with the immunization of the children and mothers (18). Tabak et al studied hospital staff and reported that the perceived intensity was significant in predicting needle stick (19). Also, Youafzai et al. investigated healthcare workers in the Pakistani suburbs and emphasized the importance of the perceived severity of preventive behavior (20). Our findings showed that participants on the one hand did not gain about a third of perceived risk of hepatitis B, and, on the other hand, they had a direct and significant relationship between the risk of hepatitis B and the prevention of hepatitis B infection. Therefore, it seems that the implementation of in-service training programs for nurses in order to enhance their overall perceived risk of hepatitis B may lead to beneficial findings in promoting the prevention of hepatitis B and as a consequence practicing preventative behaviors.

Our findings showed that, although all participants were nurses, they did not gain one-fourth of the knowledge of the ways of transmitting hepatitis B. In this regard, Jawaid's suggested that half of the doctors showed to have a poor knowledge of the CDC guidelines to prevent the occurrence of three hepatitis B, C, and HIV infections (21). Findings from studies by Timilshina et al (22) and Hosoglu et al. (23) indicated a weak adherence to global standard precautions due to the lack of knowledge of half of the staff. The Singh also reported poor awareness of infection control measures among dental students (24). The reason could be that since healthcare personnel perceive that they have information, they may not seek to receive new information and thus their level of awareness is not complete; regarding to the acceptance of training by health care staff, Chao et al. found that the effect of training on knowledge and behavior of patients with hepatitis B was less than the effect of education on knowledge and behavior of health care staff (25). Considering the results, it seems essential to provide retraining programs to improve nurses' awareness of the ways of transmission of hepatitis B.

The findings from the present study showed that there between age and education were significantly relevant to prevention of hepatitis B infection, so that the participants with higher education had higher levels behavior intention for preventing hepatitis B. It seems true that individuals with higher levels of education are more caution in their work.

The results from this study also suggested that there was a reverse and significant relationship between the work experience and the behavior intention to prevent hepatitis B infection. Increasing the work experience, the behavior intention to prevent hepatitis B infection has decreased, which seems normal; it seems that the more time a person spends at workplace, the more likely he is injured. It is worth noting that health and medical personnel may find themselves more professional due to their increasing work experience, and, as the result, they perform less preventive behaviors; therefore, it is recommended to offer in-service educational and retraining programs in this field.

This study had a few limitations. First, data collection was based on self-reporting, which is usually prone to recall bias. Second, the internal consistency the questionnaire was relatively low ($\alpha = 0.61$) for assessing knowledge.

CONCLUSION

With regard to gaining a third of perceived risk score on hepatitis B as well as a significant correlation found between perceived risk and the behavior intention to prevent hepatitis B infection, it seems that if the design of educational programs emphasizes the development of risk assessment of hepatitis B among nurses, it could be helpful to get more practical information about pursuing preventive behaviors for hepatitis B infection.

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Conflict of interest statement

The authors declare that they have no conflict of interest.

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