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Awareness and Attitude on Hepatitis B and C Virus Infection Among the Nursing Staffs and Paramedics in Combined Military Hospital Dhaka

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ABSTRACT

Background: Hepatitis B and C virus infections are most important public health hinder in Bangladesh. To stop spread and succession of the disease in the population, appropriate community awareness and positive attitude about the disease, as well as it's hindrance is essential. The purpose of this study was to assess the level of awareness and attitude regarding hepatitis B and C virus infection among the nurses and paramedics in Combined Military Hospital (CMH) Dhaka. **Materials and methods:** This descriptive cross sectional study was carried out among 141 respondents in CMH Dhaka from July 2018 to December 2018. The respondents were interviewed through an interviewer-administered questionnaire. **Results:** In this study 57.4% participants had HSC or equivalent educational status belongs to Group-II (Paramedic) on the other hand 39.0% had BSc or equivalent educational status and 3.6% had masters or equivalent educational level belongs to Group-I (Nurse).The study revealed that awareness about hepatitis B and C of nurses (90.0%) was significantly (p=0.026) higher than paramedics (75.3%). The positive attitude regarding hepatitis B and C of nurses (81.7%) was significantly (p=0.047) higher than paramedics (66.7%). **Conclusion:** In this study it was observed that attitude about disease was significantly associated with the awareness about that disease. Hepatitis B and C virus infections have significant impact on burden of disease in which most of the health care personnel are at risk. So, there is an urgent need to train health care professional about risk factors and prevention of HBV and HCV infections especially paramedics to improve awareness and attitude about diseases.

Key words: Awareness; Attitude; Hepatitis B and C infection.

Introduction

The worldwide burden of HBV and HCV infection as being a significant and growing public health problem associated with a heavy burden of morbidity and mortality in both developed and developing nations[1]. In Bangladesh, HBV and HCV infection are also a significant community health problem and one of the key issues of concern[2]. Health care workers are more exposed to HBV and HCV infection[1]. Hepatitis has become one of the key community health setback of the globe with about 170 million patients are persistently infected with HCV infection[2]. An anticipated 240 million people are persistently infected with HBV infection[3]. Worldwide, HBV and HCV are a major cause of chronic liver disease and liver cancer[4]. In Bangladesh, HBV screening prevalence is 3-7% among the common inhabitants and 1.5-12% among children under 5 years[5]. The lifetime threat of acquiring HBV is involving 20-60% in Bangladesh[6]. HBV is transmitted through blood, wound exudates, semen, vaginal secretions and saliva. Blood and serum contain the maximum concentrations of the virus[4]. HBV infection is a vaccine preventable disease for which a safe, immunogenic and effective vaccine is recommended since 1982 though it's execution is still inadequate[6]. World Hepatitis Day observed on 19th May 2016 with aims to elevate worldwide consciousness of HBV and HCV and persuade impediment, identification and management[7]. Deficient of teaching and understanding about it's spread is the core factors contributing to this disease[8]. Health care workers are at greater threat of contracting blood borne pathogens due to their professional contact to blood and body fluids. When compared to other health professionals, the nurses and paramedics are the groups that are most repeatedly victimized by accidents with cutting and sharp objects. Thus their possibility of accidental contact to HBV and HCV is high and they are considered as high risk group. Predominantly nursing students are at a high risk because of their inadequate clinical knowledge. Understanding and encouraging mind-set of students, nurses and paramedic about spread of HBV and HCV, high risk groups, signs and symptoms of HBV and HCV and immunization can boundary the spread of disease in a large scale. Moreover, not every HBV and HCV infections are symptomatic, meaning an individual may spread HBV and HCV without knowing it. Awareness and positive attitude of the nurses and paramedics regarding disease play a key role in hindrance of

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spread of infection[9]. Thus this study was conducted with the objective to assess the level of awareness and attitude of nurses and paramedics regarding hepatitis B and C in CMH Dhaka. The finding of this study may provide some guidelines in taking preventing measures and to make further specific study.

Materials and methods

This descriptive cross sectional study was conducted to assess the level of awareness and attitude of nurses and paramedics and to compare between two groups in CMH Dhaka. The study was carried out from July 2018 to December 2018. Estimated sample size was 141 nurses and paramedics. Out of these 60 were nurses (Group-I) and 81 were paramedics (Group-II). The respondents who were willing to participate were included in this study. Non-probability sampling of convenient type was followed to select the respondents. The data were collected with an interviewer-administered questionnaire. All data were checked thoroughly after collection. Data processing and analysis were done by using SPSS version 20. For inferential statistics Chi-square test was done to see the level of significance and $p<0.05$ was considered to be significant. The participants were briefed properly about the objectives of the study and freedom for participating in the study. Informed written consent was obtained from the participants before data collection.

Results

A total of 141 participants were involved in the study including 60 nurses and 81 paramedics

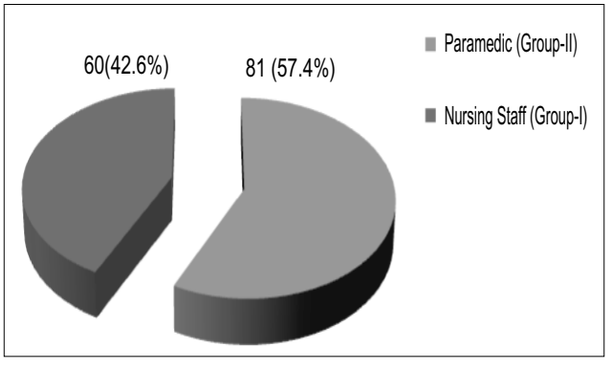

Figure 1: Distribution of the participants by category or group (n=141)

Figure 1 showed that among the study population 42.6% were nursing staffs and 57.4% were paramedics.

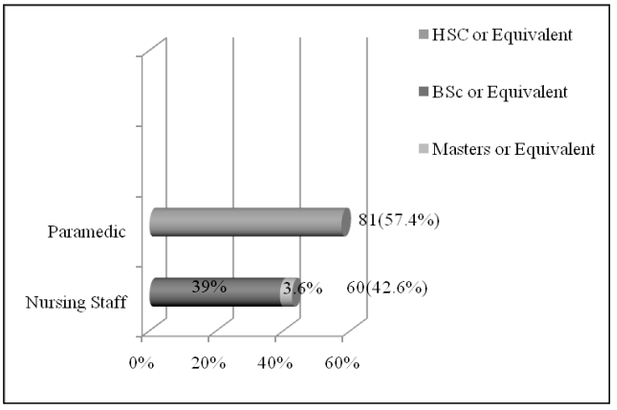

Figure 2 : Distribution of the participants by level of education (n=141)

Table I : Distribution of the respondents by their awareness about disease

Awareness variables	Study Group					
	Group-I (n=60)			Group-II (n=81)		
	Yes (%)	No (%)	Don't know (%)	Yes (%)	No (%)	Don't know (%)
Can hepatitis B & C cause liver cirrhosis and hepatocellular carcinoma?	90.0	3.3	6. 7	75.3	14.8	9.9
Wheather adults shoud be vaccinated for HBV?	91.7	5.0	3.3	76.5	8.6	14.9
Should all children be vaccinated against HBV?	93.3	1.7	5.0	77.8	9.9	12.3
Should children be vaccinated immediately after birth?	86.7	5.0	8.3	72.8	11.1	16.1
Does hepatitis B vaccination protect against HBV ?	88.3	5.0	6.7	74.1	9.9	16.0
Can Hepatitis B & C virus infection be transmitted by blood transfusion and contaminated needle?	90.0	1.7	8.3	75.3	8.6	16.8
Average	90.0	3.6	6.4	75.3	10.4	14.2

Table-I showed awareness about disease. Majority respondents of both group had clear conception about hepatitis B and C. Mean percentage of awareness of Group-I and group-II was 90.0 and 75.3 respectively.

Table II : Overall comparison of awareness among study groups (n=141)

Awareness	Study Group (n=141)		p value
	Group-I (n=60) Frequency (%)	Group-II (n=81) Frequency (%)	
Awareness	54(90.0%)	61(75.3%)	0.026
No awareness	6(10.0%)	20(24.7%)	
Total Count	60(100%)	81(100%)	

Test of Significance $\chi^2=4.9466$, df=1, $p<0.05$ ($p=0.026$).

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Table-II showed that 90.0% respondents of Group-I had awareness about disease, on the other hand 75.3% respondents of group-II had awareness about hepatitis B and C.

Table III : Distribution of the respondents by their attitude about disease (n=141)

Attitude variables about disease	Study Group (n=141)					
	Group-I (n=60)			Group-II (81)		
	Yes (%)	No (%)	Indecisive (%)	Yes (%)	No (%)	Indecisive (%)
1. Will you like to screen yourself for hepatitis B and C?	81.7	8.3	10.0	66.7	11.1	22.2
2. Have you been vaccinated against hepatitis B?	95.0	1.7	3.3	95.1	1.2	3.7
3. Can hepatitis B prevented through vaccination?	83.3	3.3	13.4	70.4	9.9	19.7
4. Are you willing to treat and care for hepatitis B or C cases?	71.7	6.7	21.6	48.1	17.3	34.6
5. Is it required to change the gloves during examination?	78.4	6.6	15.0	59.3	13.6	27.1
6. Are health care workers working in hospital/clinic at risk to HBV & HCV?	80.0	6.7	13.3	60.5	12.3	27.2
7. Will you like to get more investigations/treatment if found positive for hepatitis B or C without any symptom?	81.6	3.4	15.0	66.6	13.6	19.8
Average	81.7	5.2	13.1	66.7	11.3	22.0

Table III showed distribution of the respondents by their attitude about disease, where it was found that majority respondents of both group had positive attitude regarding hepatitis B and C. Mean percentage of positive attitude of Group-I and group-II was 81.7 and 66.7 respectively.

Table IV : Overall comparison of attitude about disease among study groups (n=141)

Attitude about disease	Study Group (n=141)		p value
	Group-I (n=60) Frequency (%)	Group-II (n=81) Frequency (%)	
Positive	49(81.7%)	54(66.7%)	0.047
Negative	11(18.3%)	27(33.3%)	
Total Count	60(100%)	81(100%)	

Test of Significance χ^2=3.939, df=1, p<0.05 (0.047)

Table IV shows that 81.7% respondents of Group-I had positive attitude regarding HBV and HCV, in contrast 66.7% respondents of group-II had positive attitude about disease which was significantly different.

Discussion

HBV and HCV infections are key public health problems worldwide casting a huge load on health care system[10, 11]. These are significant causes of hepatocellular carcinoma resulting in considerable morbidity and mortality[12]. These infections are also an important professional vulnerability for Health care personnel due to proximity to the health facility[13]. Awareness and attitude studies are positive steps to which an individual or population is in a position to adopt a disease risk-free behavior for this disease. Hence, this study had been conducted with a purpose to evaluate the awareness and attitude concerning HBV and HCV infection and assist Health Care Workers for the benefit of entire community health. In this study majority (90.0% in Group-I and 75.3% in group-II) of the participants demonstrated a satisfactory level of awareness of HBV and HCV infection as shown in Table-I. Both group had awareness about disease, complication due to HBV and HCV and about main organs involved. In this study 90% of the participants of Group-I and 75.3% of the participants of Group-II knew about contamination and communicability of these diseases by insecure syringes, needles, infected blood and common blade. Immunization of children immediately after birth and vaccine protection of hepatitis B was found to be comparatively lower as shown in Table-I. This result is consistent with the study result of Samuel et al[14]. It was found as shown in Table-II that 54(90.0%) respondents of Group-I had awareness about disease, on the other hand 61(75.3%) respondents of group-II had awareness regarding hepatitis B and C which was significantly different. Chi-square test revealed that awareness about disease of nurses was significantly (p=0.026) higher than their paramedics counter-part. This result is consistent with the study result of Misra et al which had been carried out in 2009[15]. It was found as shown in table-III and table-IV that 81.7% respondents of Group-I and 66.7% respondents of group-II had positive attitude regarding hepatitis B and C which was significantly different. Chi-square test revealed that positive attitude regarding hepatitis B and C of Group-I was significantly (p=0.047) higher than group-II. This result is consistent with the study result of Samuel et al conducted in 2009 and Misra et al conducted in 2009[14,15]. In this study the positive correlations between awareness and attitude revealed the association between awareness and positive attitude with infection control measures. It is concluded that adequate awareness can lead to positive attitude[16]. This result is consistent with the study result of Khan et al conducted in 2017 and Misra et alconducted in 2009[9.15].

Conclusion

The existing level of awareness and attitude about hepatitis B and C virus infection is satisfactory among the nurses and paramedics in Combined Military Hospital, Dhaka which need to be strengthened especially in paramedics. Nursing staffs and paramedics are the initial point of contact among patients and health care and constantly uncovered to blood and blood products in their proficient practice. Certainly, we should confirm the nursing staffs and paramedics are efficient and well-informed regarding hepatitis B and C commencing from their institutional teaching at the training center.

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Adequate awareness can lead to good practices and attitude about disease. In order to address understanding and positive attitude about HBV and HCV we need to achieve the highest possible level of awareness about disease for all nurses and paramedics. This study intends to generate some statistical information which can serve as baseline data for further in-depth study in broader perspective.

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Discloser
The authors declared no competitive interest.

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