ORIGINAL ARTICLE

KNOWLEDGE AND PRACTICES ABOUT VIRAL HEPATITIS IN BLOOD BANK STAFF AT A TERTIARY CARE TRANSFUSION

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ABSTRACT

Objective: To assess the knowledge and practices of blood bank staff regarding hepatitis B and C infection at a tertiary care hospital in Islamabad.

Material and Methods: This cross sectional descriptive study was carried out in Blood bank at P.I.M.S , Islamabad. A questionnaire was designed to assess the knowledge, and practice of blood bank staff regarding hepatitis B and C. There were 37 workers in blood bank, working in 24 hour shifts. Blood bank staff was interviewed. The findings were recorded and results were drawn accordingly.

Results: Out of 37 , 27 (72%) participants considered hepatitis B and C as serious and fatal disease of the liver while 10 (28%) of participants had no idea of hepatitis.35 (94 %)of the participants had a adequate knowledge of sources of transmission of viral hepatitis. About 20 (55%) of the participants knew about screening tests and the use of immunoglobulin after getting prick with infected syringes, while 17 (45%) were unaware of it. Only 12 (33%) subjects were in the habit of using gloves while handling blood products and carrying out phlebotomy procedures, while 25 (77%) of staff was not practicing any preventive measures. 10 (27%) participants had a history of needle-stick injuries. Out of them ,8 (80 %) got their hepatitis status checked, got anti viralimmuno globulins and received vaccination, while remaining 2 (20%) did not screen themselves nor bothered to get vaccinated.19 (51%) of the participants were vaccinated against hepatitis B. 2(6%) of the participants were hepatitis C positive and they had a positive history of multiple pricks with needles.

Conclusion: Blood bank staff had adequate knowledge of hepatitis and risks of transmission. Despite having good knowledge, their practice while handling blood products and carrying out donations is not satisfactory. Therefore , blood bank staff should be motivated and trained to practice safe and preventive measures while handling phlebotomy procedures and blood products.

Key Words: Hepatitis, knowledge, practices, blood banks.

This article may be cited as: Khan MI, Rahman SU, Salman. Knowledge and Practices about Viral Hepatitis in Blood Bank Staff at a tertiary care transfusion centre in Islamabad. J Med Sci 2017; 25: (4) 409-413.

INTRODUCTION

Infection with Hepatitis B and C virus is a serious problem[1-3]. Hepatitis B virus is a DNA virus. It has caused epidemics in some parts of Asia[4]. According to the World Health Organization(WHO), two billion people in the world have HBV infection in whom over350 million people are chronic carriers[2,5,6].

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Date Received: August 12, 2017
Date Revised: November 23, 2017
Date Accepted: December 20, 2017

Pakistan is a developing country that has a high proportion of the infected patients with chronic hepatitis and high death rate due to hepatitis B and C[7,8]. The prevalence of hepatitis C is gradually rising in rural areas of Pakistan[8]. According to one of the surveys that was done in Pakistan, there are more than 10 million people having Hepatitis C[9]. In another survey,10 million people are presumed to be infected with HCV in Pakistan[10].

The main sources of transmission of viral hepatitis include reuse of needles for ear and nose piercing, reuse of syringes, injecting drug users, tattooing, use of infected shaving blades by the barbers,and using unsterilized dental and surgical instruments[8,11,12]. Health care workers including nurses, laboratory technicians, surgical staff, and blood bank staff are exposed to pricks and infected blood products. So they have higher rates

of acquiring viral hepatitis as compared to general population[1]. According to the WHO office in Pakistan, about 1.2 to 1.5 million transfusions are carried out annually[13].

The blood bank staff is frequently exposed to infected blood products and hence they should be aware of various aspects of hepatitis B and C virus infection. Therefore, the present study was done to evaluate the knowledge on hepatitis B and C, and practices of staff of blood bank at PIMS hospital, Islamabad.

MATERIALS AND METHODS

This cross sectional descriptive study was carried out in Blood bank at P.I.M.S, Islamabad. A questionnaire was designed to assess the knowledge, and practice of blood bank staff regarding hepatitis B and C. Blood bank staff was interviewed and their findings were recorded on the proforma.

The questionnaire was designed to assess the knowledge and practices regarding hepatitis B and C infection in blood bank staff. There were 37 workers in blood bank, working in 24 hour shifts. The participants were ensured that their confidentiality would be maintained. A verbal consent was taken from all participants. The questions based to assess the knowledge of participants included, if they knew about hepatitis, its mode of transmission, and knowledge about preventive measures against its spread. Questions based to assess the practices of participants included if they took any preventive measure while dealing with blood products, and what did they do when they get a prick (if any).

RESULTS

Out of 37, 27 (72%) participants considered hepatitis B and C as serious and fatal disease of the liver.10 (28%) of participants had no idea of hepatitis . (Figure.1) Out of 37, 35 (94 %)of the participants had a good knowledge of sources of transmission of viral hepatitis i.e they considered pricks and blood transfusions to be the common routes of Hepatitis B and C transmission. Only2 (6 %)of the participants were unaware of the source of transmission of hepatitis B and C. (Figure.2)

About 20 (55%) of the participants knew about screening tests and the use of immunoglobulin after getting prick with infected syringes, while 17 (45%) were unaware of it. Most of the participants (99%) had a good knowledge of using gloves while handling blood products. Only 12 (33%) subjects were in the habit of using gloves while handling blood products and carrying out phlebotomy procedures, while 25 (77%) of staff was not practicing any preventive measures (Figure 3). 10 (27%) participants had a history of needle-stick injuries. Out of them, 8 (80 %)got their hepatitis status checked, got anti viralimmunoglobulins and received

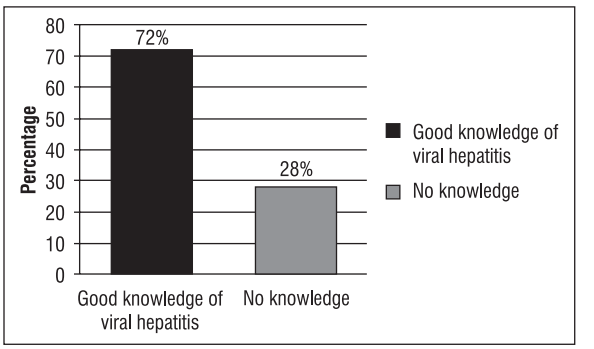


Figure 1: Knowledge of blood bank staff about viral hepatitis

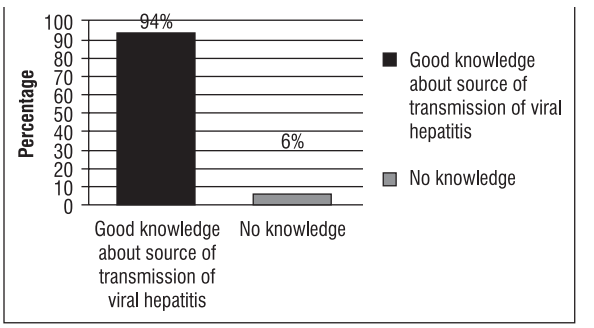


Figure 2: Knowledge about sources of transmission of viral hepatitis

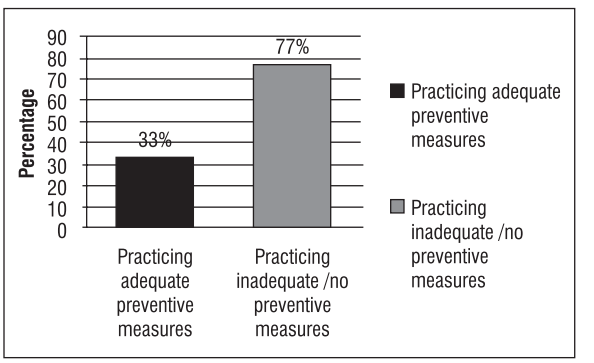
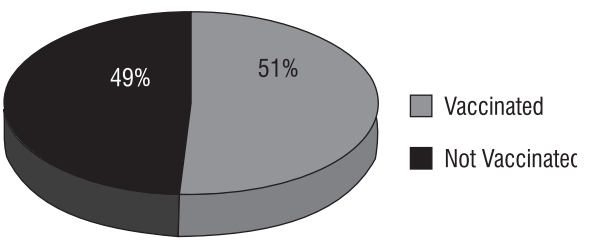


Figure 3: Practices of participants regarding prevention and spread of viral hepatits



Vaccination status of participants

Figure 4: Vaccination status of the blood bank workers vaccination, while remaining 2 (20%) did not screen themselves nor bothered to get vaccinated. 19 (51%) of the participants were vaccinated against hepatitis B, while remaining 18 (49%) were not vaccinated (Figure

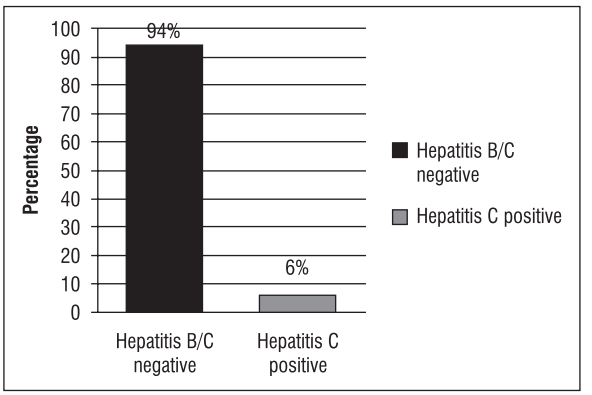


Figure 5: Hepatits status of participants

4). Results revealed that most of the workers who did not receive the vaccine gave a reason of being too careful while handling patients and did not feel the need to be vaccinated against this infection.

35 (94%) of the participants were negative for hepatitis B and C. It showed that they got checked their hepatitis profile during course of their profession. 2 (6%) of the participants were hepatitis C positive and they had a positive history of multiple pricks with needles during their professional course (Figure 5).

DISCUSSION

Hepatitis B and hepatitis C have become global health problem[2,3,14,15]. They are important causes of hepatocellular carcinoma and hence, a major cause of morbidity and mortality[2]. Infections caused by hepatitis B and C are an important occupational hazard for health care workers[8]. Although, various measures have been adopted to prevent the transmission of hepatitis B and C in populations, still these infections remain a major public health problem[8,16].

Staff at blood bank transfusion centre frequently encounters patients infected with Hepatits B and Hepatits C. They are at increased risk of acquiring these infections from blood products. Therefore, their knowledge and practice play an important role in improving their health and society's health status. Generally, it is assumed that health workers may have adequate knowledge about diseases and other health conditions because of their proximity to the health care facility[17]. But the proximity to health facility puts them at a higher risk of acquiring diseases as compared to general population[17].

This study was conducted to assess the level of knowledge of blood bank staff about viral hepatitis and its transmission, and know their practices while dealing with blood products. This study showed that majority of the participants had a good knowledge of hepatitis B and C infection, the routes of transmission of the infection and preventive measures. This finding is however, at variance with another study done in Karachi where the participants had a very low knowledge of viral hepatitis[18]. In another Polish study done by Rybacki M et al, it was found that health care workers had poor knowledge of viral hepatitis[19].

Despite having good knowledge, majority of the participants in the present study did not practice preventive measures against viral hepatitis. Most of them did not wear gloves while carrying out phlebotomy procedures and handling blood products. This exposes them to a higher risk of acquiring hepatits B and C. In a study done on health care workers in Sindh, it was found that hepatits C was associated with needle stick injuries and recapping the needle8.The study also showed that hepatitis B was associated with trying to bend or break a needle after use by the health care workers[8].

Kumar A conducted a similar study among health care workers in Pakistan and found that there was lack of knowledge and poor practice during handling blood products and needles[20]. It was also reported that the participants would not use gloves while dealing with blood products and would not avoid bending needles with bare hands[20]. Similar findings were presented by Quddus M in his study conducted in Karachi[21].

In another local study done by Afridi AA, it was reported that study participants had poor knowledge and unsafe practices regarding viral hepatitis transmission[22]. Only 34% of study participants were vaccinated against hepatitis B infection, showing that they were adopting inadequate preventive measures against viral hepatitis[22].

In an international study done by Bianco A et al in Italy, the study participants had good knowledge but showed poor safety practices regarding hepatitis C transmission[23]. Similar findings were reported by Al-Zahrani and Homoud in their studies from Saudia Arabia[24,25]. Similarly, Alokoo reported in his study that health care workers had good knowledge about viral hepatitis, yet they did not observe safety practices during handling blood products, thus suggesting training of the staff on safety practices[26]. On the contrary, Zhang Y from China reported that the participant health care workers had very poor knowledge as well as poor safety practices regarding viral hepatitisttransmission[27]. Same findings are reported by Islam N in his study[28].

In the present study, only 6% of the participants were hepatitis C positive. In these cases, there was a positive history of needle pricks during the course of their profession and no screening test or prophylactic measures were taken immediately after the pricks.

The present study also showed that about 51% of participants were vaccinated against hepatitis B. In a study done by Elzouki AN, about 52% of the participant health care workers were vaccinated against hepatitis B 29. In another study by FritzscheC, only 12% of health care workers were vaccinated, showing inadequacy of preventive measures[30]. In the present study, about 49% of the participants were not vaccinated against hepatitis B. When asked about the reason for not being vaccinated, the participants stated that they were too careful to acquire the infection. A similar lack of infection control practices and incidence of exposure to needle stick injury was suggested in other studies[31-33].

The only limitation of the study was the small sample size, and that the study was done in a single blood bank. Therefore it is warranted to do further studies involving multiple blood banks to generate much reliable data.

CONCLUSION

Knowledge among blood bank staff about hepatitis and risks of transmission via needle pricks and contact in blood products is adequate. Despite having knowledge about transmission of hepatitis B and C, their practice while handling blood products and carrying out donations is not satisfactory.

RECOMMENDATIONS

The blood bank staff should be motivated to practice preventive measures while handling phlebotomy procedures. Proper training about safe practices in blood bank should be given to blood bank staff by the health authorities,so that risk of transmission of viral hepatitis may be minimized in them and in general population.

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CONFLICT OF INTEREST: Authors declare no conflict of interest

GRANT SUPPORT AND FINANCIAL DISCLOSURE NIL

AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Khan MI: Main idea, result compilation, data collection.

Rahman Su: Proof reading data collection.

Salman: Bibliography.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.