



Original Article

AWARENESS OF DONORS REGARDING BLOOD BORNE DISEASES

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ABSTRACT

Objective: To determine the awareness of blood donors regarding blood transmissible diseases.

Methodology: A cross sectional study was carried among three leading Blood Banks of Karachi. Data was collected for a period of six months in 2015. During this period a total of n= 413 blood donors were selected through random sampling technique. All participants fulfilling the inclusion criteria involving healthy blood donors of either gender or consenting to participate were selected on odd dates of the month excluding the official holidays. Data was collected through self administered questionnaire. The data entry and analysis was performed on SPSS version 21.0. Categorical characteristics were summarized in frequencies and percentages for age groups, blood groups, knowledge, etc. The study gained approval through blood banks.

Results: A total of n=413 participants comprising of male gender. Majority blood donors were never vaccinated for Hepatitis B n=337 (81.6%). Regarding standard operating procedures of blood transfusion merely n=13 (3.1%) participants were aware of it. A meager n=6 (1.5%) were cognizant that blood donors were at risk of getting new infections. Majority n=335 (81.1%) replied 3 months minimum time gap between blood donations. Half of the participants were of the opinion=207 (50.1%) that they should be informed about the fate of their donated blood as this will compel them to donate blood routinely.

Conclusion: Knowledge of donors regarding blood transmissible diseases was quite weak in our survey.

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INTRODUCTION

Blood transfusion is an essential component of health care which save millions of lives every year. It is however a potential mode of transmission of infections to the recipients⁽¹⁾. Universally, 81 million units of blood are donated annually⁽²⁾. Greater than 80 % of the world's population has access to only 20% of the

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world's safe blood supply⁽³⁾. The transfusion of blood-borne infections is one of the most important transfusion associated hazard in many parts of the world, particularly in the developing countries ⁽⁴⁾. According to WHO, donated blood should be screened out of diseases such as; Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human Immuno Deficiency Virus (HIV) and Syphilis ⁽⁵⁾ Unscreened blood among blood donors lead to transfusion of transmissible infections and diseases in community⁽⁶⁾. Globally among 38 countries greater than 75% of the blood was collected from family donor remaining were obtained from professional donors ⁽⁵⁾.

As far as the blood donors are concerned, the prevalence of blood transmitted infection is very high in commercial blood donors. Around 20% of commercial donors are positive for Hepatitis C and 10% for Hepatitis B infection. Amongst the family replacement/donors prevalence of 5% for hepatitis B infection and 2.5% for Hepatitis C infection was found where as in voluntary blood donors the incidence is of 2% for Hep B and 0.5% for Hep C infections ⁽³⁾. It has been observed, in USA, of donated blood repeated screening detected presence of Hepatitis C Virus (HCV) and 50% as positive carriers ⁽⁷⁾. Malaysian studies showed 1.83% prevalence of Hepatitis B Virus (HBV) among blood donors, while Turkish studies claimed that 1.83% of blood donors having HbsAg 0.35%, with Hepatitis C Virus (HCV) and only one confirmed with HIV positive⁽⁵⁾. In Pakistan, almost 1.5 million blood bags are collected annually, in which 65% of donations are collected from the replacement donors, 25% from volunteers or family donors and 10% from the donor ⁽⁶⁾. Currently, 620 Blood Banks are operationally working in Pakistan, out of which 170 blood banks are in public sector and 450 are operational in private sector⁽⁸⁾.

Blood transfusion in developing countries is extremely dangerous, due to the limited resources available, poor equipment, lack of experienced staff and the continuous inability of electricity ⁽⁹⁾. In Pakistan, many standard operating

procedures and legislations have been established to reduce transfusion transmissible infections and make sure that safe practices are followed in blood banks.⁽¹⁰⁾ Knowledge of the infectious agents especially those which are endemic in a particular region is essential for reducing the risk of transmission of these agents ⁽⁴⁾. Most of the time, due to the lack of awareness and to save life of their loved ones fabricate about their medical history, past diseases or bring paid donors, who represent themselves as a family member in front of blood bank ⁽⁶⁾. Considering these facts, the purpose of the study is to determine the knowledge of diseases in blood donors coming for donating blood in different blood banks of Karachi.

METHODOLOGY

A cross sectional study was carried among three leading Blood Banks of Karachi. Data collection was for a period of six months in 2015. During this period a total of n= 415 blood donors were selected through random sampling technique. All participants fulfilling the inclusion criteria involving healthy blood donors of either gender or consenting to participate were selected on odd dates of the month excluding the official holidays. Donors with incomplete demographic details were excluded from the study. The data entry and analysis was on computer package SPSS (Statistical Packages of Social Sciences) version 21.0. Categorical characteristics were summarized in frequencies and percentages for age groups, blood groups, knowledge. The study gained approval through blood banks.

RESULTS

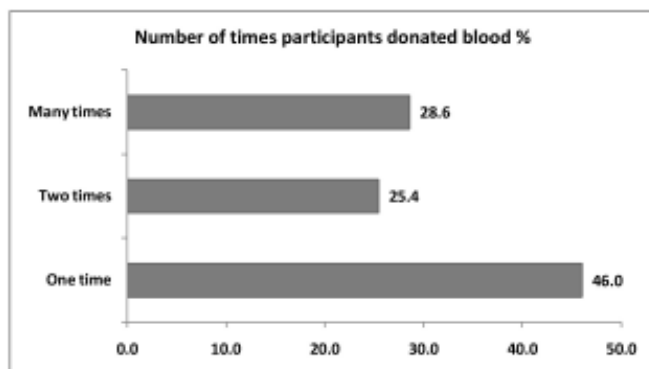
A total of n=409 participants comprising of male gender were left for analysis from a total of n=415 which were initially recruited. The mean age was 28.7+/- 7.9. Majority were donating blood for voluntary purposes n=408 (98.8%). When the participants were inquired about the frequency of blood donation majority n=190 (46%) had previously donated only once. Majority blood donors were never vaccinated for Hepatitis B n=337 (81.6%). When the smoking

TABLE 1:
Knowledge of Blood Donors regarding Diseases which are transmissible through Blood

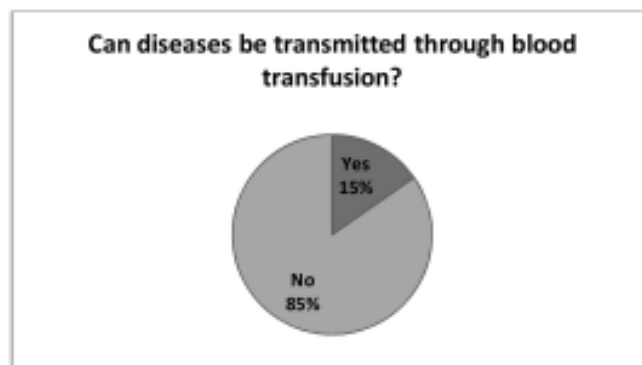
	Response of Blood Donors			
	Yes		No	
	n	%	n	%
Hepatitis B	53	12.8	360	87.2
HIV	52	12.6	361	87.4
HCV	47	11.4	366	88.6
Syphilis	27	6.5	386	93.5
Malaria	33	8	380	92

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GRAPH 1:
Number of times participants donated blood



GRAPH 2:
Blood Donors Knowledge Regarding Transmission of Diseases through Blood Transfusion



status of blood donors were assessed only $n=57$ (13.8%) claimed they are smokers. Majority smokers $n=39$ (68.4%) were smoking 1-5 cigarettes per day. Knowledge of donors regarding infectious disease transmissible through blood is illustrated in table 1.

Regarding standard operating procedures of blood transfusion merely $n=13$ (3.1%) participants were aware of it. Another $n=13$ (3.1%) were able to correctly identify screened blood as the blood which is checked for only transmissible diseases. A meager $n=6$ (1.5%) were cognizant that blood donors were at risk of getting new infections. When inquired about minimum time gap between blood donations majority $n=335$ (81.1%) replied 3 months. Majority $n=261$ (63.2%) were oblivious to the fact that blood donors are also at risk of getting diseases if proper protocols are not followed. Half of the participants were of the opinion= $n=207$ (50.1%) that they should be informed about the fate of their donated blood as this will compel them to donate blood routinely.

DISCUSSION

Our study comprises of male gender and majority were donating blood for voluntary purpose although studies in South India have showed that there is no difference between the genders and their attitude while donating blood ⁽¹¹⁾. Another study in Saudi Arab showed that 78.6% participants donated blood for altruistic reasons ⁽¹²⁾. When participants were inquired about the frequency of blood donation almost 46% had donated blood only once 25.4% donated blood two times and 28.6% donated blood many times. A study in India showed that 47% of the donor population donated blood once in a year and 34.3% donors in six months ⁽¹³⁾.

Some previous studies had reported that the most effective way of having a safe blood for a patient is based on following the standard operating procedures.^(14,15). Merely 3.1% participants knew about standard operating procedures in

our study. Study conducted in Saudi Arabia demonstrated that 79.4% people knew about the screening of blood before transfusion and 59.9% knew that diabetic or hypertensive patients cannot donate blood ⁽¹²⁾. Majority (81%) of our participants were aware that minimum time gap between blood donations is 3 months. This was much greater than a study conducted in Saudia Arabia where 40.1% knew about the optimum time interval for blood donation ⁽¹²⁾. Another study conducted in India, where 51.2% donors were aware that they could donate blood once in three months ⁽¹³⁾. Fifty percent of our participants were of the opinion that they should be informed about the usage of their blood, so that it will be a motivating factor and level of satisfaction for them to donate blood on the routine basis, to contributing for a positive cause in society.

In Pakistan, Hepatitis B and Hepatitis C are determined as a major concern (10). Our study displayed a meager portion of participants who were aware of infections transmitted through blood transfusion. This was low compared to a study conducted in Nigeria where 95.7% respondent were aware of the risk of blood transmissible infections ⁽¹⁶⁾. As per the finding of another study in Iran prevalence of HIV, HBV and HCV was high in donors ⁽¹⁷⁾. Also it has been observed that transmittable diseases such as Hepatitis B, Hepatitis C, Syphilis and HIV are higher in professional and paid donors ⁽⁶⁾. In our study majority blood donors (81.6%) were never vaccinated for Hepatitis B. The study was conducted on limited blood banks in Karachi. Very few studies have been conducted taking into account knowledge of blood donors regarding infections. Knowledge, behavior and practices play a pivotal role to enhance the effectiveness, efficiency and safety while collecting blood hence these practices must be deeply overviewed ⁽¹⁸⁾. Healthcare sector should work to improvise the knowledge and awareness regarding blood donation in society through different blood donating awareness programs or campaign

to increase the quality of donated blood.

CONCLUSION

Our study concluded that most participants were unaware of infections transmitted through blood. It is important to work on knowledge, awareness and life style of blood donors because blood is a major source of transmission from one individual to another. The basic objective of donating blood is to save someone else life, or to contribute towards the well being of society.

CONFLICT OF INTEREST

The authors declare that there are no financial, personal, or professional interests that could be construed to have influenced the work to the best of our knowledge.

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AUTHOR CONTRIBUTION

- *Conceptualizing the topic, planning, drafting the manuscript
- **Planning, developing the data collection tool and data collection
- ***Intellectual Input, Analysis and editing
- **** Intellectual input and supervision
- *****Editing the final Manuscript and supervision