

Blood Donors Awareness to Know their Blood Group and Prevalence of HIV, HBsAg and Anti HCV Screening at Dharampura District Lahore

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ABSTRACT

Background: From number of public health problems hepatitis B virus (HBV), hepatitis C virus (HCV) and the human immunodeficiency virus (HIV) are most important viral infections in donated blood which can be prevented by monitoring the prevalence of these viral markers in blood donors.

Aim: This study was done for the awareness of Lahori Pakistani blood donors to know their blood group and screening prevalence for Hiv, HbsAg and Anti HCV

Place of study: Sadiqui Welfare Clinic Dharampura, District Lahore

Duration of study: Seven days free camp from 1st March 2017 to 7th March 2017

Methods: Blood group and screening for Hiv, HbsAg and Anti HCV of 1084 blood donors was done.

Results: Out of 1084 blood donors 92 (8.49 %) donors were found infected. 56 (5.17%) were Anti HCV positive, 36 (3.32%) were HBsAg positive and no donor was HIV positive. It is also interoperated that in 92 infected persons 22 were A+ve, 30 were B+ve, 24 were O+ve, 14 were AB+ve, two was O-ve and none was A-, B- and AB-.

Conclusion: It is concluded that all blood donors should know their blood group and to prevent blood borne communicable diseases proper screening is mandatory.

Keywords: Blood grouping, HBsAg, Anti HCV, HIV

INTRODUCTION

Donation of blood is a process relating to the collection, testing, preparing, and holding of blood and blood vessels components. Blood donors are of two types. A voluntary blood donor is a person who gives blood simply for an interior sense of satisfaction, or to fulfill social responsibility. A replacement donor, either a family member or friend of the receiver, is someone who gives blood in emergency when transfusion is necessary for life saving. Thus transfusion plays an important role for the treatment and care of patients.

From blood or blood products numerous parasites, bacteria and malware, can be transmitted during transfusions. Due to potential serious chronic clinical sales pitches associated with these sent agents^{1,2} like hepatitis B virus (HBV), hepatitis C virus (HCV), and the human immunodeficiency virus (HIV) are mandatorily analyzed on blood donor samples worldwide. The risk of transmitting these infections has decreased considerably due to relevant donor history asking and latest screening techniques³.

Historically in 1950 it was discovered that

hepatitis transmits through blood transfusions⁴. In 1965 discovery of the hepatitis B surface antigen (HBsAg) is reported by Blumberg⁵. In 1970 hepatitis B virus (HBV) was discovered by Purcell⁶. Usually HBsAg and anti-HBc is detected in the blood of patient for clinical diagnosis of HBV infection⁷ and in chronic HBV infections antibodies remains detected in whole life⁸. Similarly in 1989 hepatitis C virus (HCV) was detected⁹ which also transmits through blood transfusions, prick with infected needle or sexual contact¹⁰.

The WHO reported that all over the world about 350 million people are chronically hepatitis B virus (HBV) positive and 170 million people are hepatitis C virus (HCV) positive¹¹.

Mean results of HBsAg and Anti-HCV have shown that in general population prevalence is 2.6% and 5.3% respectively. Subsequent study has shown that in Pakistan current likelihood of transfusion of viral infections attributed to blood donation is relatively high¹². One survey has revealed that at the end of 2017 estimated peoples may be suffering from HIV/AIDS is 96000¹³.

MATERIAL AND METHODS

Blood from the donors was received at Sadiqui welfare clinic Dharampura District Lahore on seven days free Camp i.e., from 1st March 2017 to 7th March 2017. Blood group by using Cenix Clone II

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(Monoclonal Ab. for Blood Group Typing) and the screening was done using ACCU check rapid diagnostic kit. Blood group and screening of total 1082 donors was done.

Inclusion criteria, Male donors having weight less than 70 Kg ages between 20-40 with clinical Hb > 12g/dl were included in the study. Exclusion criteria, Donors with history of jaundice in life, drug abuse drinkers and freshly operated case or any other chronic illness, Blood or blood component transfusion within 3 months were excluded.

RESULTS

Out of 1084 blood donors 92 (8.49%) donors were found infected. No donors were HIV positive however 56 (5.17%) were Anti-Hcv positive, 36 (3.32%) were HbsAg+ve (Table 1). From these positive cases nobody was suffering from more than one above mentioned communicable disease. It is also interoperated that in 92 infected persons 22 were A+ve, 30 were B+ve, 24 were O+ve, 14 were AB+ve, two were O-ve and none was A, B and AB- (Table 2).

Table 1: Percentage of prevalence of Anti-HCV, HBsAg and HIV positive cases

Total Donors	Total -ve	Anti-HCV +ve	HBsAg +ve	HIV +ve	Total +ve
1084	992	56	36	0	92
100 %	91.51%	5.17 %	3.32 %	0 %	8.49 %

Table 2: Infected and normal blood donors in accordance with their blood groups

Blood Group	Grand Total	Anti-HCV Positive	HBsAg Positive	HIV Positive	Total Positive	%age of Total Positive	Total Negative	%age of Total Negative
A+ve	194	16	6	0	22	11.34	172	88.65
B+ve	396	18	12	0	30	7.57	366	92.42
O+ve	284	14	10	0	24	8.45	260	91.54
AB+ve	166	6	8	0	14	8.43	152	91.56
A-ve	16	0	0	0	0	0.00	16	100
B-ve	6	0	0	0	0	0.00	6	100
O-ve	18	1	0	0	2	11.11	16	88.88
AB-ve	2	0	0	0	0	0.00	2	100

DISCUSSION

Blood borne communicable diseases may remain asymptomatic for many years, because in the carrier stage the disease is silent. Such carriers are an alarming threat for the healthy population. Unscreened transfusion from silent carriers to the recipients is a major cause of transfusion of blood borne infection. The aim of this camp is to aware the people regarding blood transfusion and importance of screening and to give advice to the infected cases to treat them properly.

Geographically HBV distribution all over the world shows variations. The consequence of this study (3.32%), which was above or matching same percentage with different areas. Like 0.4% to 1.0% in United States¹⁴, 1.4% in China¹⁵ and central region of Saudi Arabia¹⁶, 3% in the north-west region of Saudi Arabia¹⁷ which shows that results of prevalence of HBV in blood donors of these studies are lower than our result. On the other hand in Indian subcontinent¹⁸ 2% to 5% and in Europe¹⁹ from 0% to 5.2% of blood donors were estimated to be HBsAg positive which shows increased number of chronic infected cases than our study.

Similarly from various areas of the world occurrence of HCV infection was significantly different in blood donor samples. i.e., 0.4% to 1.7% in

Saudi Arabia¹⁶, 0.072% in United States¹⁴ and 0.02% to 3.03% in Europe¹⁹. Results of our study for HCV infection is (5.17%), which was higher than these studies. Comparatively less percentage of HBV infection is due to increased public awareness regarding blood related viral infections, availability of better implemented program of vaccination for hepatitis B virus and non availability of vaccine for HCV.

CONCLUSION

Unscreened blood transfusion is playing a consequential and important role in spreading communicable diseases. Proper screening methods can prevent this risk. All such donors which incidentally find positive during screening must be advised not to bleed for transfusion and treat them properly. Less number of hepatitis B positive patients might be associated with an increased awareness and the introduction of immunization programs.

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