

Prevalence of Blood Transfusion Diseases among Blood Donors

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Blood
Transfusion
Diseases among
Blood Donors

ABSTRACT

Objective: To study the Prevalence of Blood transfusion diseases among blood donors.

Study Design: Observational study

Place and Duration of Study: This study was conducted at the Department of Community Medicine & Medicine, Sialkot Medical College, Sialkot during Jan 2019 to March 2020.

Materials and Methods: Four hundred individuals of both genders who consented to give blood, were taken for study of presence of pathogens causing blood borne diseases. The individuals whose age was less than 20 years, body weight less than 50 kg and hemoglobin level less than eleven point eight mg/dl were rule out from research. The Ethical Committee permission was also taken before collection of data and get publishing in the Medical Journal. The Data was analyzed for results by SPSS version 10.

Results: The prevalence of donors of blood transfusion were maximum 165 (41.25%) at age group 26-30 years and minimum 12 (3.0%) at age group 41-45 years. The prevalence of donors of blood transfusion were of male were 345 (86.25%) and female 55 (13.75%). The prevalence of donors of blood transfusion were infectious diseases was maximum 9(34.61%) of HCV and minimum 1(3.84%) of HIV.

The prevalence of blood donors was maximum 160(40%) of Graduate and was minimum 20(5%) of Primary education blood donors.

Conclusion: Low socioeconomic conditions may lead to various blood born diseases. Lack of health education may be an important cause of dissemination of these infections. Poor economic condition prevents individuals to get costly opinions. Health education by Government may lessen the occurrence of these infections.

Key Words: Blood transfusion, Transfusions transmittable infections, Syphilis, HIV, HCV and Malaria

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INTRODUCTION

After an act of transferring donated blood, blood passed contamination is the more common cause of mortality. All those who have to take either whole blood or any component of it have greater chances of getting diseases propagating through blood as a whole or through its any component. All hospitals whether public or private have constructed blood bank unit as an essential component of hospital. These units have almost all necessary equipment to bleed, store and transfuse whole blood or its components after a thorough laboratory tests for major blood borne diseases. As blood may be required in multiple diseases

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like low hemoglobin levels, abnormally structured hemoglobin or excessive loss of blood³.

A very high percentage of individuals having Hepatitis C infection don't show any clinical features or if any very mild^{4,5}. Similarly a very huge number of individuals have Hepatitis B infection. Chronic carriers of Hepatitis B Virus may have such a less level of that it can easily escape lab detection. So some centers have started testing antibodies against Hepatitis B Virus core protein (anti HBc)⁶.

Another blood born infection propagated by Treponema pallidum called Syphilis which may also be caused by semen or vaginal fluid or from mother to the neonate⁷. Malaria is an important parasitic infectious disease worldwide, caused by four species of Plasmodium, namely vivax, ovale, malaria and falciparum. Sick persons of old hemolytic anemia, as of thalassemia are on regular packed RBC's infusion and are at danger for malaria⁸. HIV is also propagated by semen, vaginal fluid and blood. More easily spreads in drug addicts.

The current work involves study percentage of all those diseases born by blood or its components².

MATERIALS AND METHODS

Four hundred individuals of both genders who consented to give blood, from Sialkot Medical College

Sialkot during Jan 2019 to March 2020, were taken for study of presence of pathogens causing blood borne diseases. The individuals whose age was less than 20 years, body weight less than 50 kg and hemoglobin level less than eleven point eight mg/dl were rule out from research. The Ethical Committee permission was also taken before collection of data and get publishing in the Medical Journal. The Data was analyzed for results by SPSS version 10.

Inclusion Criteria: All donors above the age 20 years, weight more than 50 Kg and Hemoglobin (Hb) more than 11.8 mg/dl were included from the study.

Exclusion Criteria: Blood donating persons having age less than twenty years, weight less than fifty Kg and Hemoglobin (Hb) less than eleven point eight mg/dl were rule out from the work.

RESULTS

The prevalence of donors of blood transfusion were maximum 165 (41.25%) at age group 26-30 years and minimum 12 (3.0%) at age group 41-45 years as shown in table no 1.

Table No 1: Age distribution of donors of blood transfusions

Sr No	Age (years)	Number of cases	Percentage%
1	21-25	102	25.5%
2	26-30	165	41.25%
3	31-35	107	26.75%
4	36-40	14	3.5%
5	41-45	12	3.0%
Total		400	100%

Table No 2: Gender distribution of donors of blood transfusions

Sr. No.	Gender	Number of cases	Percentage%
1	Male	345	86.25%
2	Female	55	13.75%
Total		400	100%

Table No 3: Infectious diseases distribution of donors of blood transfusions

Sr. No.	Infectious diseases	Number of cases	Percentage%
1	HCV	9	34.61%
2	HBV	5	19.23%
3	MALARIA	8	30.76%
4	SYPHILIS	3	11.53%
5	HIV	1	3.84%
Total		26	100%

The prevalence of donors of blood transfusion were of male were 345 (86.25%) and female 55 (13.75%) as shown in table no 2.

The prevalence of donors of blood transfusion were infectious diseases was maximum 9(34.61%) of HCV and minimum 1(3.84%) of HIV as shown in table no 3.

The prevalence of blood donors was maximum 160(40%) of Graduate and was minimum 20(5%) of Primary education of blood donors as shown in table 4.

Table No 4: Literacy status of blood donors

Sr. No.	Literacy Status	No (%age %)
1	Illiterate	30 (7.5%)
2	Primary	20 (5%)
3	Secondary	90 (22.5%)
4	Graduate	160 (40%)
5	Master	100 (25%)
Total		400 (100%)

DISCUSSION

Transferring donated blood Transferred contaminations are major problems in transferring donated blood to the receiving persons of Blood or Blood parts. Post transfusion infections are potential risk for the recipients^{9,10}. According to World Health Organization's (WHO) recommendation, the screening should be performed for at least five WHO recommended transfusion transmitted infections which include HCV, HIV, HBV, malaria parasite and syphilis. Incidence of these communicable diseases differs from place to place due change in medical practices¹⁰⁻¹³. In current study, percentage of occurrence is equal in both genders. Chronic presence of blood borne diseases may be due to low socioeconomic conditions,¹⁴⁻¹⁷. Similarly occurrence of syphilis in males might be due to inability to alter bed sheets no. Preventive measures with respect to better health are essential^{11, 18-20}.

CONCLUSION

Low socioeconomic conditions may lead to various blood borne diseases. Lack of health education may be an important cause of dissemination of these infections. Poor economic condition prevents individuals to get costly opinions. Health education by Government may lessen the occurrence of these infections.

Author's Contribution:

Concept & Design of Study: Akmal Khurshid Bhatti
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