



A SURVEY OF TRANSFUSION TRANSMITTED DISEASES AMONG VOLUNTARY BLOOD DONORS IN CHENNAI

Immunohaematology

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ABSTRACT

Blood Transfusion is a lifesaving procedure but it involves the risk of transmission of certain diseases like HIV, HBV, HCV, Syphilis and Malaria. So, the donated blood is screened in the blood bank for the above diseases. A survey of the reactivity of the above disease was done at Government Kilpauk Medical College & Hospital for the years 2014 to 2018.

KEYWORDS

Blood donors, HBV, HIV, HCV, Syphilis.

INTRODUCTION

It is our responsibility to ensure issuing of safe and uninfected blood to the patients who need blood. HIV, HBV, HCV, Syphilis and Malaria are the common transfusion transmitted infections. As per National AIDS Control Organisation, the donated blood is screened for the above disease by Enzyme Linked Immunosorbent Assay (ELISA) method, the possibility of TTI among the donors are analyzed to find out the commonest disease among the donors.

World Health Organization (WHO) recommends that all blood donations should be screened for evidence of infection prior to release of blood and blood components for clinical or manufacturing use. The prevalence rate of transfusion transmitted infections in blood donation in middle low income countries is higher than high income countries. Different studies conducted across the country have reported different seroprevalence rates for transfusion transmitted infections.

MATERIALS AND METHODS

This study has been done in Blood Bank, Government Kilpauk Hospital, Chennai for a period of 5 years from 2014 to 2018.

The samples were screened for HIV- I & II (ELISA), HBsAg (ELISA), HCV (ELISA), Syphilis (RPR) and Malaria (Peripheral Smear Study). The reactive donors were identified, their blood was discarded as per Bio-medical Waste norms.

RESULTS

Total donors for the 5 years period were 31,492. Among them, the donors with reactive TTI were 399, which was about 0.76%. Statistics of blood donor seropositive is provided in the table 1

Table -1 Year Wise Distribution of Seroprevalence of HIV, HBV, HCV, Syphilis and Malaria among Blood Donors

Year	HIV	HBsAg	HCV	Syphilis	Malaria
2014	4	103	9	1	-
2015	1	97	4	-	1
2016	1	54	5	-	-
2017	-	56	-	-	-
2018	1	54	2	6	-
Percentage (%)	0.02	1.16	0.06	0.02	0.003

The reactivity of HIV was 0.02 % (7 donors) and HBsAg reactivity was the highest with 1.16% (364 donors), HCV reactivity was 0.06% (20 donors), Syphilis was 0.02% (7 donors) and Malaria was 0.003% (1 donor).

DISCUSSION

In our study, the sero-reactivity of TTI was 1.16%. It is similar to the Hilola Fernandes et al study where it was 0.6%. Regarding HIV sero-reactivity, it was 0.02% similar to 0.06% noted in Hilola Fernandes et al study and 0.23% noted in Kamarkar P Ret al2 study. HBsAg reactivity was high with 1.16% when compared to 0.34% of Hilola Fernandes et al study, 0.82% of Kamarkar P Ret al2 study and 0.92% of Meena et al3 study. HCV reactivity was 0.06% when compared to 0.36% of Hilola Fernandes et al and 0.04% of Meena et al3 study. In present study the seroprevalence of syphilis was found to be 0.02%.

The finding of our study is comparable with the seroprevalence reported by Shalini Sundaram et al4 (0.03) and Giri et al5 (0.07). Higher seroprevalence of syphilis was reported by Akanksha Rawat et al6 (1.62). Lower seroprevalence was reported by Leena M S et al7 (0.12), Hilda Fernandez et al1 (0.11). In our study prevalence of malaria infection was reported in only one case. The overall seroprevalence of malaria infection was negligible. The other studies Sanjay et al8 also have reported the same findings.

CONCLUSION

In this study, the most common transfusion transmitted infection (TTI) was Hepatitis B followed by HCV, HIV and Syphilis. The decrease in the transmission of TTIs may be due to increase in the practice of voluntary blood donation and impact of IEC activities conducted to create awareness among the community about prevention of various infections like HIV, HCV, Hepatitis B and Syphilis.

For further decrease of the seroprevalence of transfusion transmitted infections, different measures like strict screening of blood should be standardized and mandatory for each donor. Nucleic Acid Testing by viral gene amplification procedure will increase the detection of TTI accurately.

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