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Donor profile and prevalence of transfusion transmitted diseases among voluntary blood donors

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Abstract

Knowing about ABO and Rh blood group distribution among voluntary donors is important as it helps in better management of blood bank inventory. Current study was done to know the distribution of ABO, Rh blood groups and also the seroprevalence of transfusion transmitted infections in donors attending voluntary blood donation camps. This an observational cross sectional study conducted over a period of six months at a blood bank attached to a private medical college. There were 378 voluntary blood donors during this study period. Male donors constituted 87.6% (268) and females 12.4% (37). Predominant blood group was O positive 146 (38.6%), followed by B positive 110 (29.1%).

Keywords: Voluntary blood donation camps, transmission transmitted infections, seroprevalence

Introduction

According to National AIDS Control Organisation (NACO) statistics for the year 2015-2016 was 10.8 Million units of blood as against annual requirement of 12.8 million units. According, WHO number of blood units required is 1% of the total population. ^[1]

In our society recruiting voluntary blood donors (VBD), is a challenge for blood transfusion services. Properly explaining the need of blood and creation of opportunities for blood donation to the potential donors motivates them to donate blood regularly. ^[2] Strict application of blood donation criteria is leading to increased number of donors being rejected ^[3]. By knowing the blood donor profiles, we can target particular group of population to increase the voluntary donor pool ^[4].

Knowing about ABO and Rh blood group distribution among voluntary donors is important as it helps in better management of blood bank inventory ^[5].

Incidence of Transmission transmitted Infections is more in developing countries in comparison to developed countries. Transmission transmitted Infections are more common in replacement donors in comparison to voluntary donors According to the guidelines of Ministry of Health & Family welfare (Government of India) under the Drug & Cosmetic Act, 1945 it is made mandatory to screen blood donors for HIV, Hepatitis B, Hepatitis C, Syphilis and Malaria ^[6].

Current study was done to know the distribution of ABO, Rh blood groups and also the seroprevalence of transfusion transmitted infections in donors attending voluntary blood donation camps.

Methodology

This an observational cross sectional study conducted over a period of six months at a blood bank attached to a private medical college. Data related to blood donors profile and results of screening tests for transfusion transmitted diseases were obtained from the records of the blood bank and analysed. These were voluntary blood donors who donated blood in voluntary blood donation camps. Voluntary blood donors donating blood in the blood bank during this period were excluded from the study.

Results

There were 378 voluntary blood donors during this study period. Male donors constituted 87.6% (268) and females 12.4% (37). Predominant blood group was O positive 146 (38.6%), followed by B positive 110 (29.1%), A positive 83 (22%), AB positive 21 (5.6%), B

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negative 5 (1.3%), O negative 5 (1.3%), A negative 5(1.3%) least common was AB negative 3 (0.8%). Out of 378 donors one was positive for HIV, one for Hepatitis C and one for Hepatitis B with a prevalence rate of 0.3% using the standard tests recommended.

Discussion

Majority donors were males (87.6%) which is similar to other studies conducted by Patel Piyush *et al* [7], Pawan Sing *et al* [8], Teklu Zerihun *et al* [9], Parul Garg *et al* [10], Hemalatha *et al* [11], Dimple Arora *et al* [12]. Female donors were less in comparison to males as they didn't satisfy the criteria for blood donation. They had anemia and low body weight; other factors might be due to cultural habits, inadequate motivation and fear of blood donation.

Majority of donors belonged to O positive blood group (38.6%) which is similar to studies done by Sundar Periyavan [13], Chandrika Rao *et al* [14], Teklu Zerihun *et al* [9], Shazia Handoo *et al* [15], Hemalatha [11]. Studies done by Patel Piyush *et al* [7], Pawan Singh *et al* [8], Dev Raj Arya *et*

al [16], Behra Rajshree *et al* [5], Parul Garg *et al* [10] showed B as the predominant blood group. Prevalance rate of Hepatitis B was 0.3% which is low compared to other studies done by Yedlapati Bhawani [17], Natasha Mittal *et al* [6] and Dimple Arora *et al* [12]. Prevalance rate of HIV was 0.3% which is similar to other studies done by Yedlapati Bhawani [17] and Natasha Mittal *et al* [6]. HCV had a prevalence of 0.3% which was less compared to other studies done by Yedlapati Bhawani [17], Natasha Mittal *et al* [6] and Dimple Arora *et al*. [12] This less prevalence may be because voluntary blood donation camps were held in colleges where healthy youth with awareness about the transfusion transmitted diseases was high.

Conclusion

Female blood donors were very less; this can be increased by improving their health status and creating awareness about blood donation. Blood group distribution pattern is required for clinical studies and management of blood bank.

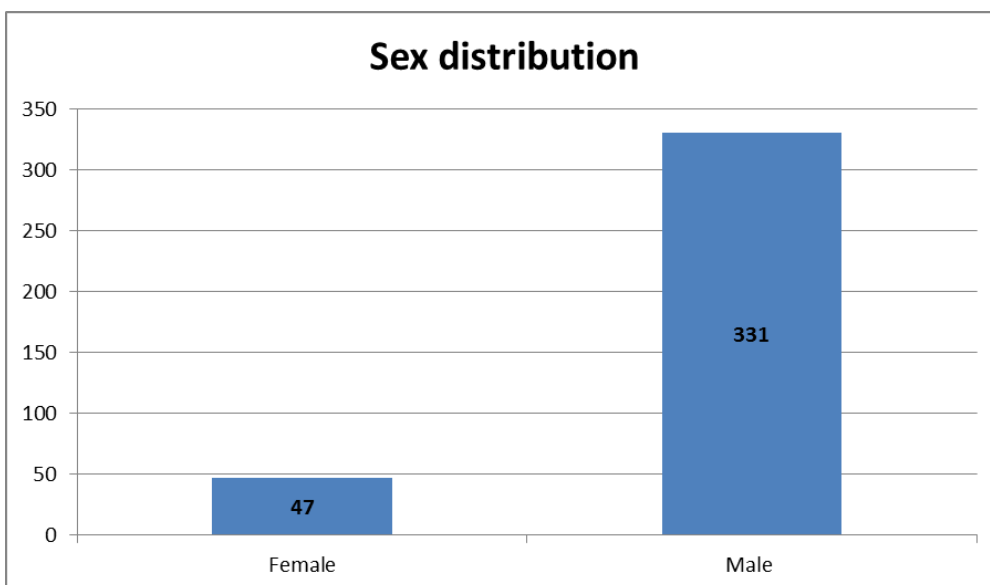


Fig 1: Sex wise distribution of voluntary blood donors

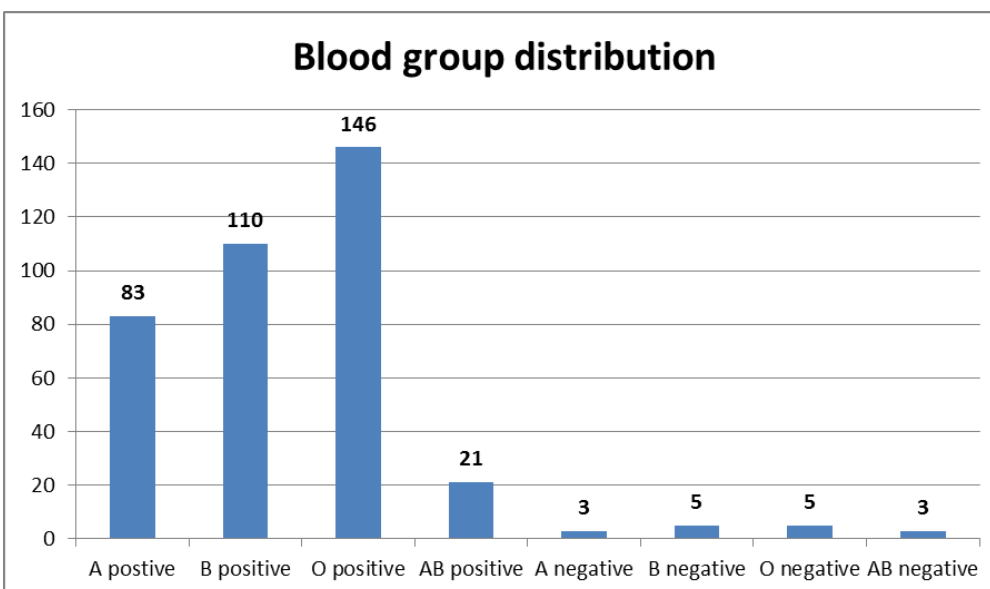


Fig 2: Blood group distribution in voluntary blood donors

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