Demographic Profile of Blood Donors in Blood Bank of Mandya Institute of Medical Sciences (MIMS), Mandya

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ABSTRACT

BACKGROUND
Blood is an essential element for human life which constitutes nearly 7% of the human body weight. Blood transfusion is lifesaving in many conditions. Safe blood transfusion is therefore very essential. In order to ensure safe and adequate blood supply when needed, voluntary blood donation must be promoted among healthy individuals.

METHODS
A retrospective record-based study was done using the records available at MIMS, Mandya during the period January 2017 to December 2017. Analysis was done using MS Excel. A total of 10740 records of blood donors were included in this study.

RESULTS
Out of 10740 donors, 85.43% of the donors were between 18-35 years; 59.35% of the donors were from rural areas and 96% of them were males. About 93% donors belonged to Hindu religion. Voluntary donors constituted 68.52% of the blood donations.

CONCLUSIONS
This study found that certain socio-demographic factors affect blood donation and efforts have to be made to increase voluntary blood donation among the population.

KEYWORDS
Blood Donation, Socio-Demographic Factors, Mandya
BACKGROUND

Blood transfusion service is an important part of healthcare. Blood and its components are important lifesaving elements, especially in case of emergencies. There is no equivalent replacement for blood. Therefore, blood donation is of high importance.1 Many serious conditions like road traffic accidents, major surgeries, leukaemia, severe anaemia and patients on chemotherapeutic agents etc. require blood for treatment / management of those conditions.2 Blood is the only tissue which can be easily donated by people for saving other’s life. To meet the demand and ensure sufficient supply of blood, millions of units of blood is required, and voluntary blood donation is therefore of great importance. For safe and efficient supply of blood, voluntary blood donation should be encouraged, recognised and accomplished in healthcare system.3 National AIDS Control Organization’s statistics show that the annual rate of blood donation in India is about 10.8 million units, against the requirement of 12 million units.4 Karnataka State contributes about 5,00,000 units, with 62% coming through voluntary donation.5

This study was conducted with an objective to identify the socio-demographic correlates among blood donors in general population and understand the various factors that can help plan the change in the perception and awareness about blood donation.

METHODS

A retrospective record-based study was undertaken from the registers that were available for the period of one year - January 2017 to December 2017 in the Blood Bank of Mandya Institute of Medical Sciences (MIMS), Mandya. A total of 10740 blood donations occurred during the study period and all records were included in this study. Permission to conduct the study and approval was taken from the Institutional Ethics Committee of MIMS, Mandya. Donor registration forms were entered by the donors themselves or the trained staff from the blood bank followed by the screening of donors by a medical officer. Post donation, tests were carried out in order to prevent blood transfusion transmissible infections like HIV, VDRL, HBsAg, HCV and Malaria to recipients. The extracted data was checked for consistency and completeness with the master record available in the blood bank. The main variables included in the study are age, sex, type of donor, education, marital status, body weight, area of residence and time interval between two successive donations. The data was analysed using MS Excel software. Universal sampling was done for this study.

RESULTS

Out of the total 10740 blood donors in this study, 9176 (85.43%) of the donors were in the age group of 18-35 years. About 96% of the donors were males. Donors from rural areas constituted 59.35% of the donors. About 23.35% of the participants had completed primary schooling. High school education was received by 14.60% of the blood donors. Graduates and illiterates constituted 14.74% and 35% respectively.

Table 1. Association between Gender and Other Socio-Demographic Variables

<table>
<thead>
<tr>
<th>Age</th>
<th>Female (%) (n= 470)</th>
<th>Male (%) (n=10270)</th>
<th>Total (%) (n=10740)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25 years</td>
<td>120 (25.53%)</td>
<td>470 (92.79%)</td>
<td>4825 (92.79%)</td>
</tr>
<tr>
<td>26-35 years</td>
<td>348 (73.68%)</td>
<td>4239 (86.10%)</td>
<td>4587 (86.10%)</td>
</tr>
<tr>
<td>36-45 years</td>
<td>83 (17.30%)</td>
<td>1315 (26.70%)</td>
<td>1398 (26.70%)</td>
</tr>
<tr>
<td>46-55 years</td>
<td>4 (0.85%)</td>
<td>191 (3.82%)</td>
<td>195 (3.82%)</td>
</tr>
<tr>
<td>56-60 years</td>
<td>3 (0.63%)</td>
<td>20 (0.40%)</td>
<td>23 (0.40%)</td>
</tr>
</tbody>
</table>

Table 2. Type of Donor Distribution According to Sociodemographic Variables

<table>
<thead>
<tr>
<th>Area</th>
<th>Replacement Donors (%) (n= 3381)</th>
<th>Voluntary Donors (%) (n=7359)</th>
<th>Total (%) (n=10740)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>1271 (37.30%)</td>
<td>2995 (68.60%)</td>
<td>4266 (61.93%)</td>
</tr>
<tr>
<td>Rural</td>
<td>2010 (31.53%)</td>
<td>3464 (66.47%)</td>
<td>5474 (60.00%)</td>
</tr>
</tbody>
</table>

Figure 1. Number of Times Donations were Done by Donors

Voluntary donors constituted 68.52% and the rest were replacement donors (31.48%). About 75% of the participants were first time donors. Table 1 shows the gender distribution of demographic variables. Farmers and students were almost equally represented (about 40% each) (Table 2). Majority of the donors (93.37%) followed Hindu religion. Majority of the donors were unmarried 72.17%.

**DISCUSSION**

In the present study, 85.43% of the donors were below the age of 35 years (Table 1). This is comparable to the studies done by Hasan Z et al who reported majority (80%) of donors below 40 years, Sangzuala et al have reported 84% below 30 years of age and Roopa RM et al in their study report majority were below 30 years of age (64%). Majority of the donors are males (96.2%) in this study (Table 1). It correlates with the studies done by Kumar A et al and Roopa RM et al who reported proportion of male donors to be 96.3% and 96.9% respectively. This difference in gender may be attributed to inadequate weight and prevalence of anaemia due to blood loss during in child-birth and menstruation in females in the reproductive age group, which makes them ineligible to donate blood.

In the present study majority of them (59.35%) were from rural area. This is comparable to the study by Razdan N et al who reported more participation from rural area (60%) compared to urban (40%). The study done by Hasan Z et al reported equal participation from rural (50%) and urban areas (50%). In the present study, we found that majority of the donors were young adults from rural area because of effective blood donation campaigning in the rural area which had impact on the youth as they have better understanding capacity and are able to mobilise other individuals also towards blood donation. In this study, about 28% of the donors were married and 72% were unmarried. This study is similar to the study done by Saha S et al who reported 75% of donors being unmarried and Pule P I et al who have reported 81% of donors being unmarried in their studies. Most of the unmarried donors who can be motivated easily compared to married persons. In this study, majority of donors (93.39%) belong to Hindu religion. This study is similar to the study done by Anand N et al who have reported 78.6% being of Hindu religion and Roopadevi M, et al who reported 93.4% being Hindu donors. This study found that most of the donors (68.52%) were voluntary donors. Replacement donors constituted about 31.48% of the total donors. Our study is comparable to the study done by Melku M et al who have reported that 61% were voluntary donors and the rest 39% were replacement donors. In comparison, the study by Sangzuala et al reported 83% being voluntary donors and 17% being replacement donors.

While comparing the education status, this study found that 7.4% of the donors were illiterate and rest of them were literate (92.6%). This finding comparable to the study done by Shidam UG et al which reported 9.7% of the donors to be illiterate. This study had 40% of the donors who were students. In comparison, the study done by Uma et al had 30.5% who were students. Another study by Alfozun et al reported only 15.5% of donors who were students. In this study 74.8% of the donors were donating blood for the first time. About 25% of the donors had donated more than two times. Very few people had donated more than 5 times (Figure 1). Our study correlates with the study done by Melku M et al found that 18.4% of the participants were repeated donors and nearly 81.6% were first time donors. The study by Roopadevi et al also had 62% of first-time donors.

**CONCLUSIONS**

Various demographic factors influence blood donation. To improve gender balance, there is a need to motivate healthy women to donate blood. It is also important to raise awareness in the minority communities regarding the benefits of blood donation. Efforts are needed to address the myths and concerns related to blood donation among the minority communities in particular and also among the other population, in general. It is important to encourage donors to donate blood more frequently as this study showed a significant difference in the proportion of first-time donors and repeat donors. The fact that regular blood donation by healthy donors helps in promoting the general wellbeing of the donors needs to be stressed upon all potential donors. Awareness camps in rural areas has helped in motivating people to donate blood. The importance of blood in saving lives should also be stressed upon to motivate people for donating blood at regular intervals. Studying the socio-demographic characteristics helps to create awareness among blood donors. Study helps in successful implementation of a blood donation programme, in improving voluntary blood donation system.

**REFERENCES**


