Short Communication

Demographics of Blood Donors at a Regional Blood Transfusion Centre in a Developing Country Pakistan

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Abstract

Objective: The study was aimed to gather demographic data from blood donors to develop strategies for improving voluntary blood donations.

Material and Method: This study utilized a cross-sectional descriptive design and was conducted at the Armed Forces Institute of Transfusion (AFIT), from November to January 2021.Demographic information of blood donors was collected using a pre-designed form. Statistical analysis was performed using SPSS 23, including calculations of frequency, percentage, and mean ± standard deviation. The blood donors were categorized into different groups based on caste, education, how frequently they donate blood and type of donation. Chi-square test was used.

Results: The blood donors presenting at regional centre were 28.53 ± 7.25 years of mean age. Out of 1000 blood donors, there were 98.8% male and 1.2% were female. Most blood donations came from individuals of Punjabi ethnicity (72.4%). Among the various caste systems in Pakistan, the highest number of donors belonged to the Rajput caste (9.3%). The majority were directed donors (93.6%) and were donating for the first time (65%). There was a positive correlation between the frequency of blood donation and the level of education. Regular donors (50.4%) were mostly those who had qualification of graduation, with a p-value of 0.001.

Conclusion: We found that individuals with higher levels of education are more likely to be frequent voluntary blood donors.

Keywords: Voluntary Blood donor, Demographic data, Directed blood donor

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Introduction

Pakistan is currently facing a significant shortage of voluntary blood donors, especially when compared to Western countries.[1] It is crucial to have voluntary blood donors as they provide safe blood to transfusion centres. Unpaid voluntary blood donors are preferred because their blood is considered safer for transfusion, as there is a lower risk of Transfusion-Transmissible Infections (TTI).[2] Directed donors, on the other hand, do not fulfill the demands of blood banks and only contribute to increasing blood bank stores.[3] The World Health Organization has set a target for all countries to achieve 100% voluntary blood donations by 2020. However, in Pakistan, the rate of voluntary blood donation is currently only 10% compared to 90% directed donation. There are various factors that influence unpaid voluntary blood donations and understanding the demographics of blood donors is essential for identifying donors and developing effective strategies for donor recruitment and retention.[4]

Unfortunately, there is limited available data on donor

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demographics in the Pakistani population. Therefore, the aim of our study was to collect demographic data from blood donors in our region. This data will help in formulating strategies to improve voluntary blood donations.

Material and Method

The study was conducted at the (removed for blind peer freview) from November January 2021. Ethical approval was obtained from the hospital's ethical committee, and informed consent was obtained from all participating blood donors. A validated questionnaire was employed to gather demographic data, encompassing details such as age, gender, ethnic background, caste, literacy level, income, blood donation history, and the nature of donation (directed or voluntary). Personal identification details were not recorded to ensure confidentiality. Statistical analysis was performed using SPSS 23, calculating frequencies, percentages, and mean±standard deviation. The blood donors were grouped based on literacy levels, frequency of blood donation as well as voluntary or directed donor. Chi-square test was used for comparison between groups.

Results

A total of 1000 blood donors were included in the study. The mean age of the blood donor was 28.53 ± 7.25 years. Minimum age was 18 years and maximum was 58 years. Amongst these 988 (98.8%) were males and 12 (1.2%) were females. Out of 1000 blood donors 724 (72.4%) were Punjabi, 147 (14.7%) were Pathan, 67 (6.7%) were Kashmiri, 42 (4.2%) were Sindhi, 13 (1.3%) were Balti and (7) 0.7% were Balochi respectively.

Amongst different caste systems in Pakistan, there were 93 (9.3%) Rajput donors. Other caste Malik 62 (6.2%), Awan, Arain 56 (5.6%) each and Khan 47 (4.7%). Three (0.3%) donors did not disclose their caste. The distribution of blood donors among different castes has been graphically represented in Fig-I. Looking at the literacy level, 131 (13.1%) blood donors had qualification up to middle school, 756 (75.6%) had SSC/HSC and 113 (11.3%) had Bachelor degree. Analysis of salary showed that 114(11.4%) donors had salary < Rs 15,000, 780(78.0%) donors had salary less than Rs 50,000 and more than Rs 16,000. While 102 (10.2%) donors had salary > Rs 50,000. Four (0.4%) donors did not disclose their salaries. First time donors were 650 (65.0%) whereas regular donors were 350 (35.0%)

Directed donors were 936 (93.6%) and voluntary donors

were 64 (6.4%).

Frequency of blood donation was correlated directly with literacy level. Highest number of regular donors (50.4%) had literacy level up to graduation and beyond with p value 0.001 (Table I).
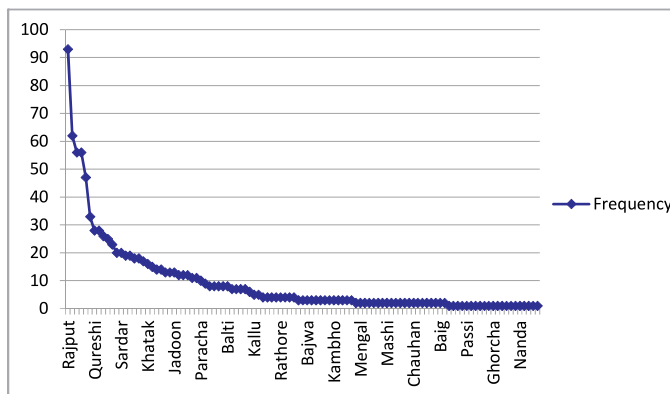

Figure 1: *Distribution of different caste amongst blood donors*

Discussion

Transfusion centers rely on voluntary blood donors to

Table 1: *Comparison of literacy group with first time/ regular donors*

Literacy Level	First time Donor	Regular Donor	p value
Up to Middle	83 (63.4%)	48 (36.6%)	
SSC/HSC	511 (67.6%)	245 (32.4%)	0.001
Graduate and beyond	56 (49.6%)	57 (50.4%)	

Table 2: *Comparison of literacy group with voluntary/ directed donors*

Literacy Level	Voluntary Donor	Directed Donor	p value
Up to Middle	127 (96.9%)	4 (3.1%)	
SSC/HSC	710 (93.9%)	46 (6.1%)	0.049
Graduate and beyond	101 (89.4%)	12 (10.6%)	

provide safe blood.[1] Unpaid voluntary blood donations are influenced by several factors. The demographics of blood donors are important in identifying donors and guiding donor recruitment and retention strategies.[3] This study was conducted in a regional transfusion center, where a large number of blood donors were enrolled for the purpose of collecting demographic data. In Pakistan, no previous study with 1,000 blood donors has ever been carried out. This study revealed that voluntary donations were far less as compared to directed ones. Most of the directed donors were first time donors. These results were comparable to another study con-

ducted in Islamabad.[7] Female donors were limited as compared to male donors. These results were similar to a study conducted in Islamabad 5 and USA.[6] In an Australian study,[7] male donors were slightly more than female donors, which was not the case in our community. The majority of donors who presented to our center were between the ages of 18 and 58, which was similar to another study conducted in the United States.[4]

Punjabis made up the majority of the donors who came to our center, followed by Pathans and Kashmiris. These findings may not accurately reflect ethnicity. More data from other transfusion center in all provinces is needed. Donors recruited in this study belonged to 107 different castes. Donor caste information has never been gathered on a national scale. This data can be used by transfusion recruitment teams to educate caste noblemen about the need of voluntary blood donation among their people. The majority of the donors were undergraduate students, and the findings were consistent with that of a study conducted in Islamabad.[5] Educated donors provided more voluntary[9] and regular donations, according to this study. Multiple factors motivate general population to donate blood. We need to analyze these factors to increase the voluntary blood donor pool.[8] It is important to provide adequate information about blood donation through public and donor awareness campaigns. Electronic and social media can play an important role for encouraging voluntary blood donation. In order to overcome the misconception regarding blood donation, it is important to educate potential donors.[2]

Conclusion

In Pakistan literate individuals are frequent voluntary donors based on our study results. Our study aimed to address the lack of data on donor demographics in Pakistan and provide valuable insights for improving voluntary blood donations. Elaborate demographic data is essential for planning recruitment program in a targeted community for an effective outcome.

Conflict of Interest: *None*
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Authors Contribution

SU: Conceptualization of Project
SU, FI: Data Collection
MAN: Literature Search
AT: Statistical Analysis
MAN: Drafting, Revision
MM: Writing of Manuscript