

Determinants of Blood Donation Behaviour of General Public in Pakistan

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ABSTRACT

Background: Millions of lives are saved by blood transfusion. The use of whole blood is a well accepted and commonly employed measures without which many modern surgical procedures could not be performed.

Aims: The aim of the current research was to, "Identify the reasons for people donating and not donating blood voluntarily.

Settings and design: A cross-sectional observational study in Rahim Yar Khan

Materials and methods: This study was conducted at the blood bank and OPD of Sheikh Zayed Medical College / Hospital Rahim Yar Khan. All the blood donors at the blood bank and visitors to hospital OPD of Sheikh Zayed Medical College / Hospital Rahim Yar Khan above 15 to 60 years of age irrespective to gender were eligible as the study participants. A structured questionnaire was prepared for interview. By using convenient sampling technique 400 individuals were interviewed. Among 400, there were 100 blood donors and 300 hospital visitors at OPD were included in the study. For making comparison the blood donors at blood bank were labeled as donors and all other participants were labeled as non donors. Data on demographics, donation behavior, incentives, risk perception and attitudes towards donation and transfusion were collected and analyzed separately for donors and non-donors. Percentages and ODDS ratio were used in this study.

Results: Out of 400 participants, 100 were blood donors and 300 were non-donors. Among the participants 78% were male and 22% were female. The mean age of donors was 32 ± 12 and of non donors was 38 ± 23 years. Gender-wise greater proportion of the blood donors were men than the women counterparts in our sample, 97% were male and 3% were female. Among the donors 61% of the participants were illiterate, The results showed that women and young people donate the least and as level of education increased, the percent of blood donors decreased. Among the non-donors 58% were illiterate, among the non-donors 81% were male and 19% were female. While it was asked for blood donation in case of terrorism and accidents, 88% of all respondents were ready to donate blood.

Conclusions: Blood donation behaviors could be changed with active health education programmes and by giving honor and facilitation to the community.

Keywords: blood donors, behavior, education

INTRODUCTION

Every second of every day, people around the world – of all ages and from all walks of life –need blood transfusions to survive. Over a million blood units are collected from donors every year; nevertheless, many more millions still need to be collected to meet the global demand and ensure sufficient and timely provision of blood.¹ Blood has always held mysterious fascination for all and is considered to be the living force of our body. Ancient Egyptians recognized the life giving properties of blood and they used it for baths to resuscitate the sick, rejuvenate the old and infirm, and as a tonic for the treatment of various disorders. In modern era, blood has been

used since 1930 for various indications². After the introduction of blood banks and better storage techniques it becomes more widely used in patients. In Pakistan more than 1.5 million pints of blood are collected each year. Among them about 65% is from replacement donors, 25% from volunteer donors and about 10% from professional donors³. Today, the use of whole blood is a well-accepted and commonly employed measure without which many modern surgical procedures could not be carried out⁴.

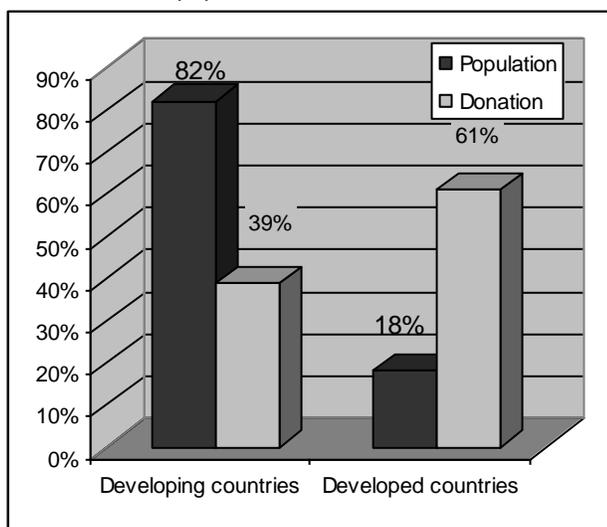
Human blood is an essential element of human life and there are no substitutes. It is estimated that donation by 1% of the population (10 per 1000 population) is generally the minimum needed to meet a nation's most basic requirements for blood; the requirements are higher in countries with more advanced health-care systems. The average donation rate in developed countries is 38.1

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donations/1000 population (range 4.92–68.01); and in developing countries an average 2.3 (range 0.40–7.46) donations per 1000 population were collected. The average number of blood donations per 1,000 populations is 12 times higher in high income countries than in low-income countries. An overwhelming 99 per cent of the 500,000 women who die each year during pregnancy and childbirth live in developing countries, with haemorrhage – which invariably requires blood transfusion – the most common cause of maternal deaths⁵.

Donation versus population



Safe blood is a critical component in improving health care and in preventing the spread of infectious diseases globally. Physicians and patients are becoming more concerned about safe transfusion of blood. By “safe blood” we mean the kind of blood which is free from viruses, bacteria, drug influences, alcohol and from dangerous transmissible diseases. It is therefore necessary that if a blood donor suffers from any diseases, he must not hide the ailment from the blood bank doctor and should refuse to donate blood. A healthy person has healthy blood, and receiving blood from non-remunerated voluntary blood donors is a first step towards the safety of the recipient⁶.

Blood is one of the major sources of transmission of Hepatitis B, Hepatitis C, HIV and many other diseases. Discovery of these hazards brought a dramatic change in the attitude of physicians and patients about transfusion of blood. Screening of donated blood for diseases like hepatitis B, C, HIV, malaria and syphilis is the second step towards the safety of the recipient. It must be remembered that the methods employed to screen blood are not a hundred per cent sensitive.

Furthermore, there are uncommon viruses (Hepatitis G, E, and HTLV) and diseases (leishmaniasis), for which no standard screening methods have been devised as yet⁷.

Millions of lives are saved each year through blood transfusions, yet the quality and safety of blood transfusion is still a concern particularly in the developing countries. About 5% to 10% of new HIV infections worldwide are transmitted through unsafe blood transfusions. The reason for this includes blood collection from unsafe donors, poor laboratory procedures and inadequate testing of blood. Blood will be safe if there is a nationally coordinated blood transfusion service, collection of blood only from voluntary non-remunerated donors, testing of blood for transfusion transmissible infection and by transfusion of the right blood to the right patient through the appropriate clinical use of blood⁸.

There are three types of blood donation: voluntary, unpaid donations, (family/replacement donations) and paid donations. Donors who give blood voluntarily and for altruistic reasons have the lowest prevalence of HIV, hepatitis viruses and other blood-borne infections, as compared to people who donate for family members or in lieu of payment⁹.

Based on literature review, it can be stated that both developed and developing countries have problems with the non-remunerated blood donation system. Data on the use of donated blood is limited, but studies suggest that transfusions are often given unnecessarily when simpler, less expensive treatments can provide equal or greater benefit. Not only is this a waste of a scarce resource but it also exposes patients to the risk of serious adverse transfusion reactions or infections transmitted through the blood¹⁰.

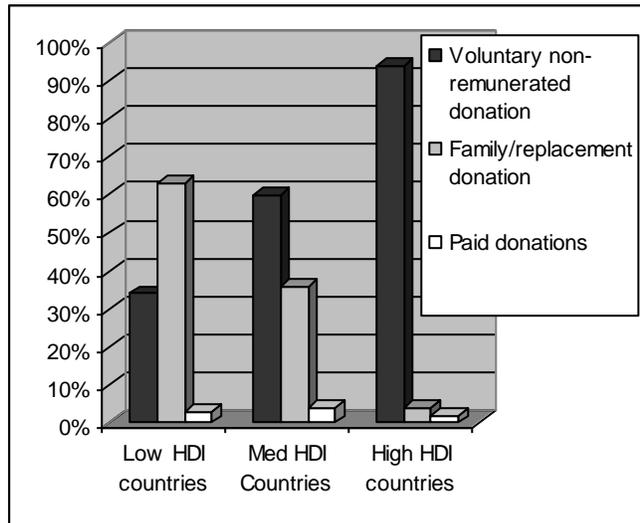
What encourages an individual to donate blood? Answers to this question make it possible for blood collection agencies to determine which individuals are likely to be new donors and enable to make predictions of prospective donors. The factors that influence an individual's decision to give blood are a collection of an individual's specific observable characteristics such as socio-demographic factors and unobservable characteristics such as the degree of altruism¹¹. In order to facilitate the process of transition to non-remunerated donation, it is essential to examine and understand donor behavior¹².

WHO have admitted its significance and has decided to celebrate every year 14th June

As World Blood Donor Day. This day has been selected by three major organizations working for voluntary non-remunerated blood donation: the International Federation of Red Cross and Red Crescent Societies, the International Federation of Blood Donor Organizations and the International

Society of Blood Transfusion. These organizations have been joined by the World Health Organization, which is co-sponsoring the event. Between them, they represent 192 Member States, 181 national Red Cross and Red Crescent Societies, 50 national voluntary blood donor organizations and blood transfusion specialists throughout the world¹³.

Types of blood donations



Keeping in view the significance of blood donation and transfusion, the present study was conducted to determine the attitude, beliefs and knowledge about blood donation and transfusion in Pakistani Population. It is the need of time to increase the number of blood donors, for that it is essential we should first understand the different factors which are motivating or creating the hindrances in blood donation. The day will also provide an opportunity to highlight the fact that voluntary non-remunerated blood donors are the foundation of a safe blood supply because they are associated with significantly lower levels of infections that can be transmitted by transfusion, including HIV and hepatitis viruses. Screening for transfusion-transmissible infections is essential, but the safest donations come from the safest donors¹⁴.

Moreover, the results of the present study may help to remove the concept of misunderstanding about current issues regarding blood donation and transfusion and may also facilitate to develop promotional and educational approaches to enhance blood donors' participation. This study had been conducted to determine the factors, which are motivating, and the other producing hindrance in the process of blood donation.

METHODS

This was a cross sectional observational study. It was conducted during the month of April 2010, at the blood bank and OPD of Sheikh Zayed Medical College / Hospital Rahim Yar Khan. The study was conducted during routine blood collection and working of OPD in the period of six working days. A structured Questionnaire was prepared. All blood donors at the blood bank and visitors to hospital of 15 to 60 years age coming as a patient or as attendant at OPD of Sheikh Zayed Medical College / Hospital Rahim Yar Khan were interviewed with out any discrimination of gender. By convenient sampling method 400 participants were included in the study, among these 100 were blood donors and 300 were the visitors at OPD and we labeled them as non donor group for the purpose of analysis. Data on demographics, donation behavior, incentives, risk perception and attitudes towards donation and transfusion were analyzed separately for donors and non-donors.

RESULTS

Out of 400 participants, 100 were blood donors and 300 were non donors. Among the total participants 78% were male and 22% were female. The mean age of donors was 32±12 and of non donors was 38±23 years. Among the donors 34% were illiterate, 31% primary, 27% middle. 8% matric and above. While 69% were married and half were from the 23 to 34 years age group. Among the 300 non donors, 27% (81) were illiterate, 36% (108) primary, 25% (75) middle and 12% (36) were Matric and above. Among the non donors 81% were male and 19% were female. 62% were married and half were from the 35 to 60 age group. In our study it was found that among the blood donors 65% were belonging to rural areas. While among non donors 62% were belonging to urban areas.

Gender-wise greater proportion of the blood donors were men than the women counterparts in our sample, 97% were male and 3% were female. The results showed that women and young people donate the least and it was noted that as level of education increased, the percent of blood donors decreased.

Education comparison of blood donors and non donors (Blood donors=100 & Non Donors = 300)

	Illiterate	Primary	Middle	Matric and above
Blood donors	34%	31%	27%	8%
Non donors	27%	36%	25%	12%

Among the donors, 93% were donating blood for first time. Among the non donors, the persons who have ever donated blood comprised 4.31%, while 95.69% of the respondents have not yet donated blood.

Majority of the donors 86% admitted they were recalled several times. When it was asked from non-donors about blood donation to relatives, 58% showed their willing ness for donation if they were recalled and 42% refused for donation. 86% of the blood donors were as voluntarily or replacement donors. Among the causes of refusal of blood donation of non-donors, 52% of non-donors and 44% of donors were afraid that blood is tested and the hidden diseases are revealed. 69% of non-donors were of the opinion that blood donation will be harmful to their health and due to inflation of prices, they will be unable to make new blood. While 31% of non-donors and 38% of donors admitted blood donation is not harmful but rather it is good for health.

Determinants of blood donation behavior {Donors n=100 & Non donors n=300} (n=400)

Factors	Donors	Non donors
Blood screening is good	56%	48%
Blood donation to relatives,	86%	58%
Recalled several times.	86%	58%
Remuneration	43.00	68
Appreciation and acknowledgement	69%	61%
Blood donation is useful for health	38%	31%
Blood transfusion as source of disease transmission	42%	68%
Blood donation for emergency/disaster	86%	88%
Direct donation to the patient	84 %	78%
Substitute of blood should be used	48%	63%
Information about blood donation from media and other sources	33%	31%

Among the hindrances of blood donation 68% of non-donors and 42% of donors considered that it may be source of disease transmission. In case of emergency 78% of non-donors and 84% of donors liked to donate blood directly to patients while 63% of non-donors and 46% of donors desired that substitute of blood should be used.

The need of remuneration was supported by 43.00 per cent of blood donors, and 68 per cent by non donors' respondents. The majority of participants among blood donors and non donors, 69% and 61% respectively were of the opinion that appreciation and acknowledgement is best of all rewards, because the real remuneration is from Al Mighty Allah Taala in the form of jannah on the Day of Deed. When it was

asked for blood donation in case of terrorism and accidents, 88% of all respondents were ready to donate blood at any moment for sake of humanity. Very few persons 33% of blood donors and 38% of non-donors (low percentage) had information about blood donation from media.

DISCUSSION

The data of this study about blood donors showed that among donors 97% were men and 3%, were women, showing that women donate the least. The same results were obtained in a study conducted at Fauji Foundation Hospital, Rawalpindi, where a total number of 1428 donors who were declared physically fit for transfusion were screened for HCV and HBsAg. The majority of donors (97.05%) were males¹⁵.

Women generally tend to donate blood less often than men because of medical reasons. Many women do not volunteer to donate because they think they are ineligible or may be rejected because of low body weight and because they are prone to anaemia, especially during their childbearing age due to their increased need for iron. The same findings were observed at the New York blood centre, 92.7% of the donors deferred for low haemoglobin level were women.¹⁶ We can therefore increase the number of women donors via administration of iron supplements combined with proper and personalized monitoring and support, as indicated by several studies.^{17,18} Such a measure must be accompanied by the appropriate information, explaining to women that they are not being rejected, encouraging them. They are eligible and donate blood if their haemoglobin level is in normal limits¹⁹.

Trend of blood donation among women of all over the world, not only in developed countries but also in developing countries is equally less. Another study was conducted where among the 208 donors, male was 185 and female were only 22 The majority, 58% of non-donors and 86% of donors were happy to donate blood to relatives.

It proves that altruism is a strong motivation factor, which has also been confirmed in other studies^{20,21}. The same results were also found in a study conducted at King Saud University Hospitals, Riyadh, Saudi Arabia, where 266 out of 335 males and 249 out of 275 females told to donate blood only to known relatives.²² In our study it was found that among the blood donors 65% were belonging to rural areas, showing that in rural areas the people has more intentions to donate blood. This may be due to reason that in their daily life they have to be exposed to several times to minor injuries so they are a little bit more tolerance of needle prick injury. Our findings are also being strengthened by a study conducted in

rural population of Thailand for knowing the attitude towards blood donation .this study was conducted among the rural population in Bang Sapan District, Prachuab Kiri Khan Province. Data from self-administered questionnaires were collected. It was found that people in that area had a rather good attitude but this was still found in less than 50%.(23) In our study 68% of non-donors and 42% of donors were afraid that blood donation is risky and is source of spread of disease transmission. There is growing evidence that the public perceives blood transfusion as risky.²⁴ Although during the last 20 years remarkable advances have been achieved in blood safety especially transfusion transmitted viral infection²⁵.

The present research showed that people donate their blood if they receive a call to do it, or they were informed of somebody's vital need for their blood. In our study it was found that 88% of all respondents were ready to donate blood with out any remuneration in case of terrorism and accidents. This was in accordance to some other researchers^{26,27,28}, that main motivating factor that mobilizes prospective donors is their awareness of the patients absolute need for blood. Thus the above reasons should be taken into consideration when developing donor recruitment programs. The same findings were observed in a study; "Perceptions about Blood Donation among Army Personnel" conducted at medical inspection room of 123(l) Fd Amb. , in which all donors and non-donors replied that they would donate blood to army as well as civilian in case of disaster²⁹.

Ideally, donating blood is an important act of altruism and should not have to be reinforced by rewards or awards. However, because the volume of volunteer donations is generally insufficient, it has become acceptable practice to rely on rewards. In 1995 Germany had a remunerable donation system, and it was feared that donors were recruited from among persons with a higher risk level of HIV and other diseases that are transmittable through blood. To determine the donors' preparedness to waive remuneration or accept a reduced one as well as other alternatives, research was carried out, the results of which were expected to assist in altering donation motives and withdrawing from remunerated donation.³⁰ The research results demonstrated however that 86.1 per cent of the respondents were against remuneration termination and 77.0 per cent would quit doing it under such conditions. Thus findings of the German research are highly congruent to those of our study. But in our study the

remuneration was demanded by 43. 00 per cent of blood donors, and 68 per cent by non donors' respondents emphasized on the need of remuneration. The latest research carried out in Germany demonstrated that the system of remunerated donation cannot be terminated abruptly, as the risk of running short of blood supply is higher than the safety risk of remunerated donors.³¹ Only a limited number of the participants 33% of non-donors and 31% of donors admitted, they were having information about blood donation from media and other sources.

CONCLUSION

It is time, to promote non-remunerated donation. It is essential to build a positive image of the donor in the public and further develop donation as an act of charity. It has been proven in our study, the majority of participants among blood donors and non donors, 69% and 61 % respectively were of the opinion that appreciation will encourage them. Community participation and involvement in blood donation could also be encouraged by paying public honour to the most active donors and charity event.

To promote non-remunerated donation, it is essential to build a positive image of the donor in the public, so that they can develop donation as an act of charity. Thus good public relations is a crucial promotional means in blood donor recruitment.

Muslim jurists unanimously agree that blood transfusion for medical purposes is permissible. A Muslim is allowed to receive and donate blood for medical reasons. In Muslim countries it is very common nowadays to find that religious scholars and Imams are asked to urge people to make blood donations to hospitals for public welfare. These matters are related to human life. Islam teaches us to feed the hungry, to take care of the sick and to save people's lives. Thus good public relations are a crucial promotional means in blood donor recruitment and retention management. Community participation and involvement in blood donation could also be encouraged by paying public honour to the most active donors and charity event.

Media and other health personals should also be actively involved in blood donation campaign. When the apprehensions of the peoples will be waved off, then it will boost the spirit of all age group persons for blood donation. This study has made it evident that people feel satisfaction if they have the chance of blood donation directly to the patient. In other words they want to assess the patient need directly, because blood is also vital for the donor.

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