

Beliefs about blood donation among patients visiting OPDs of general hospitals

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Abstract

Objective: Not much information is available about blood donation in Pakistan, while a number of misconceptions exist among the populace. This study was, therefore, conducted with the objective of identifying the said misconceptions which could lead to formulation and implementation of better policies regarding blood donation in Pakistan.

Subjects and Methods: Patients visiting OPDs of some of the General Hospitals of Pakistan were the subjects of this study. A total of about 88 subjects (22 from each hospital) were enrolled and were subjected to self-administered questionnaire or face to face interview on the various perceptions of blood donation.

Place of Study: A cross-sectional descriptive study was conducted at four Government General Hospitals of Pakistan ie Holy Family Hospital, Rawalpindi; Pakistan Institute of Medical Sciences, Islamabad; Civil Hospital, Quetta and District Headquarters Hospital, Swabi.

Results: The study results showed that out of about 88 patients, about 40 (45.5 %) were blood donors whereas about 48 (55.5%) were not. About 29 patients knew the correct amount of blood that can be drawn for a single donation. About 12 patients knew the eligible age while about 25 knew about the appropriate body weight for blood donation. The major reason for not donating blood was fear of subsequent weakness.

Conclusion: Our study concluded that there is a need to develop awareness to the public on blood donation, and its importance, so as to get rid of their misconceptions. This will increase the number of blood donors, especially Non-Remunerated Voluntary Blood Donors and help meet the ever-growing demand of blood and its products.

Key words: Beliefs, blood donation, misconceptions.

Introduction

Blood and its products are presently the only transfusion alternatives for the patients of trauma, hemorrhage, tumors, surgical treatments and chronic ailments. With the introduction of modern medical procedures in hospitals, such as bone marrow transplantation, oncology treatment and cardiac surgery, the need for blood and its substitutes are on the rise. Even though there is extensive research in progress into finding alternatives to blood and blood products (red blood cells, platelets, blood clotting factors, fresh frozen plasma and white blood cells), no promising result is likely to be available for years to come.³

World over, more than a million blood units are collected annually from blood donors but that is not enough to support the demand and timely availability of blood.

About 25% of the world's population lives in South East Asia but accounts for only 9% of the total blood supply of the world. In Pakistan, there is a need for 3.2 million units of blood against availability of 1.5 million units.³ Of these 1.5 million units, only 15% comes from VNRBD (Voluntary Non-Remunerated Blood Donors).³

In Pakistan malnutrition, communicable diseases, road accidents, surgical and obstetrical emergencies and anemia are quite common. Anemia in pregnancy also has a high prevalence (40-60%) with high rates of maternal mortality; 20% mortality in pregnancy anemia is attributed to hemorrhage.⁴ There is a profound reluctance of Pakistani population towards donating blood. So a study was conducted to highlight the misinformation, falsity and fears among patients of general hospitals, as their services are within reach of all and sundry.

The various factors attributed to unwillingness towards blood donation and the existing ethnic and racial disparities, as revealed by the Baltimore Study, are: socio-economic status, lack of awareness and the fear of disease transmission.³ Decision to donate blood has been investigated for decades, to increase efficiency of blood donation. This study can be beneficial for the recruitment of VNRBD, which can potentially lower the blood supply deficit in Pakistan.

Subjects and Methods

A cross-sectional descriptive study was conducted simultaneously at four of the Government Hospitals of Pakistan: Holy Family Hospital, Rawalpindi; Pakistan Institute of Medical Sciences, Islamabad; Civil Hospital, Quetta, and District Headquarters Hospital, Swabi. A total of 88 patients (22 per hospital) were chosen at random, and provided with a self-administered questionnaire. To break the language barrier, an Urdu version of the questionnaire was also made available. One-on-one interviews were conducted to ascertain the patients' knowledge of, and willingness and apprehension/reluctance towards blood donation. All the queries regarding the questionnaire and research were answered beforehand.

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Consenting patients between the ages of 18 and 65 years, who never had blood transfusion in their life time, were included in the study. Patients of cancer, chronic illness, or any serious debilitating disease were excluded from the study. The data obtained from the study was analyzed with SPSS version 15.

Table-1 Knowledge regarding blood donation

Knowledge regarding blood donation	N = 88 Correct Answers	%
Amount of blood drawn	29	33
Correct age of blood donor	12	13.6
Minimum advisable time period between two donations	32	36.4
Volume replacement	34	38.64
Donation of blood by patient having hepatitis/jaundice	80	90.9
Tattoo and skin piercing	76	86.4
Blood donation with use of Antibiotics during last 7 days	68	77.3
Blood donation by anemic	83	94.3
Donation by pregnant lady/ lady who had a baby during last 9 months/ lactating lady	81	92
Donation by traveler to a malarial region in last 6 months.	76	86.4
Donation by HIV +ve patient	83	94.3
Requirement of blood in emergencies	76	86.4
Blood screening before transfusion	75	85.2
Storage of blood	76	86.4
Use of blood in cancer treatment	49	55.7
One unit of blood transfused to two needy patients	13	14.77
Donation while keeping a fast	43	48.86
Donation during menstruation	23	26.13

Results

Our study revealed the misconceptions, fears and disbeliefs regarding blood donation among the 88

subjects (53 males, 35 females) as depicted in table 1.

Blood donors

About 40 subjects (45.5%) were blood donors while about 48 (55.5%) were non-blood donors.

Education level

About 15 subjects (17%) had some sort of primary education while about 10 (11.4%) had no formal education. Other levels of education: About 22 matriculates (25%) and about 37 (42 %) were college graduates.

Knowledge about blood group

About 69 subjects (78.4%) knew their own blood group.

Role of media on blood donation

About 88 subjects gained knowledge about blood donation.

- Electronic media (TV):36 subjects (40.9%)
- Electronic media (Radio):12 subjects (13.6%)
- Print media (dailies, weeklies etc):8 subjects (9.15%)

Willingness among non-donors to donate blood

About 36 subjects, out of the 48 subjects who had never donated blood, did consider donating blood whereas about 86 subjects (97.7%) were willing to donate blood to their family, relatives and friends when needed by them.

Knowledge about importance of blood donation

About 82 subjects (93.2%) knew that donated blood can save someone's life. About 76 subjects (86.4%) were aware that there is a dire need of blood donation in cases of emergencies. 49 subjects (55.7%) were aware that blood and its products are used in treatment of cancer.

Incentive to donate blood among donors

The main incentive for the subjects to donate blood, as shown in Figure 1, was altruism with about 48 subjects (54.5%), followed by money with 15 subjects (17%), to please God with 10 subjects (11.4%) and to obtain extra leave from work with 5 subjects (5.7%).

No incentive to donate blood among non-donors

The main reason for not donating blood (as shown in Fig. 2) came out to be the fear of weakness following blood transfusion with 41 subjects (46.6%), followed by the fear of needles and not being approached by anyone at 12 subjects (13.6%) each. 9 subjects (10.2%) were afraid that they might contract serious

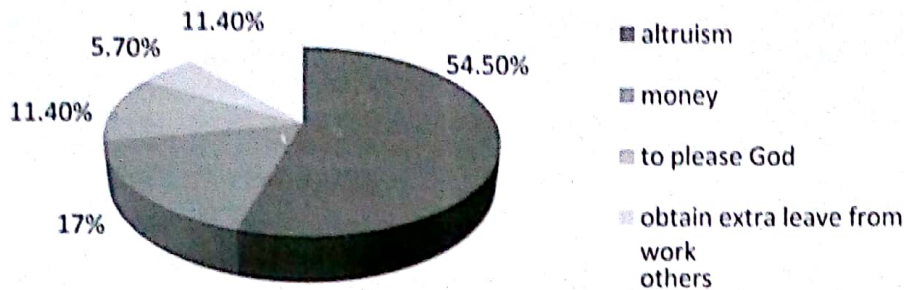


Figure -1 Main reasons for donation by the subjects

ness during or following blood transfusion. And 7 subjects (8%) thought that they might gain weight preceding blood donation.

About 8 subjects (9.1%) knew that a person currently on medication (for systemic diseases) cannot donate blood.

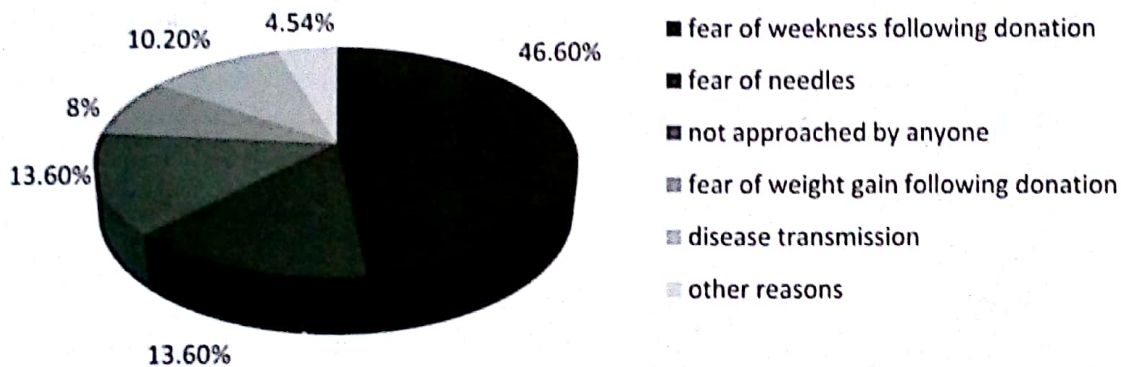


Figure - 2 Reasons for not donating blood

Knowledge about the exact amount of blood drawn for donation

About 29 subjects (33%) were aware about the exact amount of blood drawn for each donation. Analysis of the educational status of patients (as shown in Fig-3) revealed poor knowledge as a whole. Only 28 of the 49 college educated subjects correctly answered the amount of blood drawn to be <500 ml. More specifically looking at different educational levels, about 4 out of 22 matriculates, about 2 out of 15 primary educated subjects and 3 out of 10 illiterate subjects had the knowledge exact amount of blood to qualify as a donor.

About 25 subjects (28.4%) had the correct knowledge of the minimum weight to qualify as a blood donor. About 19 subjects (21.6%) were aware of the inter-donation interval for blood donations. About 12 subjects (13.6%) were aware about the time period for blood volume's replacement whereas unfortunately about 14 subjects (15.9%) were of the opinion that blood once drawn from the body can never be replaced.

Knowledge about eligibility criteria to donate blood

In our study about 12 subjects (13.6%) were aware about the eligible age of donating blood. About 27 subjects (30.7%) knew that a person who have had tooth filling within last 24 hours or had tooth extraction done within last 7 days cannot donate blood either. About 14 subjects (15.9%) were aware that a person who has been in contact with infectious disease or has been given immunization in last 4 weeks cannot donate blood. About 23 subjects (26.1%) correctly knew that blood can be donated by menstruating women.

Knowledge about other conditions for blood donation

Quite unexpectedly, most subjects were aware of the conditions when blood cannot be drawn from the body. About 80 subjects (90.9%) were aware that a person who had hepatitis or jaundice in the last 12 months fails to qualify as a blood donor. About 76 subjects (86.4%) were aware that a person who had tattoos or

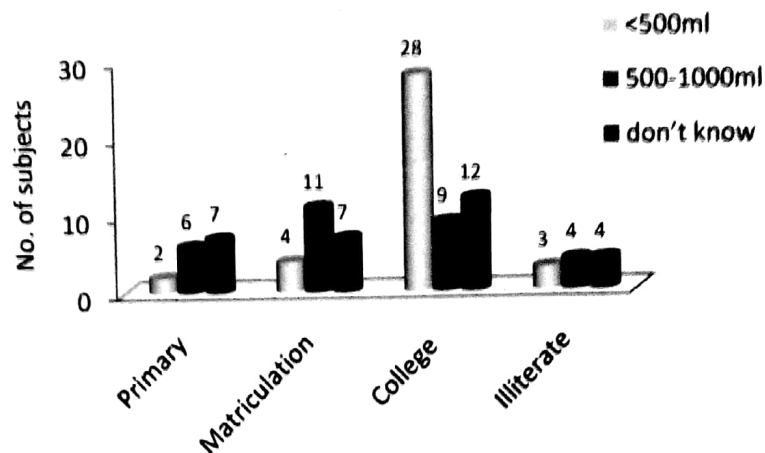


Figure - 3 Educational status of subjects & amount of blood drawn

skin piercing done in the last 6 months cannot donate blood either. About 64 subjects (72.7%) knew that a person who had cough, sore throat or active cold fails to qualify as a blood donor too. About 68 subjects (77.3%) knew that a person who is taking antibiotics, or who has just finished a course in antibiotics in the last 7 days, can not donate blood. About 81 subjects (92%) were aware that a pregnant lady, or who had had a baby in the previous 9 months, or a lactating one, cannot donate blood either. About 76 subjects (86.4%) knew that a person who had travelled to malarial region in the last 6 months cannot donate blood. About 83 subjects (94.3%) were aware that an HIV positive person, or a hepatitis B or C positive person, is not eligible to donate blood. About 79 subjects (89.9%) knew that a person who has ever injected himself with any addiction drugs cannot donate blood either.

Knowledge about blood donation while fasting

About 43 subjects (48.9%) subjects were aware that blood can be donated while keeping a fast and about 46 subjects (52.3%) were aware that donating blood while keeping a fast does not break it.

Knowledge about blood; storage, screening & administering

In respect to usage of the donated blood and its storage, about 75 subjects (85.2%) knew that blood is screened for hepatitis B & C and HIV before it is processed or stored. About 13 subjects (14.8%) were aware that one unit of blood can be transfused as a whole to 2 patients.

Discussion

In a developing country like Pakistan there is a need for having a safe and efficient supply of donated blood.

This essential need is ever increasing with factors like increasing population. Therefore, a sound understanding of misconceptions regarding blood donation is required. Our aim was to identify the misinformation and beliefs about blood donation among patients visiting the general hospitals so that an insight can be gained as to why people do not donate blood and, if they do, what are the incentives behind it. This could prove beneficial in increasing the number of VNRBDs. A similar study was conducted among Pakistani Army personnel that also showed lack of blood donation knowledge among the soldiers.⁷ In our study, about 40 (45.5 %) subjects were blood donors. Out of about 48 (54.4 %) subjects who were non-donors, about 36 (40.9 % of the total subjects) had never considered donating blood. Non-donors expressed various reasons for not donating. About 41 non-donors (46.5%) stated that they were 'unfit due to weakness' as a major reason for not donating blood, while rest of the non-donors stated reasons like fears (weakness, needles, disease transmission) and not being approached by anyone etc. for not donating blood.

Mikkelsen, Mcvittie et al, Sojka and Lemmens et al also reported fear of blood extraction, risk of disease transmission, lack of time, distrust of the final destination of blood, and a belief that blood donation harms the body as reasons for people not to donate blood.⁸ Similarly, a study conducted by Maqbool et al also reported not being approached by anyone and 'unfit due to weakness' as the major reasons for not donating blood⁹. Rajagopalan et al reported that subjects in a medical oriented environment, like nurses and doctors, did not differ much in their fears and misconceptions¹⁰. A small survey conducted by Gilani et al in Pakistan found that only 3.4% of the doctors and 0% of paramedics were regular VNRBDs.¹¹ This

shows that along with distribution of proper knowledge, motivation is also required for recruitment of blood donors.

In our study about 22 (25%) subjects were frequent blood donors, while 20 (22.72%) had only donated it once. In a study conducted in the United States, Thomas et al reported that 80% of the first time donors in the world would never return to donate again.¹²

In our study, about 9 subjects (10.22%) did not donate blood due to fear of transmission of diseases and many were soundly aware about the conditions as to when blood cannot be drawn for donation. Aldarees et al conducted a study that reported similar attitude in the Saudi population.¹³ In addition, Munoz et al also reported misconception of acquiring AIDS and hepatitis due to blood donation among the French population.¹⁴ Olaiya et al reported in their study, conducted in the Lagos State University Hospital, that 52.4% of the 542 subjects (blood donors) believed they would contract HIV or hepatitis infections from donating blood, even though 98.9% of the subjects were educated (with 36.1% having university degrees).¹⁵

Dhingra et al reported, in their study conducted in India, that autologous blood donation can be implemented in regions where there is high prevalence/spread of transmissible diseases to increase donated blood store.¹⁶ Therefore, this false perception of blood donation being harmful should be eliminated to increase the number of blood donors.

When subjects were questioned regarding incentives to donate blood, there were many different answers. About 21 subjects (23.86%) regarded blood donation as an expression of altruism, while about 11 (12.5%) stated 'pleasing God' as the reason to donate blood. In addition, only about 14 subjects (15.9%) said they will donate for money. The rest cited other incentives e.g. personal, family, extra leave from work etc. Various other incentives should also be explored in future to increase the number of blood donors.

The majority of subjects, about 86 (97.72%) said that they would donate blood if it was required by their relatives and about 82 (93.18%) agreed that they would voluntarily donate blood if a person was in need.

A study to evaluate blood bank practices in Karachi, Pakistan, was conducted, by Stephan Luby et al, which found that out of 24 blood banks, 12 regularly use paid donors and only 6 actively recruit volunteer donors.¹⁷

There is still a strong need for incentives to motivate people in campaigns to donate blood voluntarily in blood banks as one can never tell when the need for blood may arise. A study by Sanchez Am et al in Maryland, USA found blood credit and medical testing to be major motivators for donors to return.¹⁸ This suggests that offering blood credits and medical tests are a safe incentive towards recruiting donors.

Not just whole blood, blood components can also be used effectively in treatment of various conditions and diseases. This study revealed that 39 subjects (44.3%) did not know that their blood can be used for cancer treatment. Likewise, 65 subjects (73.86%) were unaware that blood can be donated by menstruating women. Additionally, only 43 (48.86%) knew that blood can be donated while fasting. It is information like this that, if spread, can greatly amplify the donor pool in countries like Pakistan.

Majority of the participants in this study, 36 (40.9%), acquired their information regarding blood donation from television, while 30 (34.09%) cited other sources like messaging (cellular phones), newspapers and radio. Maqbool et al, through their study, reported blood bank staff and friends as the general source of information providers about blood donation to public.¹⁰ In the same study it was suggested that VNRBDs should be recruited from a low risk group and recruitment policy should be based on the beliefs of a social group being targeted instead of adopting a single global policy for everyone.

Sojka et al, in their study regarding self-reported motives among blood donors, found that 23.5% of the total 531 subjects who were whole blood donors were motivated by 'request via media' to donate blood and in the same study 47.2% of the subjects stated 'influence from a friend' to be the motivating factor.¹⁹ Misje et al, in a similar way, found in their study, influence by active blood donors to be the single most important motivating factor for recruitment of voluntary blood donors.²⁰ Programs should be initiated to give information to public through every means possible via television, radio, newspapers, internet, SMS alerts, workshops, billboards etc. These steps will eradicate misconceptions regarding blood donation and bring forward more people to donate blood who, in turn, can influence others around them, i.e. friends and family, into adopting a positive attitude towards blood donation. Furthermore, safe and healthy blood donation should be practiced so that the donors feel safe and secure while donating blood.

Conclusion

From our study of patients visiting OPDs of Pakistan's General Hospitals, it has come to our knowledge that the awareness among the public regarding blood donation is lacking. Lack of knowledge regarding their own blood group had a negative impact altogether. Electronic media is the leading source of provision of information regarding blood donation and can be used as a tool to create awareness among the population. In present times internet can be used to promote voluntary blood donation among the population.

Recommendations

- Radio and television, particularly through their transmissions in regional languages, may be used as an effective means to spread awareness about blood donations.
- Print media e.g. newspapers may be approached to create awareness among the literate population of Pakistan.
- People who are somewhat aware about blood donation but have misconceptions should be educated by various means, like incorporating educational institutes

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References

1. Maqbool Alam, Mohammad Talha, Shafiq Ahmed. Perceptions About Blood Donation Among Army Personnel. PAFMJ 2006; 3:311-5.
2. Lowe KC, Ferguson E. Benefit and risk perceptions in transfusion medicine: Blood and blood substitutes. J Intern Med 2003; 253:498-507.
3. Damesyn MA, Glynn SA, Schreiber GB, *et al.* Behavioural and infectious disease risks in young blood donors: implications for recruitment. Transfusion 2003;43:1596-603.
4. Kazi BM, Salman M A. Review of HIV/AIDS Situation and national AIDS program of Pakistan. Pak J Med Res 1998; 37:13-7.
5. Global Consultation, 100% Voluntary Non-Remunerated Donation of Blood and Blood Components Melbourne, Australia 2009;9-11.
6. Boulware LE, Ratner LE, Ness PM, *et al.* The contribution of socio-demographic, medical, and attitudinal factors to blood donation among the general public. Transfusion 2002;42:669-78.
7. Mikkelsen N. Who are the donors in 2003? Transfusion Clinique et Biologique 2004; 11:47-52.
8. McVittie C, Harris L, Tiliopoulos N "I intend to donate but..." non donors' views of blood donation in the UK. Psychology, Health & Medicine 2006; 11:1-6.
9. Masalmeh Bel D. Knowledge, Attitudes And Practices Regarding Blood Donation Among The Saudi Population. Saudi Med J 2004; 25(3):318-21.
10. Rajagopalan M, Pulimood R. Attitudes of medical and nursing students towards blood donation. Natl Med J India 1998;11:12-3.
11. Gilani I, Kayani ZA, Muhammad A. Knowledge, Attitude And Practices Regarding Blood Donation Prevalent In Medical And Paramedical Personnel. JCPSP 2007;17:473-6.
12. Thomson RA, Bethel J, Lo AY. Retention of "safe" blood donor. The Retrovirus Epidemiology Donor Study. Transfusion 1998;38:359-67.
13. Aldarees AM . Attitude, belief and knowledge about blood donation and transfusion in Saudi population. Pak J Med Sciences 2008;24:74-9
14. Munoz Sastre MT, Bacq Y, Mullet E, *et al.* Misconceptions Regarding Hepatitis C In The French Public. Prev Med 2002;34:596-9.
15. Olaiya MA, Alkija W, Ajala A, *et al.* Knowledge, attitudes, beliefs and motivation towards blood donation among blood donors in Lagos, Nigeria. Transfusion Med 2004;14:13-7.
16. Dhingra-Kumar N, Sikka M, Madan N, *et al.* Evaluation of Awareness and Utilization of an Autologous Blood Transfusion Programme. Transfusion Med 2001;11:177-82.
17. Evaluation of Blood Bank Practices in Karachi, Pakistan and The Government's Response, Oxford Journals, Medicine, Health Policy and Planning 15; 2:217-22.
18. Sanchez AM, Ameti DI, George B. The Potential Impact of Incentives on Future Blood Donor Behavior & Transfusion. 2001;41:172-8.
19. Sojka BN, Sojka P. The Blood Donation Experience; Self-Reported Motives and Obstacles or Donating Blood. Vox sang 2008;94:56-63.

20. Misje AH, Bosnes V, Gasdal O, et al. Motivation, Recruitment and Retention of Voluntary Non-

Remunerated Blood Donors; A Survey Based Questionnaire Study. Vox sang. 2005;89;236-44.