

Who Donates More; Medical or Non-Medical Students

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ABSTRACT

Objectives: To assess and compare the knowledge, attitude and practices regarding blood donation among medical and non-medical students of Karachi.

Methods:

Research Venue: The institutes included Dow Medical College (DMC), Sindh Medical College (SMC), NED, Karachi University (KU), IBA, Sir Syed University of Engineering & Technology (SSUET) and others.

Subjects: The age of sample ranges between 18-25 yrs. Sample size was 500 students; 250 medical n 250 non-medical.

Study Design and Duration: A cross sectional study was conducted in various institutes of Karachi from 1st Oct, 2008 to 1st March, 2009; through a pre-tested close-ended questionnaire in English. Its design was simple and aimed at student's level of understanding. The topics addressed included knowledge, attitudes and practices regarding blood donation.

Results: Among 500 individuals, 38 out of 250 medical students (15.2%) while 50 out of 250 non-medical students (20%) were donors. Altogether 17.6% students were donors out of which 5.4% were regular donors. Major reasons for donation among medical students were 'humanity' (63%), family and friends; and among non-medical students were 'humanity' (46%), family and friends.

Reasons for non-donation among medical students were 'no one ever asked me' (59.4%), "i'm too weak", "services not trustworthy" and "future weakness" and among non-medical students were 'no one ever asked me' (36%), "future weakness", "services not trustworthy", "afraid of needles".

Source of motivation among medical student donors was "self" (47.3%) while among non-medical was "friends" (36%). Most medical donors donated at blood bank (42.1%), while non-medical at hospital (64%). 15.9% donors faced complications after blood donation.

Conclusion: There is lack of motivation and misconceptions regarding blood donation among the students. This needs encouragements regarding blood donation particularly through electronic media.

INTRODUCTION

Across the globe especially developing countries, many people die every year due to insufficient supply of blood and blood products. According to an estimate, over 80 million units of blood are donated all over the world every year. Unfortunately only 39% of this amount is collected in developing countries which provide accommodation to 82% of global population.¹ Regarding blood donors, they are of 5 types: Voluntary unpaid, replacement, autologous, phaxis & paid.² It can also be remunerated or non-remunerated i.e. one who donates for payment and one who don't.³ It is a dilemma for developing countries that only 16% of blood supply is donated by voluntary non-remunerated low risk blood donors.⁴ It is highly needed in this regard to discourage commercial i.e. replacement and

paid blood donation system, which still meets 50% of total requirements of Pakistan.⁵

Realizing all the inadequacies regarding voluntary blood donations, the motivations and recruitment of students holds an issue of great significance. The specific orientation of students regarding blood donations, either through self-encouragement or society implied confrontations held an arena of great understanding to be analyzed in detail. In view of this, the prime motive behind this study is to assess knowledge attitude and practices regarding blood donations prevalent among medical and non-medical students and so to analyze the impact of knowledge in actual practices of blood donations. The information so obtained can be utilized in developing the appropriate messages to be used during recruitment campaign, creating and strengthening positive attitude towards blood donations and developing and implementing focused awareness program for meeting the demands of population.⁶

As a matter of fact, few local studies have been conducted to understand the scenario but due to inadequate information available especially regarding students, it is needed to explore further.⁷ However, a

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large number of international studies done in Norway, Iran, Trinidad, Chile and Spain was conducted a few years back but the manipulated results were not pertinent to our people due to broadly classified differences in knowledge, belief, trends, customs and practices.⁸

METHODOLOGY

A cross sectional study was conducted in various medical & non-medical institutes of Karachi from 1st Oct, 2008 to 1st March, 2009. The institutes included DMC, SMC, Liaqat National Medical College, Hamdard University, NED, KU, IBA, SSUET, Agha Khan Higher Secondary School, Islamia Degree, National collage, CAMS, Iqra, Sheikh Zaid Institute. The age of sample ranges between 18-25 yrs. Sample size was 500 students; 250 medical and 250 non-med students.

The assessment of knowledge, attitude and practices was done through a pre-tested close-ended questionnaire with English as medium of questions. Its design was simple and aimed at student's level of understanding.

In order to assess knowledge, attitude and practice, questions were asked about demographic characteristics, ethnicity, profession, donor and non-donor status, motivation, support, family concerns, number of donation experiences, regularity, reasons for donation and non-donation, complication after blood donation and sources of promoting awareness.

RESULTS

Students were in the range of 18-25 yrs of age. Thirty eight out of two fifty medical students were donors (15.2%). Fifty out of 250 non-medical students were donors (20%). Further, among medical students 1 girl out of 125 (0.8%) and 37 boys out of 125 were donors (29.6%). However, among non-medical students 6 girls out of 125 (4.8%) and 44 boys out of 125 were donors (35.2%).

Altogether 17.6% students were blood donors out of which 10% medical students and 0.4% non-medical students were regular donors. This shows more pronounced regularity among medical student-donors. Otherwise majority of students donated blood 'only when needed'.

The major reason for donation among medical and non-medical students was 'humanity' i.e; 63% and 46% respectively. Other commoner reasons were "family" and friends. While approximately 10% donated for incentives.

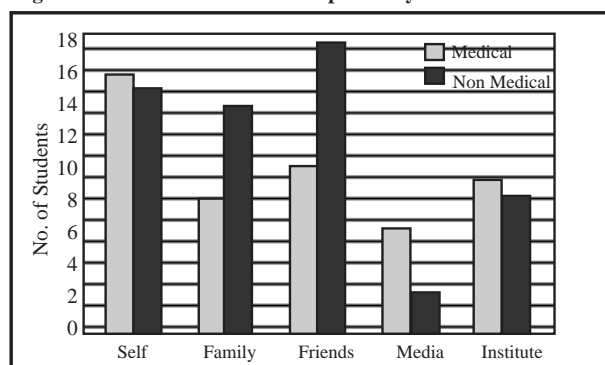
'Humanity' was more common reason for donation among medical students. For family and friends reasons, non-med students had donated blood in comparatively larger number than medical students.

Most common reason for non-donation among medical and non-medical students was 'no one ever asked me' 59.4% and 36% respectively. Other common reasons included "I'm too weak", "services not trustworthy", "future weakness", "no services available near me" and "consider procedure unhygienic".

The fears of needle, sight of blood and future weakness plus untrustworthiness in services were more common among non-medical.

Commonest source of motivation among medical student donors was "self" (42%) whereas among non-med it was "friends (36%)". Institutes too seemed to play a motivational part among medical donors.

Figure 1: Sources of Motivation Reported by Students

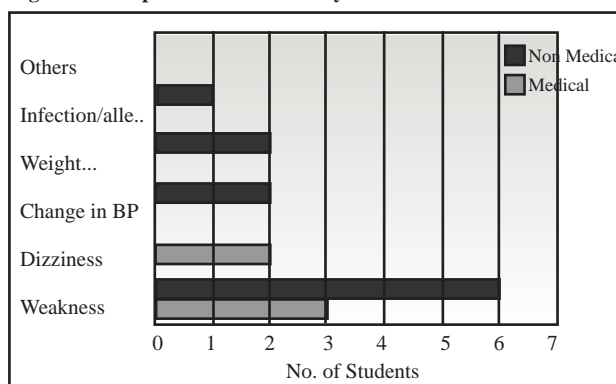


Most medical student donors donated at blood bank (42.1%) and hospital (36.8%). While among non-medical student donors, most of them donated at hospital (64%), blood bank (30%) and medical camps (20%).

Nearly 16% of students faced complications after blood donation. The commonest of which was weakness (10.2%). Overall complications were more commonly complained by non-medical students.

Upon asking how to encourage students to donate blood, 66% medical students and 51% non-medical students suggested "media awareness" as the major source of encouragement. The rest included organizing seminars, patients' awareness, door to door campaigning, mobile clinics and family/friends.

Figure 2: Complications Received by the Students



DISCUSSION

In this age of rapid advancement in more or less all fields, the worth of human life is epicenter of all in great concern. Increased demands as a result of increase in population and the number medical facilities need to be coped meticulously. Blood donations being vital aspect of many emergency and non-emergency situations always need to be emphasized at large scale.⁹ Due to this, student's aptitude towards prioritizing the life's most vital need appears to be a big issue. The impact of knowledge and understanding on practical act of donation clarifies the distinction of either awareness programs or donation campaigns in practice. Grossly this study depicts that 17.6% students are donors including 7.6% med and 10% non-med. Family orientation towards blood donation has been analyzed and found that 61.6% medical students' families have donated blood mostly for family emergencies i.e. replacement type while 68.8% non-med families have donated blood for family emergency as well as welfare. Main factor, as stated by medical students for not donating blood, is "no one ever asked them". Other reasons include weakness, non-trustworthy blood transfusion services, future weakness, consider procedure unhygienic, no info about near blood donation services, afraid of needles and infections. Few have also stated that being young they don't consider them eligible. Very few have stated that they are afraid of pain or influences of family/friends/community too restrict them. However among non-med students, the prime reason is same i.e. no one ever asked them. The other significant reasons are more or less the same. Differences lie in that they are more afraid of needles, pain and site of blood plus they consider themselves younger n weaker for this service. A study done by M. Giles (UK) also shows that four of the control beliefs, 'a fear of needles', 'a fear of fainting', 'a fear of catching some infection' and 'a fear of being sick, are significantly discriminated.¹⁰

It reflects that there is primarily lack of motivation and secondarily lack of basic knowledge regarding blood donation, more prevalent among non-med students. According to national and international standards person must be 17 yrs old to donate blood.¹¹ Since study is conducted for age group 18-25 yrs, no one is ineligibly young to donate blood. In spite of the average weight that is 66 kg in boys and 56 kg in girls, 13.6% (6.4% med n 7.4% non-med) students consider themselves weak enough to donate blood. Minimum donor weight of 50 kg (110 pounds) is recommended to donate usual 450+45 ml of blood because a 50 kg person has blood volume of approximately 3750 ml, donation of 405-495 ml would represent only 10-13% of donor's volume.¹² The symptoms of hypovolemia appear with loss of 15% or greater.¹³

Regarding motivation, a research Rajagopalan reported that donors and non-donors even in medically oriented population do not differ significantly in their sentiment towards blood donation but lack motivation.¹⁴ It is also highly needed that different fears regarding pain, needle and sight of blood plus mistrust in hospital and transfusion services must be dealt appropriately to motivate non- remunerated blood donation. It corresponds with a study of Ferguson which states that "...increasing non-donors' and donors' perceived abilities to cope with the stresses of donation prior to blood donation may, as with occupational career self-efficacy, motivate individuals to respond to future recruitment drives".¹⁵ One more study regarding motivations in voluntary donors state that service to society, self-actualization, need for power, emotional associations, autonomy and need for mutual support are presented as possible motivations for undertaking the voluntary role. Self-esteem, altruism and a generalized need for participation are additional factors possibly related to motivation to become and to remain involved in voluntary activity.¹⁶

Acknowledgment regarding blood bank following strict screening guidelines and eligibility requirement should be clarified among population. According to Pakistan Red Crescent Society, sterilized needle and bay is used for every individual, skin is cleared with pyodine and methylated spirit and needle is broken after use. Staff is trained and well experienced too.¹⁷ The donation process finishes in about 10 minutes for a pint in which liquid part replaces in few hours and blood cells in about 4-6 weeks.¹⁸

Regarding blood donation, this study reveals that out of 88 donors, 89% medical and 87% non-medical students are motivated for donating blood. It clearly reveals the strong influence of motivation on donating blood among students. Sources of motivation are mostly self-oriented 42% among medical donors and friends-oriented 36.7% among non medical donors. Other sources include family, media and institute. It reflects role of medical knowledge among student donors. Of all medical donars,68% used to donate regularly in contrast to 2% of non medical regular donors who mostly donate when needed. 63% med-students are found donating for humanitarian purpose while 47% non medical donating for same reasons. This clearly depicts influence of knowledge upon attitude regarding vital aspect of life. This study reveals few other reasons too for donating blood like family, friends, will be healthier, compulsion, regular donor etc.

Different incentives also do play a significant role in blood donation. However in this study it is found that 4/38 med &5/50 non med has donated blood for

S. No.	REASONS OF NON-DONATION	Medical		TOTAL	Non Medical		TOTAL
		Girls	Boys		Girls	Boys	
i	No one ever asked me for blood donation	90	36	126	41	31	72
ii	I m too weak	13	19	32	26	10	36
iii	Blood transfusion services are not trustworthy	14	14	28	22	12	34
iv	Future weakness	13	12	25	26	15	41
v	Consider procedure unhygienic	8	15	23	9	10	19
vi	Infection	6	14	20	11	5	16
vii	I am not permitted by elders/community/religion	8	9	17	7	8	15
viii	Afraid of needles	10	5	15	18	5	23
ix	Have no info about blood transfusion services near me	10	4	14	15	6	21
x	Other reasons	5	6	11	8	7	15
xi	Afraid of pain	6	4	10	14	5	19
xii	I m too young	8	1	9	12	6	18
xiii	Lack of knowledge or information	2	1	3	9	9	18
xiv	Afraid of sight of blood	0	3	3	13	6	19
xv	I have a medical reason/disease	2	5	7	7	4	11
xvi	My family/friends doesn't donate blood	4	3	7	5	3	8
xvii	I went to donate blood but could not because	0	5	5	1	2	3
xviii	Weight gain	2	1	3	5	0	5
xix	Bad donation experience	0	0	0	1	0	1
xx	Because i have a rare blood group	2	0	2	4	1	5

S. No.	REASONS OF DONATION	Medical		TOTAL	Non Medical		TOTAL
		Girls	Boys		Girls	Boys	
i	Family	0	10	10	4	14	18
ii	Friends	0	5	5	0	17	17
iii	Humanity	1	23	24	2	21	23
iv	Money	0	0	0	0	1	1
v	Unique blood group	0	1	1	0	0	0
vi	My own surgery	0	0	0	1	0	1
vii	I will be healthier	0	3	3	1	0	1
viii	To lose weight	0	0	0	0	0	0
ix	Just a regular donor	0	3	3	0	2	2
x	Compulsion by family/job/religion/community/others	0	3	3	0	4	4
xi	For mass disaster victims	0	1	1	0	0	0
xii	Other reasons	0	2	2	0	0	0

incentives. It includes mostly extra leave, blood credit cards the rest are juices, sandwiches, money etc. This corresponds to a study in which issuance of blood donor certificate/blood credit card was claimed to be the best incentive. Another one was extra leave however no one agrees for payment of money as incentive.¹⁹

Regarding this practice, few questions are asked about donation place, experience and complications so forth. Forty two percent meds have donated at blood bank and 36% at hospitals whereas mostly non meds (65%) preferred hospital for donating blood. Most of them find their experience good. According to this study, all donors irrespective of med or nonmed are satisfied with hygienic conditions, proper equipments, precautions & expertise of staff regarding donation. As far as complications are concerned, only 5 meds

and 9 non meds have complained significant effects, which include weakness in principal. The others are dizziness, changes in blood pressure, wt. gain/loss and infection/allergy.

Generally, it has also been found that females' participation is significantly less as compared to males. In the study, 1:1 ratio is maintained for females and males with sample distribution of 250 for either. Only 2.8 % (5/250) females have been found to be donors. This corresponds to a study conducted in YAZD (Iran) where it was found that attitude towards blood donation was high among women but their actual performance rate was low. In the light of this it is needed to increase the level of motivation and remove barriers to blood donation for women who comprise around half of the population.²⁰

Regarding education, promotion and encouragement of people for donating blood, questions have been asked about the ways to do so. Most of the students have emphasized upon the role of media awareness and organizing seminars/workshops for mass awareness and motivations. The other mentioned ways include door to door campaigning, mobile clinics/sessions/awareness of people, family, friends etc. This is in congruence with the research of Saudi medical journal, published in 2003, November which states that there is a need for dissemination of information regarding safe blood and voluntary blood donation particularly on electronic mass media.

CONCLUSION

It is concluded that there is a lack of motivation regarding blood donation among the students. Despite having the required knowledge, lesser percentage of medical students are found to donate blood, although there are more regular donors among them in contrast to non-medical students. Some misconceptions have also been found to be present.

RECOMMENDATIONS

The study revealed a number of shortcomings that are critical and need urgent attention.

- 1 Students should be motivated to donate blood through electronic media and seminars.
- 2 All students should be trained in information communication. In this way they will be able to provide appropriate information to the donors. Communication in terms of latest developments regarding blood donation should be a must.

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