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Original Research

A comprehensive analysis of factors that motivate and hinder the blood donation decision among the younger population

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ABSTRACT

Background: To achieve the target goal of 100% voluntary non-remunerated blood donation in India and factors influencing the blood donation decision needs to be investigated. These factors influence the donation efficiency, safety, retention, collection number, and diversity of the donor pool. **Aim:** The aim of the study was to investigate the factors responsible for donating blood and the factors responsible for not donating blood among the youth of Jammu City, India. **Materials and Methods:** A preformed donor questionnaire was distributed among all the students with questions regarding earlier blood donations and its experience, reasons for donating blood, and the reasons for not donating blood. **Results:** Out of the total study population, 13.95% of students were blood donors. Main reasons for blood donation were altruism, sense of social responsibility, and for helping friends and relatives. Main reasons for not donating blood were fear of needle/fear of sight of blood, fear of illness/ill effects, objection from elders, and never been asked for blood donation. **Conclusions:** Fear of needle, objection from elders, transmission of HIV, blood donation leads to weight changes, and misuse of blood in hospital are the significant inhibitors among females while never been asked for blood donation, transmission of HIV, and misuse of blood are the factors that significantly inhibit the blood donation attitude among the very young population (18-20 years). To increase the blood donation, younger population must be counseled so that all the myths and the false beliefs regarding blood donation can be mitigated.

KEY WORDS: Altruism, hindering, motivating, voluntary non-remunerated blood donation

INTRODUCTION

Voluntary and non-remunerated blood donation can be sufficient for a country to cover all its blood product needs but it requires efficient organization and elimination of spurious altruism, non-monetary forms of compensations that harm social image, and future development of voluntary donation. Although half of the population in our country is medically fit to donate blood but unfortunately only four persons out of one - thousand donate blood and this is because of the lack of awareness on voluntary blood donation amongst the general population of the country and the problems in the donor information system [1]. Male to female ratio of blood consumption is 40:60; however, only 5% of the donors are female which reflects the dire need to strengthen the motivation and awareness activities for voluntary blood donation so that the required blood stocks of the country can be maintained. Strategies for recruitment and retention of blood donors should be planned and should be focused on the factors that affect the blood donation behavior [2,3]. "Altruism" which means intention of "doing good for others" is the main reason for donating blood among the voluntary non-remunerated blood donors [4]. Common motivations to donate blood are altruism, humanitarian, personal or family credit, social pressure, replacement, and reward while common motivations not to donate are fear (of needle, sight of blood, weakness), medical excuses, adverse reactions, apathy, and inconvenience [5]. Appropriate educational and motivational strategies are required to increase the awareness regarding blood donation among the eligible donors particularly younger population and convert favorable attitude toward blood donation to regular practice[6].

Study Aims

To ensure safest blood supply, the target should be on creating awareness among the youth and building a stronger voluntary donor base. With this objective, this study was started to investigate the motivating factors for donating blood and the factors responsible for not donating blood among the younger population.

MATERIALS AND METHODS

The study was conducted in Government Medical College, Jammu, India over a period of 1-year. It involved 1520 college

students of Jammu City of 18-26 years age group. Self-administered donor questionnaire consisting of questions regarding earlier blood donations, their experience, reasons for donating blood, and the reasons for not donating blood were distributed among the study population. Donor questionnaire was collected from the students after getting appropriately filled by them.

Statistical Analysis

Computer Software SPSS program was used to analyze the data. All the information were compiled, tabulated, and analyzed from the input gathered from the students involved in the study.

RESULTS

Of 1520 students, 212 (13.95%) were blood donors and 1308 (86.05%) were non-donors. Among the non-donors, 507 were male (M) and 801 were female (F). Of 212 blood donors, 79 (9.0%) were female and 133 (20.8%) were male [Table 1].

Among the blood donors 152 students had donated once only, 33 had donated twice, 15 had donated 3 times, 5 had donated 4 times, 1 student had donated 5 times, 4 had donated 6 times, 1 had donated 7 times, and 1 had donated 8 times. Percentage of one-time donor within sex was more in females (female 82.7% and male 63.9%) while percentage of repeat (multiple time) donor was more in males (male 36.1% and female 17.3%) resulting in mean number (No.) of donations done by male donors (1.65) more than that by female donors (1.19) [Table 2]. Maximum number of donations done by males was 8 and by females were 3.

Table 1: Gender wise distribution of donors and non-donors

Decision	Sex		Total
	Male	Female	
Donated blood			
Yes			
Count	133	79	212
% within sex	20.8	9.0	13.9
No			
Count	507	801	1308
% within sex	79.2	91.0	86.1
Total			
Count	640	880	1520
% within sex	100.0	100.0	100.0

Table 2: Gender wise distribution of donors who have donated once only and those who have donated 2 or >2 times

Decision	Sex		Total
	Male	Female	
Number of times donated blood			
1			
Count	85	67	152
% within sex	63.9	82.7	71.0
≥2			
Count	48	12	60
% within sex	36.1	17.3	29.0
Total			
Count	133	79	212
% within sex	100.0	100.0	100.0

When the blood donors enrolled in the study were asked the reasons for blood donation, they gave the following reasons shown in Table 3. Altruism, sense of social responsibility, social pressure, for helping friends and relatives were the main motivators in the younger population of 18-20 years with $P < 0.05$ each, which is highly significant. For gaining experience, social pressure, and for getting screened for diseases were motivators among repeat donors ($P < 0.05$ each). For knowing their blood group was found to be a more important motivator for females ($P = 0.05$).

When non-blood donors (1310) were asked the reasons for not donating blood, they gave the following reasons [Table 4]. Fear of needle or fear of sight of blood, objection from elders, transmission of human immunodeficiency virus or acquired immunodeficiency syndrome (HIV/AIDS), blood donation leads to weight gain/weight loss, and misuse of blood in hospital were the significant factors among females that inhibited them from donating blood ($P < 0.05$ for each of these factors). Never been asked for blood donation, transmission of HIV/AIDS, and misuse of blood in hospital were the factors that significantly inhibit the blood donation attitude among the very young population (18-20 years) with $P < 0.05$ for each of these factors.

Out of blood donors, 194 students, i.e., 92.38% had pleasant experience of blood donation while 16 students, i.e., 7.61% felt it unpleasant. When the students were asked whether they will donate in future or not, 1371 (90.13%) students replied they will donate in future (male 92.4% and female 88.7%), while 149 (9.86%) students were not willing to donate blood in future [Table 5]. When analysis was done with respect to the number of time donations done, 10.4% of the multiple time donors do not want to donate in future in comparison to 4.6% of the one-time donors which was not significant [Table 6].

DISCUSSION

Blood donation is a perfect example of altruism [7]. Appropriate motivational campaigns should be launched among the younger section of the population to convert altruistic behavior toward blood donation into a regular practice in order to increase voluntary blood donation [8]. In the present study also, altruism/doing good to others is one of the most common reasons for blood donation after sense of social responsibility and for helping friends or relatives. Less common reasons for blood donation were social pressure, for gaining experience, for blood donor credit card, for recognition of awards, for getting screened for diseases, for knowing blood groups, and spiritual bliss. Altruism was one of the common general motives for blood donation and also for continuing to be an active blood donor. But for first time, blood donation, direct influence from friend's/relatives, media appeal, and other types of recruitments were more commonly reported as motives for donating blood. In the present study, multiple time donors/regular donors donate blood for gaining experience, social pressure, and for getting screened for diseases while among females, the only significant motivator was for knowing blood groups.

In literature, many studies were undertaken to understand the behavior and attitude of blood donors. Oswalt found that

Table 3: Reasons for blood donation given by blood donors and their distribution according to gender, number of donations, and age

Reasons for blood donation	Reason given by number of blood donors						
	Total	Male	Female	One time donor	Multiple times donor i.e., ≥2	Age 18-20 years	Age 20-26 years
Altruism/Doing good to others	60	41	19	36	24	39	21
Sense of social responsibility	121	78	43	32	89	91	30
Gaining experience	18	15	3	7	11	13	5
Social pressure	22	13	9	9	13	16	6
For helping friends/relatives	78	48	30	55	23	51	27
For blood donor credit card	7	3	4	4	3	5	2
For recognition of awards	2	1	1	1	1	1	1
For getting screened for diseases	4	3	1	0	4	2	2
For knowing blood groups	10	3	7	3	7	6	4
Spiritual bliss	15	13	2	6	9	11	4

Table 4: Reasons for not donating blood given by eligible non-donors

Reasons for not donating blood	Reason given by non-donors				
	Total	Male	Female	Age 18-20 years	Age 20-26 years
Fear of needle or fear of sight of blood	175	75	100	155	20
Fear of illness or ill effects	580	200	380	500	80
Objection from elders	210	70	140	194	16
Apprehension of post donation	30	16	14	23	7
Has never been asked for blood donation	490	200	290	470	20
Transmission of HIV/AIDS	75	25	50	72	3
Fear of discovering diseases	35	20	15	30	5
Leads to weight gain/weight loss	40	24	16	35	5
Misuse of blood in hospital	80	25	55	77	3
Lack of time	90	42	48	83	7

Table 5: Decision whether to donate blood or not to donate in future by eligible blood donors

Decision	Sex		Total
	Male	Female	
Will donate in future			
No			
Count	49	100	149
% within sex	7.7	11.4	9.8
Yes			
Count	591	780	1371
% within sex	92.4	88.7	90.2
Total			
Count	640	880	1520
% within sex	100.0	100.0	100.0

Table 6: Decision whether to donate blood or not to donate in future according to whether one-time donor or multiple time donor

Decision	Sex		Total
	Male	Female	
Will donate in future			
No			
Count	7	6	149
% within number of times	4.6	10.4	9.8
Yes			
Count	145	54	1371
% within number of times	95.4	89.6	90.2
Total			
Count	152	60	1520
% within number of times	100.0	100.0	100.0

motivations to donate are altruism, humanitarian, personal or family credit, social pressure, replacement, and reward, and motivations not to donate were fear (of needle, sight of blood), weakness, medical excuses, reactions, apathy, and inconvenience [5].

Some individuals donate blood primarily to know their HIV testing status and such donors poses a risk to the transfusion service. In a study conducted by Stigum *et al*. 2.8% people had donated blood in order to be HIV tested [9]. In Shah *et al.* study, with the objective to know the level of awareness about HIV/AIDS and blood donation among first-time donors and repeat regular voluntary blood donors, 32.4% of donors believed that HIV infection could be transmitted through blood donation [10]. It illustrates the need of intense awareness and motivational programs among the general population for removing such myths. In the present study, only 4 students donated blood for getting screened for transfusion transmissible diseases. History of high-risk behavior should be elicited from such donors before donation.

Among the most first - time donors, temporary deferral may be interpreted psychologically as providing a permanent excuse for not donating blood [11]. To modify such behavior, the impact and effects of blood donation on blood donors should be investigated [12]. Sojka and Sojka in their study found that majority of effects elicited by blood donation on blood donors were positive, i.e., feelings of satisfaction, greater alertness, increased well-being, less migraine, higher physical capacity, respect from the environment, and feeling of relaxation. Negative effects were duration of donation significantly longer than supposed, tiredness, diminished physical capacity, vertigo, dizziness, susceptibility to infections, headache, and thirst. The positive effects could be of importance for recruiting new

blood donors. The negative effects were less likely to occur with increasing age and they are more likely to occur in female donors in comparison to male donors, irrespective of age. Lack of resources, lack of professional management, myths, and misconceptions arising from cultural and social differences also form a barrier to blood donation [13]. In a Canadian study, altruism dominated the reasons for donating blood followed by social influence and ego enhancement. Women were more concerned about adverse physical consequences and non-donors expressed higher levels of groundless donation related fears. In their study, the most common reasons for avoiding donation were fear of needle, fear of sight of blood, general apprehension concern about pain/bruising, fear of weakness, fatigue, dizziness, nausea, and faintness [14]. In the present study, fear of needle/of sight of blood, objection from elders, transmission of HIV/AIDS, blood donation leads to weight gain/weight loss, and misuse of blood in hospital are the significant factors among females that inhibited them from donating blood. Educational programs aimed at overcoming fears and heightening awareness needs to be recommended. Similarly, operational improvements should be considered which should be aimed at reducing the barriers posed by time, place, and inconvenience.

The theory of planned behavior (TPB) was conducted by Lemmens *et al*. to assess potential cognitive determinants of willingness to donate blood in Netherland. Among students, major determinants to become a blood donor were self-efficacy (for gaining experience), attitude, personal responsibility, social obligation, and to help friends and relatives [15]. These were the most common reasons to donate blood in the present study also. Altruism, sense of social responsibility, social pressure, for helping friends and relatives were the main motivators in a very young population of 18-20 years ($P < 0.05$).

Similarly, Misje *et al*. analyzed five dimensions of blood donor motivation, i.e., altruism and empathy; social reasons (such as the influence of friends and family); strengthening of one's self-esteem; positive experience associated with donation and; a moral obligation to donate and found that they were strongly associated with the development of a long-term commitment as a voluntary non-remunerated blood donor [16]. Furthermore, being asked to donate at work/direct request to donate/offering more comprehensive health screens were important motivators [17].

Sojka and Sojka reported that most commonly reported obstacles to blood donation were laziness and fear of needles. In our study, main reasons for not donating blood were fear of needle/sight of blood, fear of illness, objection from elders, and never been asked for blood donation. The most common of them were fear of illness and never been asked for blood donation. The least common causes were apprehension of post donation, fear of discovering diseases, and blood donation leads to weight gain/weight loss but these were the significant demotivating factors among females. Psychology of blood donors studied by Masser *et al*. had identified a range of socio-demographic, organizational, psychological, and physiological factors that influence people's willingness to donate blood [18]. They worked on the "theory of planned behavior" for predicting blood donation intentions and behavior. Anxiety and fear/vasovagal reactions acts as powerful barriers to both forming the intention to donate blood and returning to donate blood again. Structural elements in the form of providing ease to access to donation sites such as more frequent clinics/sessions and more flexible opening hours and convenience are the facilitators of blood donation intentions for both non-donors and lapsed donors. Lifestyle related eligibility criteria and changes of residence pose problems for recruitment and retention. Martín-Santana and Beerli-Palacio in their study, segregated their eligible donors into 4 groups - very inhibited, afraid, uninhibited, and uninformed and concluded that the factor that most inhibits the donation behavior were the lack of information about donation, problems of shortages and centers where donation takes place. Uninhibited group followed by uninformed group were most motivated, while the afraid group was least motivated [19].

Older people were most stimulated by medical incentives (blood analysis, medical check-ups) while younger donors were motivated by reward incentives (gifts, discounts for tickets) and social incentives (displays of appreciation, blood donors credit cards, and items of limited value) but these were the least common reasons for donation in the present study [20]. Main reasons for donating blood were to help ill people, for helping friends, relatives or family members [21-25]. These were the most common reasons for donating blood in the present study also.

In the Thai knowledge, attitude and practices study on blood donation - fear of needle, blood donation procedure were the most common reasons for not donating blood [26]. In Alam and Masalmeh Bel study, 42.6% respondents never donated blood because they were never approached by anybody for blood donation and 38.3% considered themselves unfit for donation due to weakness [27].

In these studies, the major reasons for not donating blood were fear of needle, fear of sight of blood, never being asked to donate, and physical harm. Reasons for not donating blood and fears and myths regarding blood donation in our study were similar to those mentioned in these studies with an additional common reason being an objection from elders. In our society, parents have a wrong concept that blood donation causes weakness and hence they have a discouraging attitude toward donation of blood by their children, especially by girls. Therefore, interactive awareness sessions on blood donation should be organized. Opportunities for blood donation should be created, which can greatly enhance the movement for voluntary blood donation and will ensure good quality of blood and safe modern medical care [28,29].

Experience of blood donation is an important factor for determining the future blood donations, especially in the first-time blood donors. Those blood donors who have a pleasant blood donation experience usually return back for donating blood in future and turn into regular non-remunerated voluntary blood donors while those who experience it unpleasant often do not return for repeat blood donation. In our study, 92.38% had pleasant experience of blood donation and >90% of students gave a positive response for future blood donation.

Fear of needle/sight of blood, objection from elders, transmission of HIV, blood donation leads to weight gain/weight loss, and misuse of blood in hospital were the significant factors among females while never been asked for blood donation, transmission of HIV, and misuse of blood in hospital were the excuses given by very young population (18-20 years) in the present study. Such myths and false beliefs regarding blood donation needs to be mitigated by creating awareness and motivational programs in educational institutions, offices, and other workplaces and Information, Education, and Communication material to the donors and non-donors should be distributed. For recruiting more and more donors, we should take blood collection procedures, close to the blood donors at their workplaces, on their convenient date and time by conducting outdoor blood donation camps. Special attention on donor safety and donor psychology is required to minimize the adverse donor reactions and the unpleasant experience of blood donation.

AUTHORS CONTRIBUTIONS

Raina T. R. Conceived the idea and designed the study while Kumari S. implemented it, analyzed the data, and wrote the study.

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