

STUDY ON KNOWLEDGE AND ATTITUDE OF BLOOD DONORS TOWARDS BLOOD DONATION IN BIJAPUR DISTRICT

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ABSTRACT

BACKGROUND

Blood is the living force of our body and there is no substitute for it. It can only be replaced through blood donation. Blood donation can save millions of lives. Demand for safe blood is increasing every day because of increase in population, increased life-expectancy and urbanisation, trauma cases, major surgeries, patients with regular transfusion requirement like cases of thalassaemia, haemophilia and chemotherapy. To increase blood donor recruitment and retention, the level of knowledge and attitude of blood donors towards blood donation must be known as this affects donor's decision of blood donation. This information helps for tailoring targeted programs and campaigns in order to recruit more people as regular voluntary blood donors.

OBJECTIVE

To assess the level of knowledge and attitude regarding blood donation amongst blood donors in Bijapur district, Karnataka.

MATERIALS AND METHODS

Blood donors registered for blood donation in B.L.D.E. University's Shri B. M. Patil Medical College, Hospital and Research Centre's Blood Bank, in Bijapur district were included in this study. The data was collected by filling a self-administered structured questionnaire. The questionnaire was administered to all the donors ready to participate in the study. Questionnaires were distributed at the time of registration and were collected after filling during the refreshment period. Also one-on-one individual interviews were conducted to know about the blood donation experience and willingness of donor for future donation. A scoring mechanism was used to understand the level of knowledge, a score of one was given for each correct response and zero for wrong and unaware response.

RESULTS

In this study, it was found that 61% of the participants had average knowledge [Cumulative score 4-6], 34% of the participants had good knowledge [Cumulative score 7-8] and 5% of participants had poor knowledge [Cumulative score 0-3] about the different aspects of blood donation, assessed using the questionnaire. Participants from urban background had more knowledge score than the participants from the rural area. Males had higher knowledge score than the females.

CONCLUSION

Interactive talk with blood donors helped to clear their concepts and misbeliefs about blood donation which encourage them for repeat donation. Informative campaigns on blood donation should be initiated in the rural areas to increase awareness about blood donation and the idea of voluntary blood donation needs to be intensively promoted.

KEYWORDS

Knowledge, Attitude, Blood, Donation.

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INTRODUCTION: Blood is considered as the living force of our body and is an essential element of human life and there are no substitutes for it.^{1,2,3}

Blood is made up of three different life saving components which include plasma, platelets and packed red blood cells.⁴ Blood donation can save millions of lives.⁵ According to WHO norms, donation by 1% of the population (10 per 1000 population) is the minimum needed donation to meet a nation's most basic requirements for blood.^{3,5,6,7} There are many factors on which requirement of blood and blood products in a country depends like the population, health-care system, prevalence of conditions requiring regular transfusions such as haemophilia and thalassaemia.^{5,8}

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Every year with increase in population, life-expectancy, urbanisation and increased demand for blood products, the burden of requirement of safe blood is increasing.⁵ Collection of blood from paid donors or for any kind of incentives is forbidden by Indian law.⁵ The only source of safe blood is voluntary blood donation and recruitment of voluntary blood donors is a major challenge to the transfusion services throughout the country.^{1,5} Voluntary blood donation carries lower risk of transfusion transmissible infections and is more likely to meet the medical selection criteria for safe donors. WHO always encourages its member nations to establish national agencies to donate blood on the basis of voluntary blood donation.^{3,5,7}

Donors make their decision of whether to donate blood voluntarily at regular interval on the basis of factors like lack of knowledge, attitude, facilities, convenience, quality of service and the fear of pain. Donor recruitment and retention programs can only be improved by understanding blood donors' knowledge and motivations.¹ This information would be helpful for tailoring targeted programs and campaigns more precisely in the future in order to recruit more people as regular voluntary blood donors. Considering above discussed facts, in present study, we studied and analysed the existing level of knowledge and attitude towards voluntary blood donation in different age groups amongst donors in Bijapur District, Karnataka.

MATERIALS AND METHODS:

AIMS AND OBJECTIVES: To assess the level of knowledge and attitude regarding blood donation amongst blood donors in Bijapur district, Karnataka.

Source of Data: Blood donors registered for blood donation in B.L.D.E. University's Shri B. M. Patil Medical College, Hospital and Research Centre's Blood Bank in Bijapur district and who responded to the questionnaire, accounting to the total of 398 participants were included in the study.

Study Period: 1st November 2013 to 30th June 2015.

Methods of Collection of Data: The present study was a prospective study. The data was collected by filling of a self-administered structured questionnaire. The questionnaire was administered to all the donors ready to participate in the study. Questionnaires were distributed at the time of registration and were collected after filling during the refreshment period. Also one-on-one individual interviews were conducted to know about the blood donation experience and willingness of donor for future donation. A scoring mechanism was used to understand the level of knowledge, a score of one was given for each correct response and zero for wrong and unaware response. Participants with all correct responses obtained a maximum score of 8. The knowledge level was categorised into three groups: 0-3, 4-6 and 7-8 scores. Higher scores indicate good knowledge.

Data was analysed and descriptive statistics were used to describe the sample and scale characteristics.

RESULTS: Data regarding the demographics of each study participants were collected which included age, gender and address. Out of the 398 individuals who participated in the study, 332 were males and 66 were females. Out of these 398 individuals, 149(37.4%) were from rural locality and 249(62.6%) were from urban locality. Out of the 398 individuals, the mean age of the participants was 23.95 years (SD=6.96), with a range of 18 to 58 years. Majority of the participants i.e. 84.7 % (337) were between age group 18 to 30 years. A total of 12 blood camps were included in this study out of which 5 were in rural area and 7 were in urban area. Mean cumulative knowledge score was calculated for each camp and compared between rural and urban areas. Participants from urban background had more knowledge score than the participants from the rural area.

According to the cumulative score, 61% of total participants fall in to 4-6 (Average) score range, 34% fall in to 7-8 (High) score range and only 5% fall in to 0-3(low) score range. Out of 398 participants, 85.90% participants had correct knowledge about the suitable age for blood donation. 93.70% participants were aware of the fact that weight should be above 50 kg for blood donation. 93.50% participants were aware that blood pressure should be normal before blood donation. 63.80% participants knew that donated blood is tested for blood borne infections. 60.30% participants knew about amount of blood donated in every blood donation. 52.00% participants knew about the maximum number of days donated blood can be stored.

83.20% participants knew correctly about number of times per year, a healthy volunteer can donate blood. 53.30% participants had idea about number of lives that can be saved from a single unit of donated blood. 91.50% participants felt that blood donation does not lead to weakness. 83.70% participants knew that blood donation does not lead to anaemia. 68.30% participants were self-motivated for blood donation while 31.70% participants were motivated by friends, relatives, media like TV/ radio, banners etc. 94.20% participants told that they will donate voluntarily again in the future and had a positive attitude towards blood donation. 90.20% participants didn't feel any discomfort during blood donation process.

DISCUSSION: The study of knowledge and attitude of blood donors towards blood donation enables researchers to understand the outlook and the barriers donors have towards blood donation. This information can then be used in devising modules to eliminate the obstacles. Our study found a significant association between blood donation and gender. Males in our society are more likely to donate blood than females as the females within the donor age range usually have some factors which interfere with the criteria of blood donation, like nutritional anaemia is widespread and prevalent in females in India. In our study, only 16.6% (66) were female donors; this is in affirmation of the WHO report that there are more male donors worldwide.

We also found that out of 66 female donors, majority that is 54 were from urban locality and 12 were from rural area. This suggests that females in urban areas have more willingness and have more positive attitude towards blood donation. Study conducted by Dubey et al had similar results with 73.41% of male participants among a total of 1200 participants. In our study out of 398 participants, 249(62.6%) were from urban areas while 149(37.4%) were from rural area. This is in consistence with the study of Dubey et al in which 73.75% were from urban area. This finding suggests that rural area remains neglected and remains unexplored huge source of blood donation.

In our study, majority of participants i.e. 84.7% (337) were under 30 years. This is in consistence with the study of Nwabueze et al in which 94.9% participants were under 30 years of age. Young population is a vast source of easily accessible safe blood which remains unexplored and more emphasis should be given on recruiting and maintaining more young donors. We found that 85.90% participants knew about suitable age group for blood donation. In a study by Hasan et al, 75.5% participants knew about suitable age of blood donation. Amatya et al³ study conducted in students of Nepal, found a low level (36.16%) of knowledge in participants about suitable age for blood donation.

The weight of the donor should be above 50 kg, which points towards general wellbeing and good health. We found that 93.70% participants knew about weight criteria. Misganaw et al also had similar results in their study with 90.4% participants having correct knowledge about the minimum weight required for blood donation. We found that 93.50% of participants had correct knowledge regarding normality of blood pressure as a criterion for blood donation. Hasan et al and Amatya et al³ also had similar result in their study with 95% and 87.57% participants respectively, correctly knowing about the blood pressure criteria for blood donation.

In our study, 83.20% participants knew that they can donate blood maximum 3 times in a year. Alam et al had similar findings in their studies with 88.6% of the participants having correct knowledge about the number of times a healthy person can donate in a year. It was also found that participants had less knowledge regarding blood donation process, tests done on collected blood and storage of blood and 50 to 60% participants can attempt correctly to questions like donated blood is tested for blood borne infections, blood volume that donated in every blood donation, maximum number of days donated blood can be stored at 2-4°C, and maximum number of lives saved from single unit of donated blood.

Donated blood is tested for various transfusion transmissible infections like HIV-1 and HIV-2, Hepatitis B and C, Syphilis and Malaria, etc. Hasan et al had similar results with 63% of the participants with having correct knowledge about the pre-transfusion testing done on blood for infections.

When the blood is collected in triple bag, it is separated into 3 components namely Packed Red Blood Cells (PRBC), Fresh Frozen Plasma (FFP) and Platelet concentrate.

This increases the utility of blood as it can serve 3 patients. Almost half of the participants were wrong about this question and it is in consistence with the study conducted by Sanayaima Devi et al who found 63.9% participants having correct knowledge. 91.5% of the participants had a positive attitude and didn't feel any type of weakness. This result is in consistence with the study conducted by Alzaben et al. But Manikandan et al⁵ found that majority of participants in their study were unaware and had misbelief that blood donation can make them weak.

83.70% participants didn't feel that the blood donation can lead to anaemia. Removal of 350 mL/450 mL of blood during blood donation does not lead to any adverse effect on body such as anaemia. This result is in consistence with the result of study conducted by Hasan et al, with 91% participants having same opinion.

68.30% participants were self-motivated. Many persons are motivated through altruism and self-motivation, which is a strongest motivation and helps donor retention programme. Up to 31.70% participants told that they were motivated from friends, relatives, media (TV/ Radio), and banners. It was also found that giving blood donation certificate and blood donation credit card also motivated donors to donate again in the future on regular basis. In study conducted by Alam et al, they found that 67.7% donors were motivated by friends/relatives, 19.2% were motivated by blood bank staff, 11.3% were motivated by newspaper/books and 1.7% were motivated by radio/television.

94.20% of the participants had positive attitude towards blood donation and were willing to donate again on voluntary basis. This result is in consistence with the results of studies conducted by Misganaw et al in which 100% of the participants were willing to donate blood voluntarily on a regular basis. 90.2% of the participants didn't feel any discomfort after blood donation. 9.8% of participants felt some discomfort but none were severe enough to require medical attention. Out of the 39 participants who felt discomfort, 34 felt pain at the site of venepuncture, 4 felt weakness and 1 participant had haematoma formation at the site of venepuncture.

Based on the experience of blood donation and discomfort experienced during the process, donors make their decision whether to donate blood again in the future. So the whole process of blood donation should be focused on reducing the discomfort experienced and making the whole process more pleasant to the donors.

Knowledge				Don't know
1.	Suitable age for blood donation.	14 to 68 years	18 to 60 years	
2.	Minimum weight for blood donation should be 50 kg.	Yes	No	
3.	Blood pressure should be normal before blood donation.	Yes	No	
4.	Donated blood is tested for Blood Borne Infections.	Yes	No	
5.	Blood volume that is donated in every blood donation.	200 mL	350 mL - Whole blood 450 mL - blood components	
6.	Maximum number of days donated blood can be stored at 2-4 ^o C.	20 days	34 days	
7.	Healthy person can donate blood how many times in a year?	3 times	5 times	
8.	Maximum number of lives saved from single unit of donated blood.	3	5	
Attitude				
1.	Blood donation makes you weak.	Yes	No	
2.	Blood donation can lead to anaemia.	Yes	No	
3.	Your motivation for blood donation	Self-motivated	Other- friends, relatives, media (TV/ Radio), banners	
4.	Will donate blood again voluntarily.	Yes	No	
5.	Experienced some discomfort after donation.	Yes	No	

*One mark will be given to every correct response and accordingly scores will be given.

Background Characteristics		N (398)	Percentage
Sex	Male	332	83.4
	Female	66	16.6
Age	18-20	169	42.5
	21-30	168	42.2
	31-40	43	10.8
	41-50	15	3.8
	51-60	3	0.8

Table 1: Basic Characteristics of the Participants

Cumulative Score	Number of Participants	Percent
0-3	19	4.8
4-6	243	61.1
7-8	136	34.2
Total	398	100

Table 4: Percent Distribution of Cumulative Scores

	Rural	Urban	Total
Male	127	205	332(38.4%)
Female	22	44	66(16.6%)
Total	149 (37.4%)	249 (62.6%)	398

Table 2: Distribution of Participants According to Locality

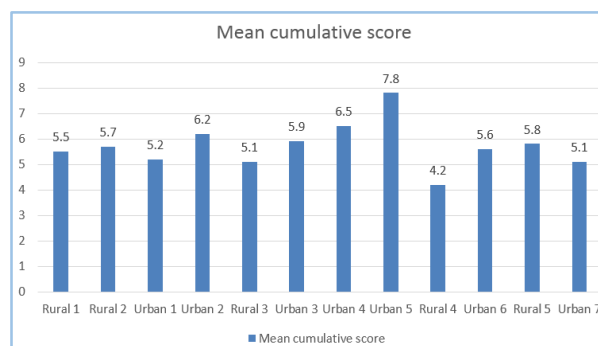


Fig. 1: Mean Cumulative Scores by Sites

Location	N	Cumulative Score	
		Mean	SD
Rural 1	42	5.5	1.3
Rural 2	22	5.7	1.2
Urban 1	30	5.2	1.3
Urban 2	39	6.2	1.2
Rural 3	16	5.1	1.5
Urban 3	35	5.9	1.1
Urban 4	60	6.5	0.9
Urban 5	30	7.8	0.5
Rural 4	25	4.2	1.6
Urban 6	38	5.6	1.1
Rural 5	44	5.8	1.3
Urban 7	17	5.1	0.9
Total	398	5.9	1.4

Table 3: Mean Cumulative Scores by Location

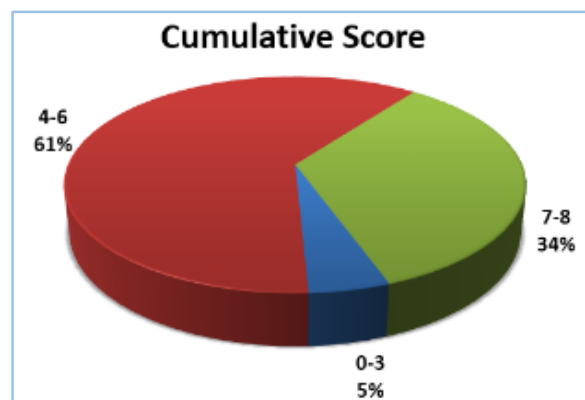


Fig. 2: Percent Distribution of Cumulative Scores

Site	0-3		4-6		7-8		Total
	N	Percent	N	Percent	N	Percent	N
Rural 1	3	7.1	32	76.2	7	16.7	42
Rural 2	1	4.5	14	63.6	7	31.8	22
Urban 1	2	6.7	23	76.7	5	16.7	30
Urban 2	0	0	26	66.7	13	33.3	39
Rural 3	2	12.5	11	68.8	3	18.8	16
Urban 3	0	0	25	71.4	10	28.6	35
Urban 4	0	0	25	41.7	35	58.3	60
Urban 5	0	0	1	3.3	29	96.7	30
Rural 4	8	32	14	56	3	12	25
Urban 6	1	2.6	29	76.3	8	21.1	38
Rural 5	2	4.5	27	61.4	15	34.1	44
Urban 7	0	0	16	94.1	1	5.9	17
Total	19	4.8	243	61.1	136	34.2	398

Table 5: Distribution of Cumulative Scores by Sites

Research Question	Correct Response Percentage		
	Male	Female	Total
1. Suitable age for blood donation	86.40%	83.30%	85.90%
2. Minimum weight for blood donation should be 50 kg	94.30%	90.90%	93.70%
3. Blood pressure should be normal before blood donation	93.70%	92.40%	93.50%
4. Donated blood is tested for blood borne infections	61.70%	74.20%	63.80%
5. Blood volume that is donated in every blood donation	60.50%	59.10%	60.30%
6. Maximum number of days donated blood can be stored at 2-4°C	51.50%	54.50%	52.00%
7. Healthy person can donate blood how many times in a year?	82.80%	84.80%	83.20%
8. Maximum number of lives saved from single unit of donated blood	51.50%	62.10%	53.30%
9. Blood donation makes you weak	91.90%	89.40%	91.50%
10. Blood donation can lead to anaemia	83.40%	84.80%	83.70%
11. Your motivation to blood donation	69.00%	65.20%	68.30%
12. Will donate blood again voluntarily	94.90%	90.90%	94.20%
13. Experienced some discomfort after blood donation	90.40%	89.40%	90.20%

CONCLUSION: Exploring the possible barriers such as lack of knowledge can contribute to implementation of new educational interventions aimed at improving knowledge and attitude of population towards blood donation. Donors had poor knowledge regarding facts like transfusion transmissible infections, which affects their decision of becoming regular voluntary blood donor. So there is need to educate general population regarding blood donation process.

Females had less knowledge and attitude of blood donation, so there is need for programmes focusing more on females. Participants from urban background had more knowledge score than the participants from the rural area, stressing the need for conducting more blood camps in the rural area. The young population is a vast resource of easily accessible safe blood which is still underexplored. So incorporating blood donation awareness programmes into curriculums of the students will motivate them more to donate blood voluntarily on a regular basis.

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