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Original Article

Knowledge, Attitude and Practice Towards Blood Donation Among Voluntary Blood Donors in Tertiary Care Hospital of North India

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ABSTRACT

Background and Objectives: Knowledge, attitude, and practice (KAP) studies are a commonly used tool to investigate various aspects of human behaviour. A study on the knowledge, attitude and practice of the donors may prove useful in the successful implementation of the blood donation programme to provide safe adequate supply of blood and blood components.
Methods- A cross sectional study was conducted with the aim to find the level of the knowledge, attitude and practice of blood donation among 1000 blood donors attending voluntary blood donation camps and coming to our blood centre by giving a structured questionnaire.
Results- Present study showed that donors had good knowledge about the eligibility criteria for blood donation i.e. age to start donation (67.2%) and hemoglobin levels (45.6%). However, knowledge regarding volume of blood donated, donation intervals and mandatory tests done on donated blood was inadequate. The attitude regarding blood donation was positive. The impact of blood donation showed positive feelings like satisfaction, generally feeling better and relaxation (94.8%). 68.2% of the donors who donated blood for the first time were voluntary donors.
Conclusion- Although voluntary donors possessed inadequate knowledge regarding certain parameters, but they exhibited positive and favourable attitude and practice towards blood donation. Conclusions drawn from the above study would be useful in planning of various polices and interventions to increase voluntary blood donation in our area.

Keywords*: Knowledge, attitude, practice, voluntary blood donation.*

INTRODUCTION

Blood transfusion is an important concern for the society, as it is life saving for patients with bleeding disorders, accidents, surgeries, inherited/acquired haematological diseases and malignancies. Voluntary, non remunerated blood donors are the cornerstone of a safe adequate supply of blood and blood components [1].

According to the World Health Organization (WHO), at least 1% of the nation's population should donate blood voluntarily to meet the basic requirement for blood and blood products [2]. In India, there is a need of about 8 million units of blood every year out of which only about one- third are obtained from voluntary donors [3]. Recruitment of voluntary nonremunerated blood donors poses a major challenge to transfusion services throughout the world [4]. The numbers of donors are often reduced due to the strict selection criteria which are imposed to ensure the safety of the blood supplies. In addition to this, the blood centres find it difficult to recruit new donors and to retain them for arranging a regular blood supply for needy people [5]. Voluntary blood donors who donate blood once or twice a year are considered to be the safest as they have no reason to give false information about lifestyle factors which might place them at risk of transmitting infectious diseases[6]. The WHO stresses the fact that replacement blood donation needs to

be discouraged and replaced by voluntary, nonremunerated blood donation. Paid/professional blood donation has been banned in India since January 1998[3].

Knowledge, attitude, and practice (KAP) studies are a commonly used tool to investigate various aspects of human behaviour. By assessing what people know (knowledge), how they feel about it (attitude), and what they actually do (practice), based on their knowledge and attitude the investigator is better able to appreciate the outlook of the people regarding behaviour and suggest relevant remedial measures [7]. A study on the knowledge, attitude and the practice of the donors may prove to be useful in the successful implementation of the blood donation programme.

AIMS AND OBJECTIVES

This study was conducted with the aim to find the level of the knowledge, attitude and practice of blood donation among blood donors attending voluntary blood donation camps and coming to our blood centre.

MATERIAL AND METHODS

This cross sectional study was conducted on the donors who donated blood in voluntary blood donation camps and in Blood Centre (Department of Immuno Haematology and Blood Transfusion) of Tertiary care Hospital of North India. A total of 1000 voluntary blood donors were selected as per the eligibility criteria of the Drugs and Cosmetics Act. A structured questionnaire was prepared to assess the knowledge, attitude and the practice of blood donation. By using a self administered questionnaire, the donors' knowledge on the eligibility criteria of the blood donation, their attitude and intention with respect to the first time and regular donations and the impact of the donation, were evaluated, along with the demographic details. All the study details were explained to the donors and then the questionnaire was given to them, after getting the consent of each donor. The statistical analyses was done by using the SPSS software and analyzed using the Chi square test. The study was approved by the Ethics Committee of the institution.

RESULTS

Among 1000 donors, 940 (94%) were males and 60 (6%) were females. The age distribution, educational status, occupation and socioeconomic status of the study population have been shown in [Table 1].

Table-1Demographic Details of the Donor

	Variables	No. of Donors	%age
Age in Years	18-25	256	25.6
	26-35	352	35.2
	36-45	284	28.4
	46-55	103	10.3
	56-65	5	0.5
Educational Status	Illiterate	42	4.2
	High School/ Higher Secondary	304	30.4
	Graduate	552	55.2
	Post Graduate	102	10.2
Occupation	Employed	935	93.5
	Unemployed	23	2.3
	Students	42	4.2
Socio-economic Status	Low	33	3.3
	Middle	943	94.3
	High	24	2.4

The knowledge on the blood donation has been stated in [Table-2], which shows that 333 (33.3%) donors knew that people could donate once in three months and 672 (67.2%) donors knew that the blood donation could be started at 18 years of age. As there was a vast awareness on HIV, 770 (77%) donors stated that HIV patients could not donate blood. Only 456 (45.6%) donors knew the prerequisite haemoglobin level for the blood donation and 905 (90.5%) donors did not know about the mandatory tests which were done on the donated blood.

Table-2 Knowledge About Blood Donation

	Variables	No. of Donors	%age
Knowledge About Donation Intervals	Every 3 months	333	33.3
	Every 6 months	287	28.7
	Once in a year	89	8.9
	Don't Know	291	29.1
Age to Start Blood Donation	18 years	672	67.2

	Don't Know	328	32.8
Can HIV Person Donate Blood	Yes	0	0
	No	770	77
	Don't Know	230	23
Required hemoglobin Level to Donate Blood	11.5 gram%	120	12
	12.5 gram%	456	45.6
	Don't Know	424	42.4
Mandatory Tests Done on Donated Blood	Know	95	9.5
	Don't Know	905	90.5
Volume of Blood Donated	250 ml	0	0
	350 ml	111	11.1
	450 ml	130	13.0
	Don't Know	759	75.9

The attitude towards the blood donation has been shown in [Table 3], which shows that 621 (62.1%) donors felt that "Information about need of blood" was an important factor for motivating the blood donation. 561 (56.1%) donors felt that through multiple channels like media, posters and banners, they could disseminate the message of voluntary blood donation among the people, to increase the awareness on voluntary blood donations.

Table-3 Attitude towards Blood Donation

	Variables	No. of Donors	%age
Factors Motivating Blood Donation	Creating opportunity	123	12.3
	Asking personally to donate	224	22.4
	Information about need of blood	621	62.1
	Others	32	3.2
Best Way to Disseminate Message	Personal request	42	4.2
	Radio/ TV	203	20.3
	Printing/ Banners	194	19.4
	Multiple	561	56.1

For First time Donors	Variables	No. of Donors	%age
Reason for not donating blood	Fear of Pain	12	8.5
	No opportunity	70	49.3
	Didn't think of it	60	42.2
	Total	142	100

Out of 142 first time donors, 70 donors (49.3%) informed that they did not get the opportunity to donate blood while 60 (42.2%) donors said that they did not think of donating blood.

The practice of blood donation has been shown in [Table-4], which shows that 682(68.2%) donors mentioned that the reason for their first time donation was voluntary. 964 (96.4%) donors which included first time donors were willing to become regular donors and 505 (50.5%) were ready to donate blood twice in a year. 948 (94.8%) donors had positive feeling of satisfaction after the blood donation. 142 (14.2%) donors were first time donors and 667 (66.7%) donors had donated 2-10 times. The age of the first donation for most of the donors 650 (65%) was between 18-25 years.

Table-4 Practice of Blood Donation

	Variables	No. of Donors	%age
Reason for Donating for the 1 time	For friends/ relatives	295	29.5
	Voluntarily	682	68.2
	Others	23	2.3
Willing to become regular donor	Yes	964	96.4
	No	0	0
	Don't Know	36	3.6
If yes, time Interval for regular donation	Yearly once	224	22.4
	Every 6 months	505	50.5
	Every 4 months	204	20.4
	Others	67	6.7
Impact of Blood Donation	Satisfaction	288	28.8
	Generally better	336	33.6

	Relaxation/ Alertness	324	32.4
	Tired/ Fatigue	12	1.2
	Numbness	0	0
	Fear	18	1.8
	Mixed feelings	22	2.2
Number of donations	First time	142	14.2
	2-10 times	667	66.7
	11-20 times	129	12.9
	>20 times	62	6.2
Age at first donation	18-25	650	65
	26-35	196	19.6
	36-45	124	12.4
	46-55	22	2.2
	56-65	8	0.8

DISCUSSION

Voluntary blood donors have often been recruited for KAP surveys and blood donation sensitization programs globally. These studies reflect varying levels of knowledge and attitudes regarding blood donation. Targeting the beliefs associated with blood donation enhances the effectiveness of recruitment campaigns and the prevalence of voluntary blood donors annually.

Prevalence of female blood donors was very less (6%) compared to male blood donors (94%) comparable with the study by Gupta et al (6.2%, 93.8%) [8]. Low number of female participation as compared to male donors was because of high deferral rate due to low weight and anaemia.

The young age group of 26 - 35 yrs was maximally associated with blood donation practice (35.2%) while it was less in the age group of 18-25 yrs (25.6%). This indicated that targeting the younger population in the age group of 18-25 yrs, should be done by engaging college going students by organising camps in educational institutions and involving them in awareness campaigns.

KNOWLEDGE:

Present study showed that donors had good knowledge about the eligibility criteria for blood donation i.e. age to start donation (67.2%) and hemoglobin levels (45.6%) comparable with the study by Uma et al (79.4% and 40.5% respectively) [9]. It was lesser than the study by Kumari et al (86% and 62.8% respectively) [10]. This could be explained by the fact that this study mainly involved students in the age group between 18-26 yrs.

There was vast awareness about spread of HIV through blood donation which could be seen from the fact that 77% of blood donors knew that HIV positive patients cannot donate blood. However knowledge regarding volume of blood donated, donation intervals and mandatory tests done on donated blood was inadequate and was much less than the study by Uma et al [9] and Gupta et al [8] as shown below in table 5

Table -5 Comparison regarding knowledge about eligibility criteria

	Volume of blood donated	Donation intervals (every 3 months)	Mandatory tests done
Uma et al, 2013	59.5%	51.2%	34.2 %
Gupta et al, 2022	51.6	70.6%	78.6 %
Present study, 2026	24.1%	33.3%	9.5 %

Only (24.1%) of the present study had knowledge about the volume of the blood collected in a single donation while 35.2% paticipants knew the correct volume of blood collected in a study done in Saudi Arabia [11] .

Educating potential donors about the above parameters is important to alleviate fear and empower individuals to become regular donors.“Nukkad natak” can be enacted to address dangerous health myths and build emotional connection with the patients in need by engaging story telling.

ATTITUDE

The general attitude of blood donors was that “information about the need of blood” would play an important role in motivating them to donate blood (62.1%). Donors do recognise that donation is a lifesaving act but a gap often remains between awareness and action. Targeted and clear accessible information about the urgent need of blood will bridge this gap by directly boosting public willingness to donate.

The donors also felt that the best way to disseminate message was through multiple channels (56%) similar to findings by Uma et al (55.5%) [9]. In the present digital era, platforms like Facebook, Instagram reels and YouTube shorts can engage younger demographics and further strengthen the voluntary donor pool.

For the first time donors, the main reason for not donating blood was 'no opportunity"(49.3%) while it was fear of pain (55%) in a study by Uma et al [9]. Gupta et al [8] cited the most common cause for not donating blood was never getting the chance (46.67%) and fear of needle (25.33%). In our set up, the creation of opportunity in potential donors by regular blood donation camps marking important events along with interactive awareness sessions would go a long way in further recruiting first time donors.

PRACTICE

On evaluating the practice of blood donation 85.8% of participants were repeat donors similar to the study by Gupta et al (85%) [8].

The impact of blood donation showed positive feelings like satisfaction and generally feeling better and relaxation (94.8%) while only (3%) showed negative effects like tiredness, fatigue and fear. This was similar to the findings of Gupta et al [8] and Sojka et al [12].

68.2% of the donors who donated blood for the first time were voluntary donors and is comparable to a study by Jiang L et al [13] where the main motivation of blood donation was selfless action that helped others. Educating the replacement donors about the health benefits of donating blood and number of patients benefitting from a single unit of blood is important to further strengthen the voluntary donor pool.

50.5% of the donors were willing to donate blood once every 6 months which was higher than the study by Uma et al (34.3%) [9]. This is a positive finding and can be further strengthened by making these donors aware that repeated donation at a gap of 3 months in males and 4 months in females is an absolutely healthy practice. This will go a long way in increasing the potential voluntary blood donor pool.

Regarding number of donations, most of the donors donated blood 2-10 times (66.7%) comparable to the study by Gupta et al (53%) [8].

Age at first donation was maximum in the age group of 18-25 yrs (65%) comparable to Gupta et al (20-30yrs, 64.6%). However it was only 19.6% in 26-35 yrs age group which mainly involves younger professionals and parents. Hosting on- site one day blood drives in local corporate offices and in schools during parent-teacher meetings would make blood donations highly accessible for this working population.

CONCLUSION

The present study is concluded by listing the below mentioned points;

1. Although voluntary donors possessed inadequate knowledge regarding certain parameters, but they exhibited positive and favourable attitude towards blood donation. Increasing knowledge among them regarding volume of blood donated, tests performed and intervals between donations will increase the trust in medical setup and strengthen the voluntary donor pool.
2. To disseminate information regarding need of blood through digital platforms like WhatsApp groups, YouTube, Instagram reels to target younger population.
3. Most donors donated blood once in 6 months. By making these donors aware that decreasing the interval to 3 months in males and 4 months in females is a healthy practice, the gap between demand and supply could narrow down and voluntary blood donor pool can be further strengthened.
4. Female donors could not play a major role due to deferrals, so more awareness drives regarding National government programmes available for correction of anaemia and supplemental support during pregnancy and lactation should be done in females to increase their active participation.

Conclusions drawn from the above study would be useful in planning of various polices and interventions to increase voluntary blood donation in our area.

REFERENCES

1. Mansour AH. Blod donor recruitment. ISBT Science Series (2009) 4, 11–13
2. Fordham J, Dhingra N. Towards 100% voluntary blood donation: A Global Framework for Action. Geneva: WHO; 2010. [PubMed] [Google Scholar]
3. Chauhan R, Kumar R, Thakur S. A study toassess the knowledge, attitude, and practices about blood donation among medical students of a medical college in North India. J Family Med Prim Care 2018;7:693-7.

4. Nguyen DD, Devita DA, Hirschler NV, Murphy EL. Blood donor satisfaction and intention of future donation. Transfusion. 2008 Apr;48(4):742-8.
5. Ou-Yang J, Bei CH, Liang HQ, He B, Chen JY, Fu YS. Effective methods for reactivating inactive blood donors: a stratified randomised controlled study. BMC Public Health. 2020 Apr 10;20(1):475.
6. Veldhuizen I, Follea G, deKort W. Donor cycle and donor segmentation: new tools for improving blood donor management. Vox Sang. 2013;105(1):28–37.
7. Swetha T, Jayakumar NL, Prashanth NP. Udayakumar AJ. Joseph AC. Knowledge, attitude, and practice regarding blood donation among undergraduate Medical students- A cross sectional study. Int J Acad Med Pharm. 2024; 6 (2); 506-510.
8. 8.Gupta J, Meena BS, Parashar R. A cross-sectional study to assess knowledge, attitude, and practice about blood donation among voluntary donors at tertiary care hospital. Asian J Transfus Sci 2023;1-9.
9. Uma S, Arun R, Arumugam P. The knowledge, attitude and practice towards blood donation among voluntary blood donors in Chennai. Indian Journal of clinical and diagnostic research 2013, Jun 1;7(6):1043-1046.
10. Kumari, S., Raina, T.R. Knowledge, attitude and practices (KAP) regarding voluntary non-remunerated blood donation (VNRBD) among the students at colleges of Jammu, India. Int J Community Med Public Health. 2015;2(1):45-50.
11. Rizwan, F.A., Al-Amri, R.O., Al-Harthi, A.A., Al-Otaibi, N.A., Al-Otaibi, R.F. Knowledge, attitude, and blood donation practices among medical students of Taif University, Saudi Arabia. Saudi J Health Sci 2022;11: 68-73.
12. Sojka BN, Sojka P.The blood donation experience; perceived physical, psychological and social impact of the blood donation on the donor Vox Sanguinis 2003 84 :120-28.
13. Jiang L, Zhong X, Zhu S, Mao Q, Yuan F, Li N, Luo H. Knowledge, attitudes and practices towards blood donation among donors: A cross sectional study in Shaoxing, Zhejiang, China. BMJ Open2025-099833.