Exploring Voluntary Blood Donation: Attitudes and Practices in Udaipur's Semi-Urban Adult Population

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Abstract— *There is a need to strengthen blood donor management in order to reduce the demand supply gap. Efforts are needed in this direction at all levels including educating and motivating more individuals to be involved in voluntary blood donation and converting them to retention donors. In order to develop rational and evidence based systems to be address blood shortage, it is needed to assess the current donor services and improve them to encourage more future donations. The present study explores the perceptions and practices of adults in a semi-urban area of Udaipur regarding blood donation and trying to identify the factors associated therewith. This cross sectional study was conducted on 3087 adult participants of semi urban areas of Udaipur from June 16, 2016 to August 15, 2016. It was observed that 91.2% of the participants were aware that blood donation is important for saving lives and 78.7% had a favorable attitude towards blood donation. However, in practice, less than 20% had ever donated blood. On further analysis educational level had found to have a significant effect on the knowledge regarding blood donation with p-value<0.00. So it can be concluded from this study that although the awareness about blood donation is quite high but very few people have actually donated blood voluntarily. Motivational interactive sessions at the community level are needed to allay the fears and misconceptions related to blood donation.*

Keywords: Blood donation, Perceptions, Practices.

I. INTRODUCTION

Blood is a complex fluid which has no substitute. Therefore, blood donation by human will continue to be the only source for blood and blood components. One unit of blood is converted into packed cell volume, fresh frozen plasma, platelet concentrate, cryoprecipitate and granulocytes concentrate.[1] Thus a single unit of blood can benefit several patients. The need for blood transfusion may arise at any time in both urban and rural area. The unavailability of blood has led to deaths and many patients suffering from ill health. In high-income countries, the most frequently transfused group is elderly patients for supportive care in surgery, trauma and malignancies. In low- and middle income countries majority of transfusions are for children to manage severe childhood anaemia and for pregnancy-related complications.[2]The collection of blood from voluntary, non remunerated donors from low risk populations is an important measure for ensuring the safety, availability, quality and accessibility of blood transfusion.[3] Around 112.5 million blood donations are collected globally every year.[4]

Eleven countries in the South-East Asia Region reported the collection of 15% of global blood donations, though these countries represent 26% of the global population.[5] The average blood donation per 1000 population per year is 1.8 to 30.8 (median 7.9) in South-East Asia.[5]

World Health Organization has adopted a policy aimed at 100% voluntary blood donation procurement by the year 2020.[3] In India, this figure has steadily risen from 54% in 2006-07 to 79% in 2015- 16 but still there is shortage of almost 2 million units annually.[6] Since the shelf life of donated blood is short, there is a constant need to replenish the stock in the blood banks. This problem can be addressed if 2% more Indians donate blood.[7]

Majority of studies conducted to assess blood donation practices have found the level of voluntary donation among people to be very less[8,9] To So this study was conducted to explore the perceptions and practices of adults in a semi-urban area of Udaipur regarding blood donation and trying to identify the factors associated therewith. Myths and misconceptions related to voluntary blood donation were also found in this study.

II. METHODOLOGY

A hospital based observational descriptive type of cross sectional study was conducted on 3087 adult participants of semi urban areas of Udaipur, who attend tertiary care centre at R.N.T Medical College and attached Hospital Udaipur. The study was conducted from June 16, 2016 to August 15, 2016. The necessary approval for the study were taken prior to study that is from Institutional research review board and Ethical committee.

All eligible subjects were given a separate isolated chamber to ensure confidentiality/ privacy. They were explained about nature and purpose of the study after developing the rapport with the participant. A brief description about questionnaire were given by investigator to alleviate their apprehension and understanding about the questions and assurance about confidentially and anonymity.

After taking written informed consent a pre designed semi structured questionnaire were given and they were asked to fill all questions by their best of understanding within half an hour. They were strictly instructed about not writing their name or disclose their identity on questionnaire. Prior to filling up the questionnaire, participant was again informed about anonymous and confidentially approach about their personnel details.

Data thus collected were entered in Microsoft Excel Sheet by the same investigator himself on same day so as to minimize data entry bias if any. Data were analysed using SPSS version 24 (Trial version). The results were presented as percentages and Chi-square test was used to assess the association. P-value of less than 0.05 was considered as significant.

III. RESULTS

Out of total 3087 participants, majority (1279 i.e. 41.43%) were in 18-29 years of age followed by 30-39 years (25%), 40-49 years (22.31%) and 50-59 years (12.1%). Male to female ratio was 11.4. Majority of study participants i.e. 77.1% were educated high school and above. Seventy five percent i.e. out of total 3087 participants, 2315(75%) were married. Majority (43.6%) of study population were home makers followed by students, shop owners/clerk, semiskilled/skilled workers and professionals. (Table 1).

Table 1
Socio-demographic profile of study participants (N=3087)

S. No	Socio-demographic Variables		Number	Percentage
1	Age in Years	18-29	1279	41.43
		30-39	772	25
		40-49	689	22.31
		50-59	347	12.1
2	Sex	Male	2840	92
		Female	247	8
3	Education Status	Illiterate	87	2.6
		Primary	463	14.9
		Middle School	168	5.4
		High School	1385	44.8
		Secondary School	464	15
		Graduate and above	382	12.3
4	Marital Status	Ever Married	2315	75
		Never Married	772	25
5	Occupation	Student	679	21.9
		Homemaker	1348	43.6
		Semi-Skilled/Skilled	387	12.5
		Shop Owner /Clerk	657	21.2
		Professional	16	0.5

All participants had heard of blood donation and 91.2% were aware that it can be important to save lives. And 90% knew that blood can be donated in hospitals and blood banks are there in hospitals. 56% had heard about or seen a blood donation camp being organized (Table 2).

66% knew that HIV/AIDS can be transmitted through transfusion of unsafe blood. However, only 6% could name any other disease transmitted through unsafe blood like hepatitis, malaria, syphilis etc. (Table 2)

Table 2
Awareness and Knowledge of blood donation (N=3087)

S. No.	Awareness and Knowledge items	Correct response (%)
1	Heard of blood donation	**3087(100)**
2	Awareness of importance of blood donation in saving lives	**2817(91.2)**
3	Awareness of blood donation in hosp and blood banks	**2779(90)**
4	Heard or seen of blood donation camp	**1729(56)**
5	Minimum age for blood donation(18 yrs)	**2471(80)**
6	Maximum age for blood donation (65yrs)	**1698(55)**
7	Minimum weight for blood donation(45Kg)	**1235(40)**
8	Whether blood replenished in the body	**2021(65)**
9	Amount of blood donated at a time (350ml)	**685(22.1)**
10	Frequently of blood donation(every 3-4 months)	**2165(70)**
11	Any disease that can be transmitted by unsafe blood	**186(6)**
12	Whether sick persons can donate blood(Y/N)	**2431(78.7)**
13	Whether person is examined for fitness before donation(Y/N)	**867(28)**

Regarding attitude of participants towards blood donation, majority of the participants showed a willingness towards blood donation. Likewise, majority of participants (87.9%) felt that blood donation saves lives and should be donated by healthy persons regularly (76.2%).78.7% would be willing to donate blood if needed , while 59.1% would also encourage family/friends to do so. (Table 3)

Table 3
Attitude towards voluntary blood donation (N=3087)

S. No.	Attitude related items	Yes(%	No(%)
1	Blood donation saves lives	**2716(87.9)**	**371(12.1)**
2	Blood should be donated by healthy persons regularly	**2354(76.2)**	**733(23.8)**
3	Would be willing to donate blood if needed	**2432(78.7)**	**655(21.3)**
4	Should blood be bought	**520(16.8)**	**2567(83.2)**

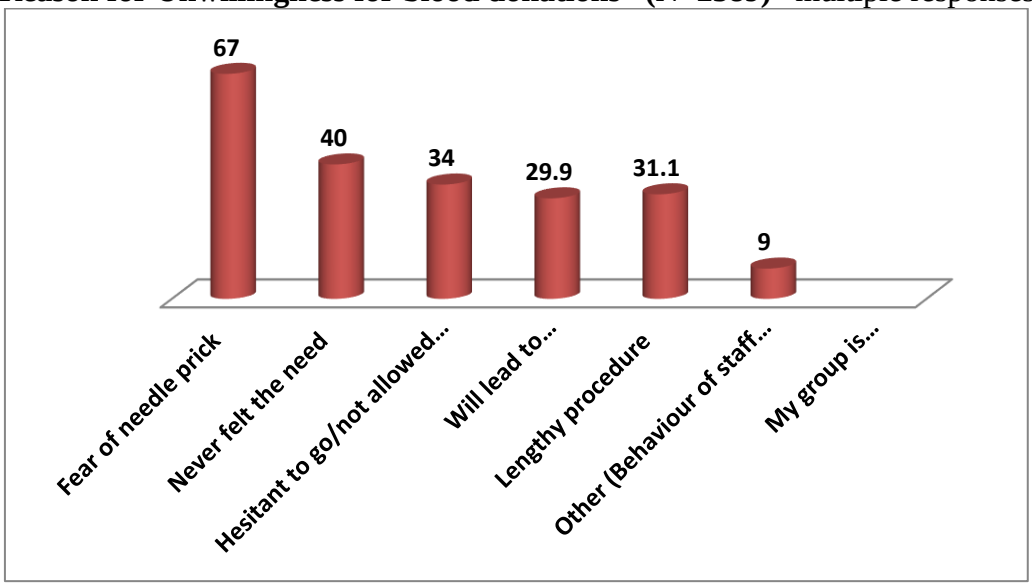
But despite the high awareness level regarding blood donation, only 498 (16.1%) participants had ever donated blood, of them only 124 had donated only once, voluntarily and in a camp. Of those who had donated, more than half had been replacement donors. The source of knowledge for most of the people were mass media (78%), followed by friends/relatives (33%) and health professionals(15%). (Table 4)

Table 4
Practices regarding blood donation (N=3087)

S. No.	Characteristics	Yes (%)
1.	**Practices Items(N=3087)**	
	a. Ever donated blood	**498(16.1)**
	b. Donated blood only once (also included in ever donated)	**124(4)**
2.	**Circumstances leading to donation**	
	a. Voluntary	**124(4)**
	b. Replacement	**374(12.1)**
	c. Paid	**0(0)**
3	**Last donated**	
	a. <1 yr ago	**345(11.1)**
	c. >1 yr ago	**153(4.9)**
4.	**Place of Donation**	
	a. Hospital	**358(11.5)**
	b. Camp	**140(4.5)**

On attempting to inquire into reasons for unwilling for blood donations from non donors, 67% admitted to having fear of needle prick, while 40% never felt the need.29.9% were apprehensive that blood donation would lead to weakness/ having less blood(pallor).9% giving the other reason like (Behaviour of staff bad/Preserve rare group/My group is sufficient/Constrain). (Figure 1)

Figure 1
Reason for Unwillingness for blood donations* (N=2589) *multiple responses



On further analysis age less than 40 years and education status were found to have a significant association with 'correct knowledge' on blood donation. Participants who were less than 40 years, schooling more than 8 years had significantly more knowledge than their counterparts. (Table 5)

Table 5
Association of knowledge with age, gender, number of years of schooling

S.N	Characteristics	Correct knowledge (%) Yes (n=2165)	No (n=922)	Total (n=3087)	P Value
1	**Age**				
	>40 years	520(59.7)	351(40.3)	871(100)	<0.001*
	<40 years	1645(74.2)	571(25.8)	2216(100)	
	Total	2165(70)	922(30)	3087(100)	
2	**Sex**				
	Male	1967(69.2)	873(28.7)	2840(100)	<0.001*
	Female	198(80.1)	49(19.9)	247(100)	
	Total	2165(70)	922(30)	3087(100)	
3	**No of years of schooling**				
	<8 years	369(56.3)	286(43.6)	655(100)	<0.001*
	>8 years	1796(73.8)	636(26.1)	2432(100)	
	Total	2165(70)	922(30)	3087(100)	

:indicates significance

IV. DISCUSSION

This present study to access the status of awareness, attitude and practice of adults regarding voluntary blood donation. There was good awareness among the participants on the importance of donating blood, this has been reported in other studies also done in India.[8,9]

Knowledge of transmission of HIV/AIDS through unsafe blood was known to 66 % participants in this study. However, only 6% could name any other disease transmitted through unsafe blood like hepatitis, malaria, syphilis etc. The knowledge of transmission was found higher in a study done among health workers in Nigeria, where most participants (95.7%) were aware of risk of transmission of infection by transfusion[10] and a study also done in Delhi among adult population, where 62% participants were aware of risk of transmission of infection by transfusion.[11.]

Education status was found to be associated with knowledge of blood donation (p<0.001). Similar findings have been found among adults by researchers of Delhi, Saudi Arabia and Ethopia.[11,12,13] Special efforts should be directed towards spreading knowledge among lesser educated or illiterate population so that they are involved in blood donation activities. In the present study feamales were having better awareness than males where few also reported no significant difference in awareness regading blood donation in males and females like in semi urban population of delhi[11,]and rural population of Pakistan.[14]

Majority (78.7%) of participants had a positive attitude towards blood donation and were willing to donate blood if required. In a study on blood donation conducted on adult population in a rural community of Uttarakhand, revealed a similar attitude.[9] Similar favorable attitude was also reported among medical students in a study done at Pondicherry and Delhi[15,11.]

Even though awareness levels on importance of blood donation were high in the study participants, very few had actually donated blood in their lifetime. A lesser proportion (<1%) has been reported among medical students though their younger age may be the factor for very few to have donated blood.[10]

However, this was much less as compared to that reported in a rural hospital of Pakistan (32%) and also in urban areas of Ethopia where 16-18% had donated blood at least once.[14,13,16]

Major reasons mentioned by non-donors were fear of needle pricks, followed by never having felt the reason to donate blood. A study among medical students reported the reasons for not having donated blood as lack of opportunity, lack of family support, indifference and fear.[10] Similarly the study in a rural hospital of Pakistan have reported" no one asked the person to donate blood" as the chief (85%) reason for non-donation.[15] This clearly points out to lack of efforts/non effectiveness of current efforts towards behavior change and communication in this field.

V. CONCLUSION

This study emphasize that merely knowledge and awareness are not enough to motivate people for donating blood. Even though most of the people realized the importance of blood donation as a life saving measure, still the rate of voluntary blood donation is very low. More interactive sessions to motivate people and allay their fears of needle prick and loss of blood need to be undertaken at the community level so that the target for 100% voluntary blood donation can be achieved.

CONFLICT OF INTEREST

None declared till now.

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