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Original Research Article

Assess Awareness, Behavior and Practices Regarding the Donation of Blood among Private University Students of Lahore: A cross-sectional study

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Abstract

Blood transfusion centers are vital part of the health system and donors make a unique involvement in saving lives and enhancing affected persons health. The study is to ensure a safe and adequate blood supply. Blood transfusion services must be established to maintain a safe pool of free and voluntary blood donors. A cross-sectional design was used in this study. The research was conducted at a private university in Lahore. The target population of this research was students. 385 students from different departments participated in this study. Data was analyzed on SPSS version 21. The results showed that only 24.4% of students have inadequate knowledge about blood donation. The attitude of the participant was not too good towards blood donation. 64.6% of participants show a positive attitude. The majority of university students have inadequate knowledge about blood donation. Their attitude was positive toward blood donation. Most students show their willingness for blood donation. Their Practices were average but if we compare it with past study, then it shows a valuable change.

Keywords: Awareness, Behavior, Practices, Blood donation, University Students

INTRODUCTION

Blood transfusion centers are vital part of the health system and donors make a unique involvement in saving lives and enhancing affected persons' health. To ensure a safe and adequate blood supply, blood transfusion services must be established and maintain a safe pool of free and voluntary blood donors. A high level of care must be provided to blood donors and their health and safety must be ensured. Counseling is essential to blood services to care for all who come to donate blood (WHO and CDC, 2016).

At the age of ancestors, blood is an important part of human life. The requirement of blood and blood items has increased and the latest operational and clinical method. Blood donation is not enough to fulfill the requirement of blood because there are a large number of diseases that need blood due to trauma and a different severe medical situation like cancer, chronic anemia, sickle cell anemia. With complete indication, blood donation saves lives. The demand for blood and blood items is also high today (Melku et al., 2016)

With the development of technology in the medical profession, the population aging with a high occurrence of chronic disease, rise of violent behavior, number of accidents, blood transfusions have increased in the past few decades. According to the recent situation, the need for blood donors volunteer is obvious, especially in low and middle-income countries (Andsoy et al., 2016)

The World Health Organization (WHO) usually decides base on each country's blood transfusion needs about blood. 3% to 5% of the population donating blood is required to ensure the adequacy of the entire population (Jb, Omj and Tayou, 2018). Blood donation

behavior studied worldwide generates information to guide more effective strategies to increase voluntary and recurring blood donations and hence blood safety (Zucoloto et al., 2020)

There is a decrease in the number of transfusions in some Western countries. According to the World Health Organization (WHO), between 75 and 90 million units of blood are injected each year. The demand for blood donations per 1000 inhabitants is met by 40 people in developed countries, 10 people in countries of middle-income and 3 people in countries of low-income. The most popular blood donors are voluntary, non-remunerated blood donors (VNRBD) from the low-risk group**.**(Papagiannis, et al., 2016)

Thus, studying students' knowledge, attitudes and practices towards donating blood directly or indirectly has a significant positive impact on society concerning this problem. They are important when recruiting blood donors and their knowledge of blood donation, their attitude to voluntary blood donation and blood donation rates (KAP) are also important when recruiting blood donors (Malako et al., 2019). Donation behavior is being studied around the world to provide information on more effective strategies for increasing the number of voluntary and repeated blood donors and thereby ensuring blood safety (Zucoloto et al., 2020)

The knowledge of the blood donation process by the population has a positive effect on the act of donating blood, emphasizing the importance of the education of the population and knowledge in the field of blood donation (Raghuwanshi, 2016). Medical science students will become future health professionals and will play an important role as influencers on their social/professional networks (Zucoloto et al., 2020). To ensure the donor does not affect blood donation, it is necessary to get an insight into the iron status of the entire blood donors in blood collection centers, how it impacts donor health, and how low iron storage can be handled by blood donors (Sweegers et al., 2019).

Frequent donation reduces blood pressure for hypertensive patients. In particular, these results suggested that donors with higher blood pressure in a donation appear, on average, to have more normal values in other donations whether these other donations come before or after the high value observed (France et al., 2017).

In France, information obtained in post-donation interviews revealed that most donors who were diagnosed with human immunodeficiency virus (HIV) were not even qualified for donations in compliance with donor eligibility criteria (Duquesnoy et al., 2017).

WHO recommends that countries center their attention on young people so that by 2020 they receive 100% free voluntary blood donation. It also recommends that all countries supply all blood products and that blood donors be volunteered, anonymous, and free of charge. According to a 2011 report, 107 million blood donors are composed around the world and about half go to high-income countries, where 15% of the world's population lives. Blood donation rates in the high-, middle- and low-income countries were 39.2, 12.5, and 4.0 per 1000 population, respectively. In low-income countries, up to 65% of blood transfusions are given to children under the age of five, while in high-income countries, blood transfusions over 65 are the most common, up to 76%. In each transfusion, compared to the 2004 report in 2011, 7.70 million blood donation incenses were received from unpaid volunteer donors. However, in most countries, more than 50% of the blood supply is still provided by trusted or paid donors (Melku et al., 2016).

Blood shortages are common in hospitals and resulted from a gap between the growing demand for healthy blood and blood components on the one side and the failure of possible donors to arrange a daily blood supply due to confusion, perceived harm and threats, and lack of motivation. Pakistan is one of the countries where blood donation still relies mostly on patients ' families and paying donors at the time. The WHO's target, however, is for all countries to receive all blood supplies by 2020 for free and unpaid donors (Javaeed et al., 2020)

With the growing demand for safe blood for transfusions in Pakistan, it is imperative to persuade appropriate donors to make regular voluntary donations so that our reliance on substitutes and paid donors can be reduced as we continue to donate. Medical students can serve as public voluntary blood donors for their affiliated teaching hospitals and help lessens shortages of blood and blood products. Besides, they can encourage healthy populations to donate blood voluntarily, and thus can significantly reduce the breach between blood supply and demand. In Pakistan, less than 25% of blood donations come from voluntary unpaid donors, according to the Global Blood Safety Database. In Pakistan, total blood donations per 1,000 populations are 10-19.9 compared to countries of high-income where there are 36.4 donations per 1,000 individuals. Much of the donations in Pakistan come from alternative donors (70 percent), and paying donors only make up 10 percent of the country's blood supply.(Anwer et al., 2016)

Donated blood must not be contaminated with dangerous diseases. There should be standardized methods and protocols for blood collection procedures that are not yet fully developed. Adequate blood banks and supplies are essential to prevent blood loss and eliminate the risk of infection. Awareness can be created by educating the public on the importance of donating blood.(Sughra et al., 2019)

This study will help identify potential obstacles to donating blood. It will also highlight people's misconceptions about donating blood when visiting a healthcare facility. This study will also confirm the importance of information programs, campaigns and advertisements in disseminating information about blood donation and its urgent need in our country.

Objectives

The objective of this study is to assess the awareness and behavioral practices concerning the donation of blood between students of the university.

Aim of study

The purpose of the study is to identify the awareness, behavior, and practices regarding the donation of blood among university students. Understand their thoughts and perception related to the donation of blood.

Significance of the study

This study is significant in understanding the behavior of university students regarding the donation of blood, their awareness and most importantly their practices. This will help the concerning authorities and different blood donation societies to develop strategies, raise awareness and enhance practices related to blood donation. So the demand should be met and it also motivates students to become future volunteer blood donors. If we successfully motivate the students regarding blood donation, it fulfills the requirements of a blood recipient in our community.

Research Hypothesis

H_0= There is no association between demographics and Knowledge regarding blood donation.
H_a= There is an association between demographics and Knowledge regarding blood donation.

Study gap

According to available resources, there is no publication regarding blood donation in Lahore after 2017. And as we know that the blood and blood product is the most important part of our life and its demand is increasing day by day. In our country, the awareness, behavior, and practices of students toward blood donation were not enough to meet the demand for blood donation. So after the gap of three years awareness, behavior and practices should be checked again. So, effective measures should be taken to enhance blood donation, to meet the demand in Pakistan.

METHODOLOGY

Research design

A cross-sectional design was used in this study.

Research Setting

The research was conducted at the privateUniversity of Lahore.

Target population

The target population of this research was students of private university in Lahore.

Sample size

The sample size is calculated through the Cochrane Formula Equation 1, which comes out 385. As the level of confidence is 95%, so Z on the Z-score table is 1.96, at a margin of error of 05% (0.05), p is the (estimated) proportion of the population that has the attributes in question, and q is the remaining portion (1-p)
n= Z2pq/e2
n= (1.96)2(0.5) (0.5)/ (0.05)2
n= 385
The estimated population is about 1100.

Sampling technique

A convenient sampling technique was used in this research.

Instrument

Awareness, behavior and practices related to the donation of blood instruments were used in this research which has four parts. First, the part name is demographic data and it consists of 8 questions.
In the second part, we assess the knowledge of participants regarding blood donation. The part of the knowledge consists of 20 simple questions.

The third part is about the attitude of students toward blood donation. This part consists of 6 questions that will be helpful to us to understand the attitude of the students.

The fourth and last part consists of their practices regarding blood donation. It is further divided into two sub-parts; first donors and the other one is a non-donor. That will be helpful to understand their practices and also useful to find the issue regarding blood donation.

Questionnaire

Knowledge of blood donation was assessed with 20 questions. Each answer was scored "1" for the right answer and "0" for the wrong answer. Study participants

who scored 70% or more points in the information assessment was considered knowledgeable.

Attitude towards donating blood was assessed in the same way with 6 questions. Responses were rated "1" for a positive attitude and "0" for a negative attitude to all attitude questions. Study participants who scored 70% or more on the posture ratings were considered positive. Besides, the practice was analyzed by asking about past donation history and donation intensity.

Sample Selection

Inclusion criteria

The inclusion criteria of this study were:
I. The undergraduate students of a private university in Lahore.
II. Students age 18 to 25 years.

Exclusive criteria

The exclusion criteria of this study were:
I. Absentees of students at the time of survey distribution.
II. Ph.D. students will be excluded from this study.
III. University teachers are also excluded in this research.

Data collection procedure

Step #1: Permission was granted from the university authority.
Step#2: The researcher has introduced herself to participants.
Step#3: Assign the questionnaire to the participant through convenient sampling techniques
Step#4: After signing the consent form all participants explained to them all advantages and disadvantages of the research.

Data analysis procedure

Statistical analysis of the data was completed with SPSS statistics 21. After collecting the data transferred into SPSS for mathematical analysis. This SPSS addition eliminated human data entry and reduced the time required for data entry. It is also easy to use and trustable software.

Study time limit

The study time limit was at least four months from September to December. Each participant had a maximum of 30 minutes to fill the questionnaire in their free time.

Ethical consideration

Written informed consent was attached to all forms. All information and data collected were kept confidential. Subjects remained unidentified through the research. The participant was informed that there are no drawbacks or risks in the procedure of the research. Each participant was involved voluntarily after explaining the objectives and purpose of the study. They were informed that they are free to withdraw during the process of the study, at any time.Information was secured in a laptop, it was kept under a password.

RESULTS

In this study, table 1 shows the demographic of the subjects. Mostly students are females 56.1% and 43.9% are male. 98.7% of students' age range is 18 to 28. Most of the students are muslims (88.65). Most students are from the medical department. Most of them are 2nd and 3rd year students. 93.8% of students are single and 56.1% of students are hosteled.

Table 2 shows the awareness of participants regarding blood donation. The majority of participants have inadequate knowledge about the donation of blood. Only 24.4% of students have adequate knowledge about blood donation. Only 65.5% of students know that blood donation is not harmful to the donor. 38.4% of students prefer hospitals for blood donation and 39.2% of students think donation centers are the best place for blood donation. 81% of students have the correct response that the goal of blood donation is saving someone's life and that's a positive response that our majority of young generation think that every life is important. Only 47.3% of students know the minimum age for blood donation. 23.6% of students have a correct response about the maximum age of blood donation. The responses regarding the minimum volume of blood donation are also poor; only 23.9% of students know the correct answer. 36.6% of students have a correct response about the minimum interval of blood donation. Most students know about their blood groups but only 30.6 % of students know the common blood group. The maximum correct responses of students on that was 75.1% student said that pregnant women should not donate blood and 63.1% of the students said that female during menstruation does not donate blood group. On the other side, most of them know that a person with high(51.7) and low (61.6) blood pressure can't donate blood. 68.6% of students knows that HIV infected person cannot donate blood and 59.7% of students know that HBV, HCV, and malaria is a blood transfusion diseases. 63.9% of students know that blood

Table 1. Shows the demographic of the subjects.

Demographic data	Responses	Frequency (n)	Percentage (%)
Gender	Male	169	43.9
	Female	216	56.1
Age	18 -28	380	98.7
	29-39	5	1.3
Religion	Islam	341	88.6
	Other	44	11.4
Department	Mechanical	50	13.0
	Nursing	104	27.0
	Diet and nutritious	23	6.0
	LBS	13	3.4
	Pharmacy	28	7.3
	DMLS	10	2.6
	Architecture	6	1.6
	UIPT	30	7.8
	Math and Statistics	5	1.3
	DOVS	18	4.7
	Computer Science	13	3.4
	Chemistry	7	1.8
	MID	9	2.3
	MBBS	16	4.2
	IMBB	10	2.6
	Aviation	8	2.1
	BDS	11	2.9
	Public Health	8	2.1
	SOCA	6	1.6
	Sport Sciences	10	2.6
Degree	BS	380	98.7
	MS	5	1.3
Year of study	1	41	10.6
	2	155	40.3
	3	130	33.8
	4	46	11.9
	5	13	3.4
Marital status	Married	24	6.2
	Single	361	93.8
Residence	Day Scholar	169	44.4
	Hosteller	216	56.1

Table 2. Shows the awareness of participants regarding blood donation

Awareness Questions	Responses	Frequency (n) %	Correct Responses	Incorrect Response
Is blood donation harmful to the donor?	Yes	98 (25.5)		
	No	25.5 (65.5)	252 (65.5)	133(34.5)
	No idea	252 (9.1)		
Where is the place of blood donation?	Hospital	148 (38.4)		
	Health center Donation center	56 (14.5)	299 (77.6)	86 (22.3)
	Other	151 (39.2)		
		30 (7.8)		
The goal of blood donation is	Saving relatives' life	46 (11.9)		
	Saving someone's life getting	312 (81.0)	312 (81)	73 (18.9)
	insurance	27 (7.0)		
Minimum age to donate blood	>18 or < 18 years	129 (33.5)		
	18 Years	182 (47.3)	182 (47.3)	203 (52.7)
	Don't know	74 (19.2)		

Table 2. Continue

Maximum age to donate blood	<65 year	152	(39.5)		
	65 year	91	(23.6)	91 (23.6)	294
	Don't know	142	(36.9)		(76.3)
What is the minimum weight for blood donation	<45 Kg	98	(25.5)		
	45Kg	191	(49.6)	191	194
	Don't know	96	(24.9)	(49.6)	(50.4)
What is the maximum volume of blood at once donation	250 ml	84	(21.8)		
	350 ml	102	(26.5)	92 (23.9)	293
	450 ml	92	(23.9)		(76.1)
	Don't know	107	(27.8)		
At what minimum interval can a person donate blood	Every 3 month	141	(36.6)		
	Every 6 month	132	(34.3)	141	244
	Once in a year	79	(20.5)	(36.6)	(63.3)
	Don't know	33	(8.6)		
Do you know about the blood group	Yes	298	(77.4)	298	87 (22.6)
	No	87	(22.6)	(77.4)	
What is the most common blood group type	A	74	(19.2)		
	B	96	(24.9)	118	267
	AB	84	(21.8)	(30.6)	(69.4)
	O	118	(30.6)		
	Don't know	13	(3.4)		
Can pregnant women donate blood?	Yes	48	(12.5)		
	No	289	(75.1)	289	96(24.9)
	Don't know	48	(12.5)	(75.1)	
Can women during menstruation donate blood?	Yes	79	(20.5)		
	No	243	(63.1)	243	142
	Don't know	63	(16.4)	(63.1)	(36.9)
Can cigarette smokers donate blood?	Yes	140	(36.4)		
	No	196	(50.9)	196	189
	Don't know	49	(12.7)	(50.9)	(49.1)
The person can be infected by receiving a blood transfusion	Yes	246	(63.9)		
	No	115	(29.9)	249	139(36.1)
	Don't know	24	(6.2)	(63.9)	
Can a person donate when blood pressure is low	Yes	74	(19.2)		
	No	237	(61.6)	237	148
	Don't know	74	(19.2)	(61.6)	(38.4)
Can a person with high blood pressure donate blood	Yes	111	(28.8)		
	No	199	(51.7)	199	186
	Don't know	75	(19.5)	(51.7)	(48.3)
Can HIV infected people donate blood?	Yes	77	(20.0)		
	No	264	(68.6)	264	121
	Don't know	44	(11.4)	(68.6)	(31.4)
The disease that can be transmitted by transfusion	HBV, HCV, malaria TB	230	(59.7)		
	Don't know	59	(15.3)	230	155
		96	(24.9)	(59.7)	(40.3)
The best source of donor blood	Voluntary Replacement,	171	(44.4)		
	Remunerated	73	(19.0)	171	214
	Don't know	34	(8.8)	(44.4)	(55.6)
		107	(27.8)		
Do all surgical procedure requires blood transfusion	Yes	102	(26.5)		
	No	214	(55.6)	214	171
	Don't know	69	(17.9)	(55.6)	(44.4)

transfusion causes an infection. Only 44.4 % of students think that voluntary blood donation is the right source of donation. 55.6% of people know that all surgical procedures have not required blood transfusion.

Table 3 shows the behavior of the participant regarding blood donation. The attitude of students towards blood donation is positive and 72.2 % of students said that blood donation is a moral duty of us and 68.3% of students show their willingness to donate blood. 62.3% of students said that they donate blood to anyone who wants or who needs it. 58.4% said they encourage others to donate blood. 45.5% of students show their

Table 3. Shows the behavior of the participant regarding blood donation

Behavior Questions	Responses	Frequency (n)%	Positive response	Negative response
Blood donation is the moral duty	Yes	298 (77.4)	298 (77.4)	87(22.6)
	No	52 (13.5)		
	No idea	35 (9.1)		
Willingness to donate blood For the future	Yes	303 (78.7)	303 (78.7)	82 (21.3)
	No	62 (16.1)		
	No idea	20 (5.2)		
Willingness to donate blood to an unknown person if asked	Yes	280 (72.7)	280 (72.7)	105 (27.3)
	No	85 (22.1)		
	No idea	20 (5.2)		
Do you encourage others to donate blood	Yes	225 (58.4)	225 (58.4)	160 (41.6)
	No	84 (21.8)		
	No idea	76 (19.7)		
Willingness to become a regular donor	Yes	175 (45.5)	175 (45.5)	210 (54.5)
	No	128 (33.2)		
	No idea	82 (21.3)		
Willingness to tell the family if donated blood	Yes	213 (55.3)	213 (55.3)	172 (44.7)
	No	101 (26.2)		
	No idea	71 (18.4)		

Table 4. Shows the practices regarding blood donation

Practice Questions					
Donors				**Non Donors**	
Questions	**Response**	**Frequency (n)%**	**Question**	**Responses**	**Frequency (n)%**
Ever donated blood before	Yes	125 (32.5)		No	260 (67.5)
Frequency of blood donation	Once	58 (15.1)	Reasons not donating blood	Felt medically	31 (8.1)
	Two time	48 (12.5)		Lack of adequate information	33 (8.6)
	Three-time	19 (4.9)			
Reason for donation	Replacement	47 (12.2)		Fair of pain	27 (7.0)
	Voluntary	78 (20.2)		No one has asked to donate	79 (20.5)
Feeling after donation	Satisfaction Tired/fatigue	49 (12.7)			
	Mixed feeling	45 (11.7)		Never thought about donating	62 (16.1)
		31 (8.1)			
				Don't like the idea of donating	28 (7.3)

willingness to become a future donor. 55.3% of students said that they told their families to donate blood.

Table 4 shows the practices regarding blood donation. Practices regarding the donation of blood are poor among university students.Only 32.5% of students donate blood and 67.5% of students never donate blood in past.The reason of never donate blood is any medical issue(8.1%), lack of knowledge about blood donation (8.6%), fair of pain(7.0%),no one asks for blood donation in past(20.5%), never thought about blood donation (16.1%) and 7.3% students don't like the idea of blood donation.On the other hand, the students who donate blood most of them donate only one time (15.1%),12.5% of students donate blood two times and the other 4.9% donate three times. 20.2% of students donate blood voluntarily and 12.2% donate blood just for replacement. 12.7% of people said they are satisfied after blood donation and 11.7% of students said they are tired after blood donation. 8.1% of people said they faced mixed feelings like they are not sure about their feelings.

Table 5 shows the association between knowledge and demographics. Knowledge has an association with gender, degree and residence and their p-value is greater than 0.01(α). On the other side, the year of study and department shows no association and their p-value is less than 0.01(α).

Table 5. Shows the association between knowledge and demographics

Knowledge		
Variable	**Chi-square(χ^2)**	**P-value**
Gender	33.075	0.05
Degree	26.116	0.037
Year of study	182.746	< 0.01
Department	518.176	< 0.01
Residence	31.228	0.08

DISCUSSION

In Pakistan, many organizations try to fulfill the requirement of blood for patients. That is why detection of the awareness, behavior and practices is very necessary and this study was conducted to identify the awareness behavior and practices regarding blood donation.

This study results show that only 24.4% of students have a piece of adequate knowledge and the other 75.6% had a piece of inadequate knowledge.The finding of the study is comparable with the study that was conducted in Sudan in which they show that the level of knowledge is about 25% (Sayedahmed, 2020). In Pakistan, there is no proper awareness regarding the donation of blood. Their knowledge is not enough because there is no self-awareness program conducted to educate the people about blood donation and the importance of donation.

According to 65.5% of students, blood donation is not harmful but the other 34.5% of students have a different opinion about donation. Some of them think that blood donation is harmful and they have no idea about this. But in the previous study that was conducted in Ethiopia, 82% of participants gave correct responses about blood donation and its harmfulness to the donor. In the present study, 77.6% of students chose the right place for donation, 23.4% have no proper information about the right place for blood donation. If we compare it to the previous study, then the ratio of correct responses has increased in thisstudy, because in the previous study only 70.6% of participants know the right place for donation (Melku et al., 2018).

In this study, 81% of students have the goal of blood donation to help in saving someone's life and the other 18.9% of students' goals are saving relatives life and getting insurance. The result was compared to the previous study and only 75.5% of participants think that the goal of blood donation is to save someone's life (Melku et al., 2018).

According to the present study, 47.3% of students know the minimum age of blood donation and the other 52.7% have no proper knowledge. But the same study was conducted in India in 2019 in which 65% of students know that 18 years is a minimum age for blood donation (Bharadwaj et al., 2019).

In this study, most students do not know the maximum age of the person for blood donation. Only 23.6% knows that 65 years is a maximum age for donation. But in another study, the ratio of correct responses is appreciated. 46.4% of student have adequate knowledge about it (Zucoloto et al., 2020)

In this study, 49.6% of them know that 45kg is a minimum weight for blood donation. The previous study was conducted in north India in which only 33.6% of participant have a correct response (Sachdev et al., 2016).

Only 23.9% of students know that 450ml is a minimum volume of blood donation. If we compare the result of this question with the previous study that was conducted in Turkey, 54.8% of students gave the correct response (Andsoy et al., 2016). The present study shows that 36.6% of students know that a person can donate blood after 3 months which serve as the minimum interval for blood donation. The result was compared with another study that was conducted in India that showed 53.6% correct responses (Bosco et al., 2018).I n this study, 77.4% of students know about their blood groups and in another study that was conducted in Turkey, the ratio was 73.3% (Andsoy et al., 2016). In this study, only 30.6 % of students know that "O" is a common blood group. The previous study that was conducted in Ethiopia in which 37.6% of participant have correct knowledge (Melku et al., 2018).

According to the results of this study, 75.1% of students responded that pregnant women should not donate blood but 24.9% of students think pregnant women should donate blood. In another previous study that was conducted in northwest Ethiopia, 68.2% of the participants. On the other hand in the present study question about menstruation, 63.1% of female students responded that during menstruation, they do not donate blood and thers think they should donate. We compared the result with the previous study and it showed that 44.8% of participants have a correct response on this. In the present study, 50.9% of students know that smokers are not eligible to donate blood. In the previous study that was conducted in northwest Ethiopia, only 34% of participants know that smoking is not eligible for blood donation (Melku et al., 2016). In this study, 51.7% of students know that person a with high blood pressure

should not donate blood and our results are comparable with other studies that were conducted in Brazil in which the ratio of the correct response was 46.4% (Zucoloto et al., 2020).

According to the results of this study, 61.6% of students know that person with low blood pressure cannot donate blood. These results were compared with other studies that were conducted in Ethiopia. 76.9% of participants gave correct responses (Melku et al., 2018). In this study, according to results, 63.9 % of students know that that blood transfusion causes an infection. In the other study that was conducted in Sudan, only 27.6% of the participant has a correct response (Sayedahmed, 2020).

In the present study, 59.7% students know that HBV, HCV, and malaria is a blood transfusion diseases but in the previous study,75.7% participant has a correct response (Melku, et al., 2018). This study shows that 68.6% of students know that HIV infected person cannot donate blood. Another previous study shows that 83.9 % of the participant knows that infected persons cannot donate blood (Gao and Wang, 2017). Only 44.4 % of students think that voluntary blood donation is the right source of the donation. In a previous study, the ratio was 84% (Bosco, et al., 2018). 55.6% of people know that all surgical procedures have not required blood transfusion. A previous study shows that 87.1% have a correct response (Melku et al., 2016)

The attitude of the participant was not too good towards blood donation. 64.6% of the participants show a positive attitude. The previous study that was conducted in North-West Ethiopia in 2016 claims that more than three-fourths, 630 (82%), of the respondents had a good attitude towards blood donation (Melku et al., 2016).

The practices of the participant are much better than in the previous study. In this study, 32.5% of students reported that they donated blood but if we compare it with a previous study that was conducted in North-West Ethiopia in 2018, only 12.5% of participants responded that they donate blood. The practices increased with time. The ratio of non-donor in the present study is 67.5%. We know that it is higher as compared to the number of the donors but on the other hand, the ratio is also less than the previous study. 87.5% was a non-donor in the previous study (Melku, et al., 2018).

CONCLUSION

The majority of university students have adequate knowledge about blood donation. Their attitude was positive toward blood donation. Most students show their willingness for blood donation.Their practices were average but if we compare it with past study, then it shows enough change.

LIMITATION

Students reactions may be affected by culturally desired attributes, so that the students' attitude and practice may not be accurately represented. Secondly, when answering a few of the questions, there will be a likelihood of recalling bias. The study will be conducted in a single university so their result should not be generalized to the whole country.

RECOMMENDATION

A large scale of sample size will be required to generalize the study findings. To increase the number of participants, this research should be extended to other universities.

Conflict of Interest

No conflict of interest has been declared by authors.

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