

Evaluation of the knowledge and behavior of patients at a university hospital outpatient clinic regarding blood donation

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Abstract

Aim: This study aims to determine the knowledge, and behavior of patients at a university hospital's family practice outpatient clinic regarding blood donation.

Material and method: In this cross-sectional study, the authors administered a questionnaire to patients (400 people) at the university hospital's family practice outpatient clinic for three months. The study data were entered into the SPSS package program, and the author performed the statistical analyses using this program.

Results: The mean age of the participants was 28.70±10.81. Of them, 86% knew their blood type, and 53.8% had a document showing their blood type. Only 21.8% of the participants had previously donated blood. Blood donation was evaluated according to gender; men had offered to donate blood more than women; when evaluated according to marital status those who were married were found to donate blood more than singles. 63.3% of the participants who donated blood said they did so to help other people. Of those who did not donate blood before, 29.1% now consider donating?? In response to the question, how much a person is supposed to weigh in order to donate blood, 47.0% said a person should weigh at least 50 kilograms. When asked how often you could donate blood, 23.8% said every three months.

Conclusion: The participants' attitudes and behavior regarding blood donation were positive. Knowledge of participants is not enough. They are moderately well informed about this issue. People should be continuously provided with training about blood donation to increase their awareness.

Keywords: Blood Donation; Behavior; Knowledge; Hospital.

INTRODUCTION

Blood donation is a process of taking blood from suitable volunteers at blood centers to obtain various blood products (1). Today, many patients are waiting for blood donation for their treatment and they lose their lives because blood donation cannot be done on time (2). Every society has to make study and preparations to find the blood it needs. These studies and preparations have to be performed at national level (3). For many years in our country, the Turkish Armed Forces have become the most important source of blood donation. Following the understanding of the importance of blood donation, a blood donation organization was established in the Turkish Red Crescent Society in 1974 (4). Although some individual efforts and studies of the Turkish Red Crescent Society related to the blood donation issue have been continued, these studies have never reached an effective result in society throughout the country.

For this reason, a project on how to carry out blood services across the country was prepared and the Safe Blood Supply Project was implemented on June 1, 2005 (5). One of the most important problems of the health system in Turkey is the lack of sufficient blood donation (6). This problem is growing day by day with the increase in the need for blood donations due to progress in healthcare (7). In studies conducted by the Red Crescent in our country, most people are reluctant and unwilling to donate blood because of wrong knowledge and prejudices (8). Although blood donations in developed countries are at levels of 5%, they are at levels of 1.5% in our country (2,9). Socio-cultural characteristics, demographic data, and economic differences play a role in the rate of blood donation (10). In order to increase the blood donation in our country, firstly the society's level of knowledge about blood donation should be measured, the wrong beliefs of the society must be found and necessary information about blood donation must be given (11). Looking at similar studies in the literature, a study by Kasraian and Maghsudlu has concluded that 74.7% of blood donors are donating blood without expecting anything in return. Those who donated blood for the need of relatives or for any kind of provision in return needed an incentive to give blood (12). In a study conducted by Bucuniene and colleagues in Lithuania, it was concluded that a very large

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proportion of blood donors gave blood (50%) when a close relative needed blood, and only a small fraction (20%) voluntarily gave blood without an emergency (13). In our country, in a study conducted in Mersin, people stated that they gave blood mostly as a civic duty (14). In similar studies where the causes of not giving blood are investigated; In a study in Iran, wrong beliefs, ignorance, and insensitivity were found to be the most important reasons for not donating blood (15). In studies conducted in our country, infectious diseases are the most common cause of not giving blood (14).

This study has been determined to find out the knowledge and behaviors about blood donation of patients who applied to the family practice center in a university hospital.

MATERIALS and METHODS

This cross-sectional study was implemented to the patients who applied to the family practice center of Firat University in 3 months. The size of the sampling was determined using the sample size determination formula proposed for cases where the population and the prevalence are not known. The sample size to be reached for the range of 95% confidence was calculated as 384 people and it was aimed to be 422 people with 10% excess. Since 22 people did not want to fill out the questionnaire, 400 people were reached (participation rate 94.8%). In order to collect data, a questionnaire formed by the researchers was used. The clarity of the survey form has been tested by preliminarily applying to 20 people and necessary corrections have been made. The questionnaire was applied to all patients over the age of 18 years who came to the polyclinic on the days during the three months when the research was performed. The inclusion criteria consisted of patients who applied to the clinic and voluntarily accepted to answer the questionnaire on the day the research was conducted.

After making the necessary explanations about the questionnaire, the questionnaire was filled by the patient in 15-20 minutes. The questionnaire form used as a data collection tool in the survey consists of 35 questions in two parts. In the first part, sociodemographic information like age, gender, marital status, level of education and place of residence are asked. In the second part, there are questions towards revealing knowledge and behaviors of the patients participating in the research about blood donation. Ethic approval for the research was obtained with the letter numbered 05/08 and dated 10/03/2015 of Firat University Ethics Committee for Non-Interventional Studies. The research was carried out in March-April-May 2016 following approval of the ethics committee of the Firat University.

In evaluation of the data obtained in the research, for the statistical analysis the SPSS 21.0 packaged software was used and chi-square test was performed. Means are given with standard deviation. Only variables with significant associations (i.e.p-value<0.05) with blood

donor in the χ^2 tests were considered in the logistic regressions. Non blood donor was collected in one group. They were compared for risk factors blood donor (non-blood donor: 1, blood donor:0). The odds ratio (OR) and its 95% confidence interval (CI) were calculated for each categorical variable.

RESULTS

The mean age of the participants was 28.70±10.81 (min =18, max=62) years and 67.5% (n=270) were male. 63.0% (n=252) were university graduates and 68.2% (n=273) were single. 39.0% (n=39) of the participants were students, 35.7% (n=143) were civil servants and 13.2% (n=53) were housewives (Table 1).

Table 1. Descriptive characteristics of survey participants

Variable	n	%
Gender		
Male	130	32.5
Female	270	67.5
Age (years)		
↓-20	76	19.0
21-30	204	51.0
31-40	58	14.5
41 and ↑	62	15.5
Marital status		
Married	127	31.8
Single	273	68.2
Education		
Not a school graduate	16	4.0
Primary school graduate	31	7.7
High school graduate	101	25.3
University graduate	252	63.0
Occupation		
Civil Servant	143	35.7
Student	156	39.0
Retired	13	3.3
Worker	22	5.5
Tradesman	13	3.3
Housewife	53	13.2

86.0% (n=344) were aware of their blood group and 53.8% (n=215) has blood group card. 21.8% (n=87) of the participants were found to have made blood donation. 8.5% (n = 34) of the participants gave blood once, 4.5% (n=18) twice, 3.8% (n=15) three to five times, 5.0% (n = 20) six to ten times. To the question, what was effective on your first blood donation, answers are given as: 63.3% (n=55) willingness to help, 24.1% (n=21) blood need for a close relative, 12.6% (n=11) influenced by announcements. Participants performed their first blood donation mostly in hospitals (57.5%) and secondly in Red Crescent Blood Centers (19.5%). As reasons for not donating blood; 31.6% (n=99) thought that they did not have enough blood to donate and 26.2% (n=82) neglected it. 29.1% (n=91) of the non-blood donors were considering blood donation. To the question is there enough blood donations to meet the needs of the patients in our country, 70.0% answered no, 25.0% did not know and 5.0% answered yes (Table 2).

Table 2. Distribution of answers to some questions about blood donation by the patients participating in the survey

Questions	n	%
Knowing of blood group		
Yes	344	86.0
No	56	14.0
Having a blood group document		
Yes	215	53.8
No	185	46.2
Blood donation status		
Yes	87	21.8
No	313	78.2
How many times have you been blood donated?		
None	313	78.2
Once	34	8.5
Twice	18	4.5
3-5 times	15	3.8
6 -10 times	20	5.0
What is effective in your first blood donation? (n=87)		
Willingness to help	55	63.3
Blood need for a close relative	21	24.1
Announcements	11	12.6
First blood donation location (n=87)		
Hospital	50	57.5
Red Crescent Center	17	19.5
Mobile Blood Donation Vehicle	14	16.1
Military	6	6.9
The reason for not blood donation (n=313)		
I do not have enough blood to make a donation	99	31.6
Neglect	82	26.2
Fear	53	16.9
I've been using drugs	34	10.9
If there is blood needed for my relative	24	7.7
Disease infection	12	3.8
I do not need it because of the frequent presence of my blood group	6	1.9
Laziness	3	1.0
Blood donation consideration of non-blood donors (n=337)		
Yes	91	29.1
Yes, but I have health problems	82	26.2
When necessary	86	27.5
Undecided	28	8.9
No	26	8.3
How do you find blood when you or a close relative need it?		
Red Crescent	188	47.0
Volunteers	119	29.8
With the donation of relatives	74	18.5
Buying with money	13	3.2
I do not know	6	1.5
Is blood donation enough in our country?		
Yes	20	5.0
No	280	70.0
I do not know	100	25.0

When blood donation is evaluated according to genders; Men have made blood donations more than women ($p<0.001$) and according to marital status married ones donated more than singles ($p<0.01$). Education level does not affect blood donation.

According to the occupational distributions of the participants in the survey; most blood donations came from civil servant/worker group with 33.9% ($n=56$), 14.1% ($n = 22$) from students, 13.9% ($n = 7$) from housewives and none from tradesman (Table 3) ($p>0.05$).

Multivariate logistic regression showed that as the age increases, the rate of blood donation increases (OR 3.86, 95% CI 1.66–6.63) (Table 4). When the answers of the participants given to the information questions in the survey are examined, the question of how much blood is donated at one time is answered as; 36.0% (n = 144) 500 ml, 36.0% (n=144) I do not know, and 16.5% (n = 66) 250 ml. When asked about the frequency of blood donation, 23.8% (n = 95) answered as quarterly. The question, at least how many kilograms of weight blood

donors should have, had a response by 47.0% (n=188) as 50 kilograms. Answers to the question asking if there are any side effects of donating blood, are: 40.8% (n=163) no side effects, 33.8% (n = 135) makes weakness, 11.0% (n = 44) fattens, 6.2% (n = 25) appetising, 4.8% (n=19) I do not know, 2.5% (n = 10) causes weight loss, 1.0% (n = 4) causes addiction. The most common response to the question of which diseases are being checked for in donated blood is first AIDS, second Hepatitis B, third Hepatitis C and fourth Syphilis (Table 5).

Table 3. Blood donation according to the demographic characteristics of the participants in the survey

Demographic characteristics	Blood donorn %		Non -blood donorn %		Test
Age (Years)					
18-25	40	17.2	192	82.8	$\chi^2=21.05$ p<0.001
26-35	12	15.2	67	84.8	
36-45	17	37.8	28	62.2	
46 and ↑	18	40.9	26	59.1	
Gender					
Male	64	49.2	66	50.8	$\chi^2=85.45$ p<0.001
Female	23	8.5	247	91.5	
Education					
Not a school graduate	6	37.5	10	62.5	$\chi^2=4.75$ p=0.191
Primary school graduate	5	16.1	26	83.9	
High school graduate	17	16.8	84	83.2	
University graduate	59	23.4	193	6.6	
Marital status					
Married	39	30.7	88	69.3	$\chi^2=8.77$ p=0.003
Single	48	17.6	225	82.4	
Occupation					
Civil Servant/Worker	56	33.9	109	66.1	$\chi^2=25.96$ p<0.001
Student	22	14.1	134	85.9	
Retired	2	15.4	11	84.6	
Tradesman	0	0.00	13	100.0	
Housewife	7	13.2	46	86.8	

Table 4. Comparison of blood donor participants with those no blood donor according to sociodemographic characteristics

Characteristics	Odds ratio	95% Confidence interval	p
Gender			
Female	1.00		
Male	0.09	0.05–1.66	0.001
Marital status			
Single	1.00		
Married	0.48	0.29-0.78	0.003
Occupation			
Housewife	1.00		
Tradesman	0.29	0.12-0.69	0.005
Retired	0.92	0.37-2.31	0.871
Student	0.83	0.15-4.59	0.838
Civil Servant/Worker	2.45	0.00-	0.999

Table 5. Distribution of answers to some questions about blood donation by the patients participating in the survey

Questions	n	%
How much blood can be donated at one time?		
100 ml	25	6.2
250 ml	66	16.5
500 ml	144	36.0
750 ml	6	1.5
1 liter	15	3.8
I do not know	144	36.0
How often can blood donations be made?		
Once in a month	26	6.5
Every three months	95	23.7
Every six months	191	47.8
Once a year	31	7.8
No idea	57	14.2
At what ages is blood donated?		
18-65	201	50.2
25-55	118	29.5
30-45	12	3.0
No idea	69	17.2
The minimum weight the donor should have		
45 kg	24	6.0
50 kg	188	47.0
65kg	43	10.8
75kg	6	1.5
I do not know	139	34.8
Is there side effect of blood donation?		
No side effects	163	40.8
Makes weakness	135	33.8
Weight gain	44	11.0
Appetising	25	6.2
I do not know	19	4.8
Weight loss	10	2.5
Cause addiction	4	1.0
Which diseases are checked in donated blood?*		
AIDS	328	82.0
Hepatitis B	300	75.0
Hepatitis C	262	65.5
Syphilis	78	19.5
Malaria	67	16.8

*More than one answer marked.

DISCUSSION

In our study, the vast majority of patients (86.0%) knew their blood group and more than half (53.8%) had the blood group card. Every person should know his blood group and carry a card that shows it officially. Because, in the case of an emergency, additional time may be required to determine the blood group of the person, and this may even cause death to that person (7). Today, various vital transplantations can be achieved and blood transfusion is one of them. The most important problem both in the world and in Turkey is the shortage of organs for transplantation and voluntary blood donation is the only basic source for blood transfusions. 21.8% of the study participants were found to donate blood at least once. 8.8% of blood donors donated blood three to ten times. This rate is quite high. According to Kaya and his colleagues, 24.0% of the university students gave blood, 7.5% of them gave blood on a regular basis, 16.5%

occasionally gave blood and 76.0% did not give any blood. Hablemitođlu and his colleagues conducted a study on teachers; 34.7% were blood donors and 65.3% were not (17). Blood donation Turkey average rate is 1.5% (2,18). The rate of regular blood donors in developed countries is 5.0% (2,9). In Japan, the number of donors is approximately six million, accounting for 4.8% of the population. Of these, 10% are blood donors for the first time and all are volunteers (19). Although this rate is higher in our study there is insensitivity and indifference on the subject in our country. What we need to do is to encourage our people to voluntarily donate blood consistently and regularly (20). Making blood donors feel that what they do is a very important thing, as well as making free checkups, can motivate voluntary blood donation to ensure continuity. However, the high rate of regular blood donors in our study may be due to the fact that patients are usually residents in the hospital premises and the hospital staff is preferring

our polyclinic and by this reason they are sensitive to the subject.

In our study, to the question "What was effective the first time you donated blood?" the answer at first place was willingness to help and secondly it was the need of blood for a relative. Bereketli's study on university students also found that the first reason for donating blood is willingness to help (11). In Tulunay's study, the most important factor that directed people to regular blood donation was stated to be the idea of saving a life with 31.7% in the first place (9). Our research findings are consistent with the literature. The most important reasons for not making blood donation in our work were found out to be; not having enough blood to donate, negligence and fear. In the study of Yildiz and colleagues, 81.0% of the participants stated that they did not make donations to be able to give blood to their relatives when needed, 61.0% neglected, 44.0% said that they are afraid of infectious diseases and 42.0% stated that they do not have enough blood to donate. In Yavari's study, the most important reasons for not donating blood are wrong beliefs, ignorance and insensitivity. In Greece, a study has shown that when participants were asked why they did not donate blood for one year or longer, the distribution of answers were: 37.7% health problems, 21.6% no blood donation is requested, 20.2% no need of blood donation for close relatives. Wrong knowledge, attitudes, beliefs and fears about blood donation may prevent voluntary blood donation (22). Various causes that prevent the community from making blood donation should be identified and removed. Regular training of the public to eradicate wrong knowledge and behavior, and organizing campaigns can increase voluntary blood donation by motivating people. In a study of Montoya, fear of disease infection, anemia and lack of knowledge were among the discouraging factors in blood donation (23). In addition, the problem of negligence can be eliminated by regular organizations. In the campaigns, while demonstrations and festivities are being held, in the meantime verbal explanations and distribution of small gifts can attract people's attention (9). 70.0% of the respondents indicate that blood donations in our country are insufficient. This rate was 85.0% in the study performed by Basak and colleagues (24).

The rate of blood donation in the 18-25 age group is 17.2% while in the age group 46 years and over this rate is 40.9%. In our study, the rate of blood donation increases with age. In the study conducted by Şihbaraklioğlu and Kiyak, it was found that blood donating individuals of 36-45 age group had the highest rate of 55.9%, while highest ratio of the non-blood donating individuals were found to be in the 18-25 age group with 64.6% (25). These results show that the young population has not been sufficiently sensitive about blood donation. The high number of young donors is important for blood supply and blood donation continuity (26). In our study, men donated significantly more blood than women. In a study conducted by Uma and colleagues in India, 93.0% of the blood donors were male and 7.0% were females (27). The low donation of women may be due to the fact that

blood donation impeding conditions such as anemia and hypotension are more common in women population. As a matter of fact, in a New York study, 92.7% of women were refused to donate blood due to low hemoglobin values (28).

In our study participants who did not graduate from any school had the highest blood donation rate, though this is statistically insignificant. Blood donation rate is low in people with higher education level (29). Blood donation rates can be increased by trainings for many occupations and by group studies among university students. According to the occupational distributions of the participants in the survey; the highest number of blood donations were made by the civil servants / workers group with 33.9%, this ratio was 14.1% for students. To increase blood donation rates, investigations should be undertaken on groups with low volunteerism and misleading beliefs and inadequate knowledge that are affecting blood donation considerations of especially these people should be enhanced (30). In addition, visits to universities with mobile blood donation vehicles and visual presentations can be listed as effective methods to increase blood donation among students.

When asked about blood donation information, 23.8% answered correctly how often blood donation can be made. In a study conducted in Mersin, this rate was 18.0% (14). In our work the question asking the most common blood donation age range was answered correctly by 50.2% marking 18-65. The rate of knowing how much weight a donor should have is 47.0%. To the question asking if there are any side effects of blood donation, 40.8% stated there is no side effects, 33.8% answered causes weakness and 11.0% answered causes weight gain. In Mersin province as a result of a research aimed to find out the knowledge level and attitude of the community about blood donation, it is reported that individuals have misinformation about many issues related to blood donation and that blood donation rate can be increased when people are informed appropriately (14). The four diseases which are the most frequent ones in the answers to the question "Which diseases are being checked for in donated bloods? are the ones mandatorily tested. Among these, AIDS (82.0%) and hepatitis B (75.0%) are the first and second, respectively. Bereketli (11) also reported these ratios to be AIDS (95.1%) and hepatitis B (79.2%) as first and second in his study.

CONCLUSION

Those who participated in the survey have positive attitudes towards blood donation, however their information is not enough. In this regard, the importance of blood donation should be explained to the public, people should be encouraged to increase voluntary blood donation, and misinformation and wrong beliefs should be corrected with education.

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