

Practices and attitudes towards blood donation in health high school students¹

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Abstract

There are very few studies demonstrating the awareness level of our society about “blood requirement” and “blood donation”. The aim of the present study was to investigate practices and attitudes towards blood donation among students from Kars Health High School. The study was conducted in Kars Health High School between March and May 2009. In the present study, was used a questionnaire based on the literature review and that aimed to assess sociodemographic characteristics (18 items) and practices and attitudes towards blood donation (34 items). 291 students participated in this study. The obtained data were evaluated using descriptive analysis. It is observed that the students (12.0%) voluntary donate blood at a rate much above the Turkish average (1.5%), a great majority of the participants consider donating blood (61.5%) and most of them have positive attitudes and practices toward blood donation. A majority of students have positive attitudes and practices towards blood donation. However, donor recruitment programs and regular blood donation campaigns are required to increase the blood donation rate.

Keywords: blood; blood donation; health; attitude; practice

1. Introduction

In parallel to the rise in human life expectancy, the demand for blood and blood products has increased in many countries (Marantidou et al., 2007). Additionally, blood and blood components are of substantial importance in many situations, particularly medical emergencies (Al-Drees, 2008; Cevizci et al., 2010; Güler and Armağan, 2003; Marantidou et al., 2007; Wiwaknitit, 2000). Donated blood can be life-saving for individuals who have lost a large amount of blood in serious accidents, and civil and military conflicts as well as for patients with hematologic diseases

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such as hemophilia, leukemia, aplastic anemia, those receiving treatment for cancer and pregnants (Al-Drees, 2008; Güler and Armağan, 2003; Heper, 2010; Marantidou et al., 2007; Yıldız et al., 2006). Despite considerable advances in the field of medicine, a substitute for blood has not been found yet (Heper, 2010; Tulunay, 2007;). Blood and blood products continue to be a life-saving medicine, the only source of which is human, since they can not be produced in laboratory conditions. Since blood is a life-saving medicine, the only source of which is human, individuals need someone for blood (Al-Drees, 2008; Tulunay, 2007; Yıldız et al., 2006). Blood is an important requirement for the community (Al-Drees, 2008). However, it is not easy to provide adequate blood in any situation (Al-Drees, 2008; Wiwaknitit, 2000). From a sociological point of view, blood donation, today just like in the past, is considered to be altruism, an act of nobility and unselfness. Altruism is one of the important factors in the preservation of social order. The word “altruism” is derived from Latin alter and involves all voluntary behaviours intended to benefit other individuals in the society. One of these behaviours, and maybe the most important, is blood donation (Aksoy, 2005).

Blood banks in Turkey rely on voluntary donations. Despite being long-established, the blood supply is still insufficient. In Turkey, one of the major health problems is unavailability of adequate blood and blood products when necessary. Only in case of natural disasters, holocaust and diseases, is it understood how badly people in need of blood transfusion or other blood products need a unit of healthy blood (Kaya et al., 2007). In our country, numerous people need blood donations for their treatments every day; whereas many people lose their lives because of unavailability of blood in time. In Turkey, only 15 of 10.000 individuals donate blood regularly, which is considerably lower than that in developed countries (Cevizci et al., 2010; Kaya et al., 2007;). In case of insufficient blood supply in blood centers when necessary, patient's relatives have difficulty and seek direct donors, unwilling donors and exchange donors in Turkey. In developed countries, on the other hand, since 8-10% of the population is voluntary donors and donate blood at least once in every year, physicians order blood from blood centers when necessary and the blood is sent immediately (Heper, 2010). A non-developed blood donation practice leads to a shortage in the supply of blood and blood products. In particular, World Health Organization, European Union and other organizations have adopted the principle suggesting that each country should meet the blood product needs from bloods of its own citizens. In order to attain this target, a country should collect blood donations by 5-6% of the population annually. The situation in our country can be better highlighted by examining blood donation practices in other countries. The number of blood donors in Japan is about six million, constituting 4.8% of the population. Also, 10% of these people are first-time donors and volunteers (Akkuş, 2003). Voluntary blood donation

system is widely implemented in countries such as Belgium, Britain, Denmark, France, Greece, Ireland whereas remunerated blood donation system is employed by Germany, Italy and Portugal. However, voluntary blood donation is considered to be the ideal policy which is also endorsed by the Turkish Red Crescent and the Red Cross. In our country, the Turkish Red Crescent has been the first institution to address the issue of providing adequate and safe blood for those who are in need. In 1957, first blood centers in Turkey were established in Ankara and İstanbul by the Turkish Red Crescent. The Turkish Red Crescent is the only non-governmental institution that implements a special recruitment program for the education and organization of voluntary blood donors in our country. As a result of these studies, there has been a considerable increase in the blood donation rate per year in our country. The half of the total amount of annual blood supply is collected by the Turkish Red Crescent (Yıldız et al., 2006). Adequate supplies of blood and blood components should be available in blood banks to meet the needs of individuals (Shenga et al., 2010). According to the 2007 data of the Turkish Red Crescent, the blood donations collected meet up to 40% of the country's need (Blood Services Activity Report, 2007). The studies of the Turkish Red Crescent revealed that many people in our country do not volunteer to donate, that they have misinformation, misperceptions and prejudice about blood donation, that some individuals are unaware of how their blood is used in saving lives, that some people think that blood donation could jeopardize their own health and that most people do not volunteer to donate blood unless they are paid or a relative needs blood transfusion (the project of promoting blood donation awareness in the society). Knowledge and attitudes towards blood donation are inadequate in rural areas (Corwin, 1999). With regard to the blood donation rates in 2007, the Marmara Region ranks the first with a rate of 32%, and the East Anatolia Region ranks last with a rate of 3% due to low educational levels and lack of awareness raising (Blood Services Activity Report, 2007). Blood supply is an important issue in our country, just like all over the world (Blood Services Activity Report, 2007; Corwin, 1999; Shenga et al., 2010).

There are very few studies demonstrating the awareness level of our society about "blood requirement" and "blood donation". Individuals, in general, are unwilling and reluctant about blood donation. They harbour misperceptions, superstitions and prejudice. It is required to determine what and to what extent people correctly know about blood, blood requirement and blood donation. In the light of these data, it should be explored what information should be given and what to be corrected (Solaz, 2004). Blood is considered holy by some people but a symbol of repulsiveness and evilness by others. Therefore, people used blood in the treatment of various disease states and the first treatments were administered mainly by shedding blood (Bayık, 2005).

2. Purpose

Throughout the world, extensive efforts have been made for the recruitment and retention of regular and voluntary blood donors in order to maintain an adequate and safe blood supply (Marantidou et al., 2007). The purpose of the present study was the investigation of the attitudes and practices towards blood donation among students from Kars Health High School. The students, as future health workers, will set an example for the society with both their behaviour and health education and, they will be able to educate students about blood donation and to encourage voluntary blood donation.

To this end, this article addresses the following questions:

1. What are the characteristics of the students' blood types?
2. What are the blood donation histories of the students and the reasons why they don't donate blood?
3. What about the students' practices and attitudes towards the blood donation?

3. Method and Material

3.1. The place and time of study

This study was carried in a high school from Kafkas University in Kars. Time of study was between February and December 2009.

3.2. Population and sample selection

The universe of the study consisted of 350 first and third grade students from Kafkas University, Kars Health High School. This student group had completed courses of surgical nursing and first aid and had also been educated about the importance of blood transfusion in the health services school. Without using a sampling method the 291 students who were studying during this time period and who agreed to participate were included in the research (83.14% ; 291/350).

3.3. Type of study

The study was descriptive design.

3.4. The variables

The dependent variable for this study is blood donation.

3.5. Data collection

3.5.1. Data collection method

A pencil and paper questionnaires were administered to groups of approximately 10 to 40 students in university classrooms. Students were asked to fill out the questionnaires, without giving names and an informed consent form was obtained from each participant. The questionnaire took about 15-20 minutes to complete.

3.5.2.Data collection tools

In this study, was used a questionnaire that was developed based on the literature review, aimed to assess sociodemographic characteristics (18 items) and practices and attitudes towards blood donation (34 items). In general the questions concerned:

- 1- Demographic characteristics (age, gender, long-term place of residence, socio-economic status etc.)
- 2- Blood types characteristics
- 3- Prior history of blood donation and reasons for not- donating blood
- 4- Attitudes and practices towards blood donation

3.5.3. Data collection time

Data were collected between March and May 2009.

3.6. Limitations of the study

The major limitation of this study was that it was conducted into a small sampling. This study, the replies of the nursing students, the data of the research is only limited with the 2nd and 3rd classes of students at Kars Health High School. Except collecting data form, any interview, observation or process has been included to the study.

3.7. The generalizability of the study

Since findings from this study were collected only from an high school, they cannot be generalized to the overall population.

3.8. Research ethics

Written permission was obtained from the education department in which the research was conducted. Students were invited to participate in the study and were informed before verbal consent was obtained. The data was collected in a covering letter and the researchers guaranteed students that their identities and answers would be kept confidential. Completed questionnaires were stored securely.

3.9.Evaluation of data

The data were entered in a computer and analyzed using SPSS for Windows (version 11.5 program). In this descriptive study, values of minimum, maximum, mean and percentage were used for the data analysis.

4. Results

Table 1. Sociodemographic characteristics of the students (N=291)

Sociodemographic characteristics	n	%
<i>Gender</i>		
Female	178	61.2
Male	113	38.8
<i>Grade</i>		
2. grade	153	52.6
3. grade	138	47.4
<i>Marital status</i>		
Married	4	1.4
Single	287	98.6
<i>Place of birth</i>		
The Marmara Region	11	3.8
The Aegean Region	20	6.9
The Black Sea Region	42	14.4
The Mediterranean Region	48	16.5
The Central Anatolia Region	40	13.7
The East Anatolia Region	73	25.1
The Southeastern Region	55	18.9
Other	2	0.7
<i>Long term place of residence</i>		
City	145	49.8
County	96	33.0
Town	16	5.5
Village	34	11.7
<i>Family income status</i>		
Very good	0	0
Good	68	23.3
Fair	194	66.7
Poor	29	10.0
Very Poor	0	0
<i>Is your monthly income sufficient?</i>		
Sufficient	157	54.0
Not sufficient	134	46.0
<i>Do you have any health problems?</i>		
Yes	40	13.7
No	251	86.3
<i>Smoking status</i>		
Yes	52	17.9
No	239	82.1
<i>Alcohol use</i>		
Yes	7	2.4
No	284	97.6
<i>Other substance use (other than cigarette or alcohol)</i>		
Yes	3	1.0
No	288	99.0

The questionnaire was completed by 291 respondents, of whom 113 (38.8%) were men and 178 (61.2%) were women. With regard to the ages of the students: the youngest age was 19 years: the oldest age was 32 years: the mean age was 21.6 years. With regard to sociodemographic characteristics of students: a majority of the students were 2. grade (52.6%), single (98.6%), place of birth The East Anatolia Region (25.1%), who had fair family income status (66.7%), monthly income sufficient (54.0%), who hadn't any health problems (86.3%). Health problems of 17 students constituted an obstacle to blood donation. A majority of the students who usedn't neither cigarette (82.1) nor alcohol (97.6%) (Table 1).

Table 2. Blood type characteristics of the students (N=291)

Blood type characteristics	n	%
<i>Possession of a blood type card</i>		
Yes	142	48.8
No	149	51.2
<i>Do you know your blood type?</i>		
Yes	263	90.4
No	28	9.6

A majority of the students stated that they knew their blood type (90.4%) but did not have a blood type card (51.2%) (Table 2).

Table 3. Blood donation history of the students (N=291)

Blood donation history	n	%
<i>Blood donation status</i>		
Never	256	88.0
Once	17	5.8
Twice	11	3.8
Between three to nine times	6	2.1
Ten times and over	1	0.3
<i>The reason for not-donating blood (n=256)</i>		
Fear of transmission of infectious diseases	18	7.0
Negligence	113	44.1
Refusing to donate unless a relative needs	15	5.9
Thinking it unnecessary since his/her blood type is frequently available	19	7.4
Thinking having insufficient blood volume for donation	91	35.6

Percentage 12.0% of the students expressed having donated blood at least once and the most common reason for not-donate blood was expressed to be negligence (44.5%) (Table 3).

Table 4. The attitudes towards blood donation among the students (N=291)

Attitudes towards blood donation	n	%
<i>What can be the most effective reason for donating blood regularly?</i>		
Blood donation is healthy	20	6.9
Someday I can need blood transfusion too	90	30.9
The idea of saving a life	176	60.5
Announcements	5	1.7
<i>How can blood donations be increased in our country?</i>		
By informing the public through education in schools	157	54.0
With effective use of media organs	89	30.6
By locating mobile blood collection vehicles in crowded parts of the city	9	3.1
By guaranteeing that blood will be immediately made available when the donor or a relative needs	13	4.5
By providing easy transportation to blood donation centers	10	3.4
By giving awards/souvenirs to blood donors	13	4.5
<i>Which center do you prefer if you decide to donate blood?</i>		
The Turkish Red Crescent Blood Centers	105	36.1
University Hospital Blood Center	22	7.6
Blood Centers in Public Hospitals	22	7.6
Blood Centers in Private Hospitals	2	0.7
It doesn't matter	140	48.1
<i>Do you think blood donation causes any side effects?</i>		
Yes	78	26.8
No	213	73.2
<i>Are you considering donating blood?</i>		
Yes	129	44.3
Yes, but I have health problems	50	17.2
I am doubtful	34	11.7
When necessary	69	23.7
No	9	3.1
<i>Who do you think should meet blood supply needs in our country?</i>		
Voluntary citizens	121	41.6
Paid donors	43	14.8
A relative of the recipient (blood-for-blood)	7	2.4
The Turkish Red Crescent	120	41.2
<i>What is the most important thing to encourage blood donations?</i>		
Continuous education of the public about blood donation	200	68.7
Blood donation centers should be easily accessible and clean	39	13.4
The staff should be courteous, caring and trained	11	3.8
Incentives and promotions should be given	36	12.4
Donors should be paid	5	1.7
<i>Do you think that the donor should undergo predonation physical examination and blood tests?</i>		
Never	3	1.0
Sometimes	8	2.7
In well-established blood centers	10	3.4
Always	270	92.8

With regard to attitudes towards blood donation; a majority of the students stated that the most effective reason for donating blood was the idea of “saving a life” (60.5%); that “informing the public through education in schools” was the most important initiative to increase blood donation in our country (54.0%); that blood donation did not cause any side effects (73.2%); that they considered donating blood (61.5%); that 17.2% of them could not donate blood due to health problems; that it did not matter in which institution they would donate blood (48.1%), that “continuous education of the public” was the most important initiative is to promote blood donation (68.7%) and that a donor must always undergo a predonation physical examination and blood tests (92.8%) (Table 4).

5. Discussion

In this study, 48.8% of the students stated that they had a document showing their blood type (Table 2). In a study by Kaya et al. (2007), 58.8% of students had blood type card. In this study, it was observed that 9.6% of the students did not know their blood type (Table 2). In a study by Yıldız et al., evaluating attitudes towards blood donation among people living in Mersin (2006), it was found that 26.3% of the participants did not know their blood type and were indifferent to it. Whatever their level of education, each individual should know his/her blood type and also carry a document showing it since, in case of an emergency, additional time is required to determine the blood type, which may lead to the death of the person.

Of the students who participated in this study, 88.8% stated that they had never donated blood before whereas 2.4% of them expressed having donated blood between three to nine times (Table 3). The rate of participants who stated having never donated blood was 76.0% in the study by Kaya et al. (2007), 65.8% in the study by Al-Drees (2008), and 51.0% in the study by Shaz et al. (2009). In a study conducted on students of Thailand University (2002), Wiwanitkit found that although 80.0% of the students were aware of the importance of blood donation in their country, only 11.0% of them had voluntarily donated blood before; and in a study on awareness of blood donation eligibility criteria among students of Medical School in Iran (2008), Mortazavi and Mahmoodizadeh reported that 10.3% of the students had donated blood only once and 6.2% of them were regular donors, which are similar to the results of our study. Additionally, in a study by Vásquez et al., evaluating knowledge and attitudes towards blood donation among university students in Chile (2007), it was reported that 14.0% of the participants, most of whom were professors and other academics, donated blood. This result is indicative of an improvement associated with education in knowledge and attitude towards blood donation. Informative and motivational programs are required to increase voluntary blood donation among university

students, just as other groups. In the present study, a majority of the students replied that negligence and having insufficient blood volume were the reasons for not-donating whereas negligence (61.4%) was the reason for refusing to donate blood in the study by Yıldız et al. (2006); long-distance to donation site, transportation difficulty, mistrust and different fears were the reasons cited in the study by Al-Drees (2008); health problems, lack of time and the absence of need by a relative were the reasons in the study by Marantidou et al. (2007). The reasons for not-donating were similar in the studies by Al-Dress (2008), Ferguson et al. (2004), and Olaiya et al. (2004) whereas the reasons for not-donating blood in this study differ from those reported in other studies. According to the statement of Al-Drees, Thomson et al. reported that 80.0% of first-time blood donors would never return to donate blood. It is believed that regular education through internet and other media sources, and organizing blood donation programs and campaigns would increase the participation of first-time donors and ensure the return of repeating donors. In the study by Al-Drees (2008), a majority of the participants stated that they acquired their information about blood donation from newspapers, TV and internet, whereas most of the participants expressed that they received their information about blood donation primarily from the internet in a study by Alam and Masalmeh (2004). In the present study, the rate of the students who expressed having donated blood between three to nine times was 2.1%, a figure that can not be underestimated, given that the Turkish average is 0.15%. Regularly voluntary blood donation rate is 5% even in developed countries (Kaya et al., 2007; Cevizci et al., 2010). The increase in the number of regular blood donors can be explained by that there are hospitals in the city, where the study was conducted, that students work as interns in these hospitals and that student dormitories are considered ,by those who are in need, to be the easiest and cheapest site to provide blood. In addition, the level of education, knowledge and awareness of the students also make a considerable contribution to this situation. However, we can not suggest that our society has attained the required level of awareness about the importance of blood donation. When necessary, the adequate supply of blood and blood products that, because of being nonsubstitutable, have vital importance in the protection of the right to live, can only be achieved by raising the public's level of awareness about this issue (Solaz, 2001). Today, blood that is described as an expensive medicine, the only source of which is human, can only be supplied by the sensibility of individuals to this issue. Therefore, numerous studies should be conducted to raise the awareness of our society. Individuals should be informed about the importance of blood donation and be encouraged to donate blood (Merdanoğulları, 2003).

When asked about the reasons for not-donating, a majority of the students who participated in this study (44.1%) replied “negligence” (Table 3). The results of this study are similar to those of

Tulunay (2007). We consider that negligence of individuals can be eliminated through regular organizations. The public can be entertained by campaigns, shows and festivals and, at the same time, can be attracted by verbal announcements, film displays and some small valueless souvenirs. Also, these organizations should make arrangements to ensure repeat donation by the donor. Individuals should be contacted via short messages, e-mail and telephone and be remembered on their birthday, feasts and new year's day. Thus, negligence of individuals regarding blood donation can be eliminated.

In this study; 60.5% of the students replied that "the idea of saving a life" was the most effective reason for a regular blood donation (Table 4). In the study by Tulunay (2007), 71.1% of the population had the same opinion. In the study by Kaya et al. (2007), 86.0% of the participants replied "yes" to the statement 'blood donation is the most effective way of saving lives'. In the present study; 73.2% of the students stated that blood donation did not cause any side effects; 88.5% of the participants believed that blood donation was not harmful in the study by Al-Drees, evaluating knowledge, beliefs and attitudes towards blood donation among Saudi Arabians (2008); whereas 44.4% of the participants stated that blood donation caused fatigue, weight loss, weight gain, increased appetite and addiction in the study by Yıldız et al. (2006); participants stated that blood donation led to anemia, headache and dizziness rather than infectious diseases in the study by Marantidou et al. (2007); some of the side effects of minimal severity were pain, lightheadedness, dizziness and nausea in the study by Shaz et al (2009); and the majority of the population believed that blood transfusion was harmful regarding the risk of transmission of infection and played a major role in HIV transmission in the study by Wiwaknitit (2000). A remarkable finding in the study by Al-Drees (2008) is that although 88,5% of the participants believed that blood donation was not harmful and only one case of transfusion-transmitted AIDS has been reported in Saudi Arabia, 20,0% of the participants stated that they would refuse blood transfusion because of the risk of acquiring infection (Hepatitis, AIDS). It was also observed that the participants had misperceptions regarding the effects of blood donation. A majority of our population refuse to donate blood because of misleading information and discourage others from donating blood. In the present study, 82.8% of the students stated that blood can be obtained from voluntary blood donors (41.6% voluntary citizens, 41.2% the Turkish Red Crescent). This finding differs from those of Al-Dress et al. (2008) and Marantidou et al. (2007), indicating that 84.5% and 52.8% of the participants, respectively, accepted blood transfusion only from a relative because of the risk of infection transmission. Additionally, in the study by Al-Drees (2008), 49.0% of the participants stated that they would only accept blood transfusion from a relative because of the risk of infection transmission. In the study by Marantidou et al. (2007), 7.5% of the participants expressed that they

would accept blood transfusion from a relative rather than from voluntary blood donors. According to the statement of Al-Drees, Motlazan et al. showed that there was an increase in preoperative autologous blood donation due to increased concerns about allogenic blood safety. Dhingra et al. (2001), reported that autologous blood transfusion should be implemented in countries with high incidence of transfusion-transmitted infection. In this study, only 44.3% of the students stated that they considered donating blood whereas only 28.5% of the students considered donating blood in the study by Yıldız et al. (2006). In the present study, 54.0% of the students expressed that blood donation could be increased by 'informing the public through education in schools' (Table 4), whereas 68.1% of the society had the same opinion in the study by Tulunay (2007) and 96.3% in the study by Yıldız et al. (2006). Additionally, in the study by Wiwaknitit, evaluating the attitudes towards blood donation in rural district of Thailand (2000), the attitude towards blood donation was found to be positively correlated with the level of education and it was emphasized that raising the public's level of knowledge was of high importance, particularly in rural areas. When asked about the institution of choice for donating blood; a majority of the students replied 'it doesn't matter' in this study whereas most of the participants replied 'The Turkish Crescent' in the study by Tulunay (2007), which can be explained by a mistrust in the Turkish Red Crescent. The interruptions in the services provided by the Turkish Red Crescent after the Marmara earthquake, had a negative effect on trust to the organization and, particularly, on blood donations. Blood donations, which were expected to increase by 100.0%, decreased by 30.0% (Kaya et al., 2007). In this study, 92.8% of the participants replied 'always' to the question 'is it necessary for a donor to undergo a predonation physical examination and blood tests?', whereas 83.9% of the participants answered 'always' in the study by Yıldız et al. (2006). The responses given to this question also emphasize the necessity of education. It is necessary to raise awareness by developing educational programs about how blood is donated and about pre- and post-donation procedures through all types of visual media (Kaya et al., 2007; Cevizci et al., 2010).

6. Conclusions and recommendations

There are very few studies demonstrating the awareness level of our society about "blood requirement" and "blood donation". Therefore, this study is important for our country to contribute to the data on these issues. It was observed that a majority of students have positive attitudes and practices towards blood donation. In the society, lack of education and interest in blood donation is remarkable. Therefore, people should be encouraged to donate blood voluntarily on a continuous and regular basis. In order to raise the level of knowledge regarding blood donation and to increase the blood donation rate, the importance of blood donation should be

explained, potential donors should be educated about misinformation and misperceptions, donors with low-risk behaviour should be determined, donor recruitment programs and regular blood donation campaigns should be organized, well-maintained donor records should be kept and effective programs should be developed for the retention of regular donors. Besides the existence of several ways to encourage people to donate blood, education of the public is of the highest importance, and education should be initiated in the elementary school and cover a wide range of individuals from young men doing military service to workers .

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