Knowledge and Behaviour Research on Blood Donation Among Office Workers of a Company in İstanbul

İstanbul'da Bir Firmada Ofis Çalışanları Arasında Kan Bağışı Konusunda Bilgi ve Davranış Araştırması

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ABSTRACT Objective: Required blood amount for blood transfusions depends on selecting appropriate donors and encouraging volunteers to donate blood periodically. Increasing of health knowledge and awareness in specific issues for different target groups are important in terms of public health. In order to increase and sustain of blood donations provided with detect and improve of knowledge and behaviour on blood donation in public. In this study, it was aimed to assess knowledge and behaviours of the office-workers on blood donation, who work for a company in Istanbul. **Material and Methods:** In this cross-sectional study, a questionnaire on blood donation was delivered to all office-workers using "observational response method" between January-March 2008 in a company in Istanbul. A total of 135 (90%) of the workers responded the questionnaire. Data were assessed by SPSS 13.0 statistics package program and expressed in frequency and percentage. **Results:** A total of 62 (45.9%) responders were male, while 73 (54.1%) were female. Mean age was 32.0 ± 8.1 years. A total of 3 responders (2.2%) graduated from elementary school, 12 (8.9%) graduated from high school, and 120 (88.9%) had an undergraduate or postgraduate degree. On the other hand, 37 (27.4%) of the responders were volunteers for blood donation, 13 (9.6%) donated blood in cases of emergency, 7 (5.2%) donated blood for one of their relatives, and 18 (13.3%) never donated blood before but were reported to be considering, while 60 (44.4%) never donated blood. **Conclusions:** In this study, it was found that the percentage of blood donation volunteering of participants was low (27.4%) with an inadequate knowledge status regarding blood donation. Determining target groups in cross-sectional studies and planning incentive campaigns may contribute to increase the blood donation.

Key Words: Blood donors; blood transfusion; knowledge; behaviour

ÖZET Amaç: Kan transfüzyonları için gerekli kanın sağlanması, uygun donörlerin seçilmesine ve gönüllü kan bağışçılarının aktif-sürdürülebilir kan bağışı yapmalarına bağlıdır. Halk sağlığı açısından farklı hedef gruplara yönelik belirli konularda sağlık bilgisinin ve farkındalığın artırılması önemlidir. Kan bağışlarının artırılması ve sürekli hale getirilmesi de toplumda kan bağışı konusundaki bilgi ve davranışların tespit edilerek iyileştirilmesi ile sağlanabilir. Bu çalışmada, İstanbul'da bir firmada ofis çalışanlarında kan bağışı ile ilgili bilgi ve davranışların araştırılması amaçlandı. **Gereç ve Yöntemler:** Kesitsel tipteki bu çalışmada, İstanbul'da özel bir firmada, örnekleme yapılmaksızın tüm ofis çalışanlarına kan bağışı anket formu Ocak-Mart 2008'de çalıştıkları işyerinde "gözlem altında yanıtlama yöntemi" ile uygulandı. Çalışanların 135'i (%90) araştırmaya katılmada gönüllü oldu. Veriler SPSS 13,0 istatistik paket programında frekans ve yüzde oran olarak değerlendirildi. **Bulgular:** Araştırmaya katılanların 62'si (%45,9) erkek, 73'ü (%54,1) kadın, yaş ortalaması 32,0 ± 8,1 idi. Katılımcıların 3'ü (%2,2) ilköğrenim, 12'si (%8,9) lise, 120'si (%88,9) üniversite ve üzeri eğitimli idi. Katılımcıların 37'si (%27,4) gönüllü olarak, 13'ü (%9,6) çok acil bir ihtiyaç için, 7'si (%5,2) akrabalarından birinin çok acil bir ihtiyacı için kan bağışı yaptığını belirtirken, hiç kan bağışında bulunmadığını belirten 78 (%57,7) kişiden 18'i (%13.3) kan bağışında bulunmayı düşündüğünü ifade etmiştir. **Sonuç:** Bu çalışmada ofis çalışanları arasında kan bağışı gönüllülüğünün düşük (%27,4) ve kan bağışı ile ilgili bilgi durumlarının da yetersiz olduğu saptandı. Kesitsel çalışmalarla hedef grupların belirlenmesi, teşvik edici kampanyaların planlanması kan bağışını artırabilir.

Anahtar Kelimeler: Kan vericiler; kan transfüzyonu; bilgi; davranış

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Blood consists of a suspension of a special blood cells (erythrocytes, leukocytes, platelets), and plasma. Blood transfusion is the administration of blood or blood products from one person into the circulatory system of another.[1] Prolonged life expectancy at birth in many countries and developments in medical interventions and therapies increase the need for blood and blood products. This sensitive balance between preserved blood and demand drive blood banks to find new donors and even purchase imported blood in certain countries. More than 4.5 million individuals need for blood transfusion each year in the US and Canada.[1,2] Inadequate knowledge and myths of the patients and healthy individuals about blood donation decrease the ratio of blood donated, being one of the leading causes of death in case of injuries. The risk of viral and bacterial transmission is another consideration during blood transfusion procedure.[3,4] It may prevent healthy individuals from donating blood due to excessive stress and anxiety. However, studies demonstrate that the prevalence of transfusion transmitted infections in blood donors is negligible.[5]

Enormous efforts are being performed to encourage volunteer blood donation at a regular basis with a reasonable amount, and to collect blood and blood products in a safe and sterile setting. In recent years, several studies have been carried out to improve the knowledge, perception and behaviours of the health care providers and other individuals in the health care services on blood donation and to perform safe blood transfusion procedures and minimize transmitted infection risks.[6] In accordance with the Regulation of Blood and Blood Products which entered into force on 4th December, 2008, donated blood is tested for AIDS, hepatitis B, hepatitis C and syphilis.

In this study, it was aimed to evaluate knowledge status and behaviours of the employees on blood donation, who work for a special company in Istanbul.

MATERIAL AND METHODS

In a cross-sectional study, a questionnaire on blood donation was delivered to all office-workers using "observational response method" between January-March 2008 in a special company in Istanbul. A total of 90% (n= 135) of the workers responded the questionnaire.

The Turkish Ministry of Health-Turkish Red Crescent Society Donor Screening Questionnaire was administered to establish the demographic characteristics, assess knowledge status of the responders on contagious diseases prohibit to blood donation, and evaluate the results in accordance with the Regulation of Blood and Blood Products for certain hazardous situations. There was a correct sentence given in every question. These sentences were asked to be correct or in-correct to responders. Numbers and percentages of responders who reported correct answers were calculated.

Data were assessed by SPSS 13.0 statistics package program and expressed by using descriptive statistics such as frequency and percentage.

RESULTS

A total of 90% of the office workers were volunteers to respond the questionnaire (n= 135). Sixty-two (45.9%) of the responders were male, while 73 (54.1%) were female. Mean age was 32.0 ± 8.1 years. Three (2.2%) were graduated from elementary school, 12 (8.9%) were graduated from high school, and 120 (88.9%) had an undergraduate or postgraduate degree.

On the other hand, 37 (27.4%) of the responders were volunteers for blood donation, while 13 (9.6%) donated blood in cases of emergency and 7 (5.2%) donated blood for one of their relatives. Eighteen (13.3%) of 78 (57.7%) responders who had never donated blood before were reported to be considering blood donation. The responses of participants about blood donation were shown in Table 1.

Despite high level of knowledge on infectious diseases, a limited number of the responders knew that blood could not be donated by those with malaria in the past three years, using a medication for psoriasis, underwent dura mater grafting, with an existing respiratory disease, and underwent a surgery within the past one year (Table 1).

TABLE 1: Knowledge status of the office workers about blood donation.

Questions	Number of true response	Percentage of true response*
General informations about blood donation	**n**	**%**
Donation 450 mL at the time	36	26.7
Donation once every three months at maximum	41	30.4
Maximum 1 year preservation for donated blood	10	7.4
Who can donate blood?		
Donation for the age range of 18-65 years	51	37.8
Donation by those who weigh more than 50 kg	88	65.2
Donation by those with normal Hb and Htc parameters	105	77.8
Donation by those with normal body temperature, pulse rate and blood pressure	107	79.3
Who can't donate blood?		
Tiredness, hunger, and sleeplessness	50	37.0
Positive viral hepatitis A after age of 10	56	41.5
Viral Hepatitis B patients and carriers	91	67.4
Blood transfusion within the past 12 months	45	33.3
Organ or tissue transplantation within the past 12 months	66	48.9
Acupuncture or tattoo within the past 12 months	33	24.4
Having sexual intercourse with a partner having contagious jaundice within the past 12 months	71	52.6
HIV/AIDS-infected	89	65.9
Malaria within the past three years	58	43.0
Psoriasis treatment (Tegison)	40	29.6
Dura mater grafting	40	29.6
Existing respiratory disease	34	25.2
Existing chronic disease	80	59.3
Surgical intervention within the past one year	35	25.9
Serious injury within the past one year	58	43.0
Pregnant women or women who have recently given birth	86	63.7
Having used narcotic drugs by intravenous route	126	92.0
Male homosexual intercourse	69	50.4
Clotting factor concentration therapy	93	67.9
Having sexual intercourse in return for money	88	64.2
Suffering from sexually-transmitted disease	104	75.9
Having sexual intercourse with somebody who has been involved in one of the above high-risk activities	95	69.3
Total	135	100.0

* Percentages are belong to rows.

A total of 75.2% of the responders believed that blood could be donated by volunteers, 67.9% believed that blood could be supplied by the Turkish Red Crescent Society, 29.2% believed that blood could be donated by the relatives of patients, and 17.5% believed that blood could be purchased.

DISCUSSION

Recently, several incentives have been put in place in many countries to encourage individuals to donate blood and to recruit and retain volunteer donors at a regular basis. Despite these incentives, prolonged life expectancy and novel and aggressive

surgical developments increase the need for blood and blood products. In respect to the sensitive balance between blood banks and donors, new donors have been identified. On the other hand, the results of a study conducted in Greece demonstrate that women and young people donate the least.[2]

A review of the literature showed only one published study on blood donation in Turkey. Yildiz et al. carried out a public survey with 20 questions, including 3.479 responders. The results showed that while the "yes" answer rate was 31.3% for the question-"Would you like to donate?-at the beginning of the questionnaire, the rate increased to 43.5% at the end ($p< 0.05$). The authors concluded that individuals were not correctly informed on blood donation and when they fully informed, the rate would increase.[7]

Although education level of the responders was high in our study, overall knowledge on blood donation was considered to be poorly. Inadequate knowledge and myths of the individuals about blood donation lead to be incorrectly acknowledged. As a result, it is obvious each individual should be acknowledged regarding blood donation. Compared to developed countries, Turkey having a population of over 70 million is in a back row for blood donation.[8]

People who are and/or not volunteer to be donor have different knowledge, belief, prejudgment and behaviours. In addition, encouraging factors may also vary. A study performed in Spain compared attitudes, beliefs and motivations of individuals in donors and non-donors. The results showed that more donors believed that blood transfusion was being made under appropriate and safe conditions and fewer donors were anxious. While 43.6% of the responders had myths and wrong beliefs about blood donation, 32.3% had fears which prevented them from donate. In this study including 197 donors, mean age was 37.8 years and 58.4% of the responders were female, while 41.6% were male. A total of 6.02% of the responders were donors.[9]

In a study conducted in Sweden investigated positive and negative factors for blood donation. In the study a questionnaire was administered to 600 consecutive whole-blood donors. The results showed that 47.2% of the responders first donated blood for their friends, while 23.5% donated through media. General reasons for donating were altruism (40.3%), followed by social responsibility (19.7%), and influence from friends. Motivational factors for becoming a regular donor were altruism (68.4%), followed by social responsibility (16.0%). The most commonly reported obstacle to becoming a regular donor was laziness (19.1%) and fear of needles (10.5%).[10]

A study including 542 blood donors assessed knowledge, attitudes, beliefs, and motivations for blood donation among donors. Although many of the donors were educated (98.9%), majority of whom have university degrees (36.1%), 52.4% of them believed HIV and/or hepatitis infection might be transmitted during blood donation. In addition, many donors (47%) reported to be afraid of what they regarded as side effects, such as weight loss (23.8%), sexual impotence (5.9%), high blood pressure (5.2%), sudden death (3.3%), and convulsion (1.47%).[11]

Individuals may regard blood transfusion as a "risky procedure" when it is instructed by those who have inadequate knowledge. A study including variety of health care professions (i.e. general practitioner, anesthesiologist, health/life style journalists, and blood donors) conducted in UK showed that perception and knowledge about risk and risk communication related to blood transfusion was different among the patients.[12] Another study which was performed in Northwestern China evaluated knowledge, behaviour, and attitudes on blood donation in 1.280 individuals. While knowledge about blood donation varied among the groups, the authors concluded that factors motivating blood donation included social pressure, desire to know screening results and altruism. Fear of infecting by an infection, other adverse health effects, and fear of death were among inhibiting factors. Also, misconceptions about blood donation were common even among individuals with high education level in Urumqi.[13]

In a study investigating the perceptions of risk and choice behavior on blood transfusion, Fergu-

son et al. reported that levels of perceived risk were related to primarily with subjective knowledge (a sense of what it is felt that people know) rather than objective (what people actually know). The authors also found transfusion risk to be relatively low, and objective knowledge was not associated with perceived risk for a transfusion. The authors concluded that the facts on blood and transfusion should be presented in a manner which is consistent with the type of information presented.[14]

In a study Marantidou et al. delivered questionnares to 1.600 donors at the blood bank and found higher knowledge status on blood donation and transfusion in the population. On the other hand, the study revealed that women were less voluntary to donate blood compared to men due to the concern for hemoglobinemia, anemia, or iron deficiency. When they asked why they did not donate blood during ≥1 year, 37.7% reported health problems, 21.6% reported that they were not being asked to, and 20.2% reported that no one in their environment had needed. In conclusion, 99% of the responders reported that blood donation was important. A large number of responders also agreed that the major incentive factors include future blood availability for themselves and their families when needed and free blood testing for cholesterol, triglycerides, etc. In addition, young people responded that they had fear of the collection process while donating.[2]

In another study investigating the reasons for non-return of blood donors, a questionnaire was administered to 1.218 individuals (who donated blood once). The study showed the number of medical professionals who returned was relatively fewer than students and trainees. The authors concluded that reducing women's anxiety about blood donation, encouraging medical professionals to donate blood more frequently, sharing personal experience, and employment of free health check may substantially increase the rate of returning blood donors. On the other hand, factors which motivate and interfere with blood donation, such as knowledge, behaviour, belief, motivation, fear, anxiety, etc. may vary based on the related social-demographic characteristics in each community.[2,15,16]

Several studies have been performed to investigate the factors which motivate and interfere with blood donation and perceived risk level for blood transfusion in different communities.[17-19] Evaluation of these factors and designation of incentive programs for target groups may increase the number of active donors.

In various studies, it has been shown that there is a relation between blood donation and status of knowledge, behaviour, belief, motivation, fear, anxiety, etc. The common point of all the studies is that the knowledge status effect on blood donation.

CONCLUSIONS

We observed that the number of volunteers was relatively low in office workers having an inadequate knowledge about blood donation.

Even though small sample size was a restrictive factor in this study, our findings were consistent with those obtained in many studies. However, further cross-sectional studies including all professions are required. These cross-sectional studies may contribute to establish general perception of blood donation.

Public health services should be responsible to educate individuals on blood donation, leading them to acquire knowledge, behavior on blood donation, and to increase the number of volunteers, and encourage communities to donate blood. We believe that giving an education on blood donation will increase behavior of blood donation.

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