

ATTITUDE, BELIEF AND KNOWLEDGE ABOUT BLOOD DONATION AND TRANSFUSION IN SAUDI POPULATION

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ABSTRACT

Objectives: Blood donation and transfusion are remarkably safe medical procedures. However, attitudes, beliefs and level of knowledge associated with blood donation and transfusion may affect such procedures. Therefore, the aim of this study was to determine the attitude, belief and knowledge about blood donation and transfusion in Saudi Population.

Methodology: The present study was conducted in the Department of Physiology, College of Medicine, King Saud University Hospitals, Riyadh, Saudi Arabia. A well structured Arabic questionnaire was used to assess the attitude, belief and knowledge regarding blood donation and transfusion.

Results: The sample consisted of 335 male (55%) and 274 female (45%); the majority of the sample (65.84%) were non-donors. These non-donors (78.98%) were between the ages of 15-30 years. The 88.5% of the people who participated in the study believed that blood donation was not harmful, 20% of them stated that they would refuse blood transfusion even if they were in need because of the risk of acquiring infectious disease. 84.5% preferred direct donation, (49%) of the sample stated that they would accept blood donation only from relatives, 55.1% believed that blood transfusion was safe. However, 11.6% claimed to have acquired infectious disease after blood transfusion, 58% female in addition to 11.34% male preferred to receive blood from female donor and 69.5% did not know if the blood banks were in need of blood or not and 17.4% believed that all surgical procedures require blood transfusion.

Conclusion: Different fears, mistrust in hospital and lack of information may serve as an important issue to be addressed when developing donors recruitment programs or campaigns to clear misconceptions about blood donation. In addition, public should know that numerous screening measures are implemented to ensure that blood donation is safe for the donor and that transfusion of the donated blood is safe for the recipient.

KEYWORDS: Attitude, Beliefs, Level of Knowledge, Blood Donation and Transfusion.

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INTRODUCTION

In spite of the extensive promising research, a true substitute for blood and blood components (red blood cells, platelets, blood clotting factors, fresh frozen plasma or white blood cells) will not be available for many years.¹ Therefore, blood donation by human will continue to be the only source for blood and blood components.

Donated blood can be lifesaving for individuals who have lost large amounts of blood because of serious accidents, civil and military conflicts, widespread tragedies or surgery, as well as, for individuals who have become

severely anemic or have dangerously low platelet counts because of certain hematological diseases such as sickle cell anemia or treatments such as cancer therapy. Therefore, blood is an important concern to the society.

Blood banks are obligated to provide adequate and safe blood supply to the community. However, the blood supply level fluctuates throughout the year with the levels tending to fall during holiday seasons, because the demand remains stable or even increases but the donations decline. In addition, strictly enforced screening guidelines and eligibility requirements, to make sure that donated blood will not harm the donor or the recipient, reduce the number of people who are eligible to donate. The blood and blood components can be obtained from volunteer donors, direct donors, Paid donors, or through autologous donation. Volunteer donors are carefully screened and interviewed before blood donation to blood banks, direct donors are usually friends or family members recruited by the recipient to donate blood and the blood is designated specifically for transfusion to that specific recipient.^{2,3} However, if the intended recipient does not use the blood it may be released for use by any patient. Furthermore, paid donors donate blood in exchange of money.⁴ Lastly, Autologous donation is the collection and storage of blood or blood components from a person for subsequent transfusion to that same person which may be done prior to an elective surgery.⁵⁻¹⁰ In the developing countries around 50% of blood donations are made by either direct or paid donors.¹¹ In addition, in the Saudi Arabia most of the blood donors are direct donors instead of volunteer donors, paid donors, or autologous donors.^{3,12} Therefore, attitude, beliefs and level of knowledge associated with blood donation may discourage donors from giving blood.

Blood transfusion practice varies from one institution to another depending on the availability of the blood and blood components, the number of patients and the laboratory support service.³ In addition, depending on the indication for transfusion, the patient may be given

whole blood or a blood component. There is growing evidence that the public perceives blood transfusion as risky¹³ although during the last 20 years remarkable advances have been achieved in blood safety especially transfusion transmitted viral infection.^{14,15} Keeping in view the significance of blood donation and transfusion, the present study was conducted to determine the attitude, beliefs and knowledge about blood donation and transfusion in Saudi Population. Moreover, the results of the present study may help to remove the concept of misunderstanding about current issues regarding blood donation and transfusion and may also facilitate to develop promotional and educational approaches to enhance blood donors' participation.

METHODOLOGY

The present study was conducted in Department of Physiology, College of Medicine, King Khalid University Hospital during the period of 2005-2006. A well structured Arabic questionnaire was used to assess the attitudes, beliefs and level of knowledge regarding blood donation and blood transfusion in randomly selected sample of 609 Saudis. Furthermore, the questionnaire was used to gather the socioeconomic information. The sample consisted of 335 male and 274 female with the age range between 15 to 65 years; the defined age for donation. All participants were given a briefing regarding objectives of the study and were ensured regarding the confidentiality of the information. Data was entered and analyzed using statistical analysis for social science version 12.

RESULTS

The response was gathered from a total of 609 respondents, the study sample consisted of 335 male (55%) and 274 female (45%). The majority of participants (65.84%) were non-donors. The non-donors group stated that long distance to donation site, transportation difficulty, time commitment, getting a short break from work / office or a time off from home,

different fears, mistrust, lake of information and not being approached by anybody to donate were the main factors discouraging them from blood-donation. Table-I shows the distribution of the sample into donors and non donors according to age, the majority of the sample was between the ages of 15-30 years.

The majority (62.59%) of the non-donors were female and (75.96%) of donors were male, both groups were educated as shown in Table-II. Table-III shows attitudes, beliefs and level of knowledge regarding blood donation and blood transfusion. 88.5% of participants believed that the blood donation is not harmful to the donor because of the screening tests done in blood banks prior to donation, although, 11.5% the majority of who were female believed that blood donation is harmful because of the risk of acquiring an infectious disease. 6.2% of the participants received blood transfusion once in their lives. On the other hand, 20% of the participants stated that they would refuse blood transfusion even if they were in need because of the risk of acquiring an infectious disease. The majority of the sample 84.5% preferred the donor to be a direct donor either a family member or a friend to eliminate the risk of acquiring infectious disease. In addition, 49% of sample stated that they would accept blood transfusion only from a relative.

About 55.1% of the participants believed that blood in the blood banks ready for transfusion was safe compared to 44.9% believing vice-versa. Furthermore, 11.6% of the participants claimed that they or a family member acquired infectious diseases including hepatitis and acquired immune deficiency disease (AIDS)

Table-I: Distribution of sample into donors and non-donors according to age

Age group	Donors	Non-donors	Total
15-30 years	153	328	481
30-45 years	42	59	101
45-60 years	11	7	18
More than 60 years	2	7	9
Total	208	401	609

after blood transfusion procedure. Lastly, 17.4% of the participants believed that all surgical procedures require blood transfusion.

Table-IV shows the gender preference for donation. 58% of the female in addition to 11.34% of the male preferred to receive blood donation from female because they believed that in Saudi Arabia female were less susceptible for acquiring an infectious disease than male. Furthermore, the majority of the participants 69.5% do not know if blood banks were in need of blood or not as demonstrated in Table-V.

DISCUSSION

Maintaining an adequate and safe blood supply is an issue of concern to local health planners especially with the increase in demand as a result of an increase in population size and an increase in the number of medical facilities in Saudi Arabia. Therefore, understanding the various factors contributing to beliefs, attitudes and level of knowledge associated with blood donation and transfusion is crucial.

This study shows that majority of the participants (65.84%) to be non-donors. In addition, the non-donor group stated that long distance to donation site, transportation difficulty, time commitment, getting a short break from work / office or a time off from home, different fears, mistrust, lake of information and not being approached by anybody to donate were the main factors discouraging them from blood-donation. Likewise, previous studies show the same reasons to be the contributing factors in inhibiting donation.^{13,16-22} In addition, Thomson et al reported that every year 80% of first time donors globally would never return to donate.²³ Furthermore, Rajagopalan et al reported that donors and non-donors in

Table-II: Distribution of sample into donors and non-donors according to gender

Gender	Donors	Non-donors	Total
Male	185	150	335
Female	23	251	274
Total	208	401	609

Table-III: Attitude, beliefs and level of knowledge regarding blood donation and blood transfusion.

Question	Males		Females	
	Yes	No	Yes	No
Is blood donation harmful to the donor?	28	307	42	232
Have you ever needed blood transfusion?	14	321	24	250
Will you accept blood transfusion if you are in need?	52	283	70	204
Do you prefer to know the donor or not?	266	69	249	25
Are you going to accept blood donation only from a relative?	125	210	174	100
Did you or a family member acquire any disease after transfusion?	28	307	43	231
Do you think that the blood in the blood bank is safe?	220	115	116	158
Does all surgical procedure require blood transfusion?	72	263	34	240

medically oriented population including medical and nursing students do not differ significantly in their sentiment towards blood donation but lack motivation.²⁴ Therefore, different fears, mistrust in hospital and lack of information may serve as an important issue to be addressed when developing donors recruitment programs or campaigns to clear misconceptions about blood donation. In addition, effort to improve donor's perception of the donation experience may lead to an increase in the first time donors and the return of repeating donors.

It has been reported that age, race and gender are important identifiers of those less willing to donate.²⁵⁻²⁷ Likewise, in this study donors were more likely to be male (75.96%) than females (24.04%). In addition, 81.7% of the non-donors' group were between 15-30 years of age. Therefore, donor recruitment efforts should be directed towards age-gender groups with the lowest level of willingness to donate including females and those with the age range 15-30 years.

Blood banks always follow screening guidelines and eligibility requirements to make sure that blood donation will not harm the donor. In addition, new sterile disposable consumables are used for each donor to eliminate the risk of transmitting a blood-borne infection. Nonetheless, 11.5% of the participants in the current study believe that blood donation is harmful to the donor. Similarly, Sharma et al found the same belief in 4% of their sample.²⁸ In addition, Munoz et al reported that French population has misconception

regarding acquiring AIDS and hepatitis C infection as a result of donation.²⁹ Therefore, decreasing the perception that the blood donation is harmful can lead to an increase in the pool of blood donors.

The majority 84.5% of the participants in the current study preferred the donors to be direct donors either a family members or friends to eliminate the risk of acquiring an infectious disease. In addition, 49% of the participants in the current study stated that they would accept blood transfusion only from a relative. However, despite careful donors screening and blood testing, the incidence and prevalence of transfusion-transmitted infection is high in recipients receiving blood from direct donors and paid donors.² Therefore, Motlazan et al shows that there is an increase in preoperative autologous blood donation in Canada due to increased concerns about allogenic blood safety.³⁰ In addition, Dhingra et al reported that autologous blood transfusion should be implemented in countries with high incidence of transfusion transmitted infection to reduce the chance of transmitting blood-borne infectious agents and to increase blood banks supply.³¹ Thus, the safest blood remains to be your own.

When the blood transfusion is needed the harm versus benefits are weight carefully.

Table-IV: Gender preference for donation

Gender	Male donors	Female donors	Male or Female	Total
Male	217	38	80	335
Female	66	159	49	274
Total	283	197	129	609

Table-V: Level of knowledge regarding blood supply level at blood banks

Question	Males			Females		
	Less than needed	More than needed	Do not know	Less than needed	More than needed	Do not know
What is your idea about the available blood supply in the blood banks?	120	10	208	53	03	215

However, 20% of the participants in the current study stated that they would refuse blood transfusion even if they are in need, because of the risk of acquiring an infectious disease. Furthermore, 11.6% of the participants claimed that they or a family member acquired infectious diseases including hepatitis and acquired immune deficiency disease (AIDS) following blood transfusion. However, up to date only one AIDS case has been reported in Saudi Arabia as a result of transfusion with imported blood.³² Furthermore, Love et al reported transmission of infection with a variant of hepatitis C virus to several recipients after transfusion from a single infected donor blood.³³ Thus, the risks of transmitting blood-borne infectious diseases remain a major source of worry to both blood donors and blood recipients.

It is surprising to find that participants in the current study were not well informed about blood supply in blood banks and blood donation and blood transfusion in general. For example, 17.4% of participants believed that all surgical procedures required blood transfusion. The majority of the participants acquired their information about blood donation and blood transfusion from daily news papers and/or TV compared to 14.77% who used the internet as the source of information. On the other hand, Maqbool et al reported that the major sources of information to public are blood bank staff and friends.² Therefore, the number of educational programs on blood-donation and blood-transfusion should be expanded and transmitted via various media including the internet. Such programs should aim to encourage healthy Saudis and their family members and friends to donate blood as often as possible (every eight weeks) to make sure that blood is available for all patients in need. Furthermore,

the public should know that all measures besides screening tests are implemented by blood banks to ensure that blood donation is safe for donors and that transfusion of the donated blood is safe for recipients.

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