

Knowledge, attitudes and practices regarding blood donation among the Saudi population

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ABSTRACT

Objective: To assess the knowledge, attitude and practice regarding blood donation among the Saudi population. Based on this study, an effective strategy can be made regarding motivation and recruitment of voluntary non-remunerated blood donors in future.

Methods: This cross sectional study was carried out at the Armed Forces Hospital, Sharourah, Kingdom of Saudi Arabia, during January 2003. A total of 500 adult males were interviewed. Each individual completed a questionnaire in Arabic language containing epidemiological data and knowledge regarding blood donation and reasons of blood donation or non donation.

Results: Out of 500 individuals, 291 (58.2%) were donors and 209 (41.8%) were non donors. Four hundred and seventy-one (94.2%) replied that a person more than

45-years of age could not donate blood. Fifty-one point two percent (107 out of 209) of the non-donors answered that one can donate blood once a year. Out of 291 donors, 186 (63.9%) donated blood for their family members or friends and 105 (36.1%) were volunteer blood donors. Eighty-nine non donors (42.6%) replied that they were 'not approached by anybody' for blood donation and 80 (38.3%) considered themselves 'unfit' for donation due to weakness.

Conclusion: There are misconceptions regarding blood donation among the Saudi population. This needs education and motivation through dissemination of information regarding blood donation particularly on electronic media.

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Blood donors fall into 3 types, voluntary, replacement and paid donors. Voluntary non-remunerated blood donor is a person who gives blood and receives no payment for it, either in the form of cash, or in any kind that could be considered a substitute for money. A replacement donor is also a non-remunerated donor who donates blood for a particular patient in an emergency. Replacement donors are usually family members, colleagues or friends of the concerned patient. Paid or professional donor receives monetary payment for a blood donation.¹ It is well established that replacement and paid donors have a higher incidence and prevalence of transfusion-transmitted infections in the recipients.² Despite this, replacement and paid donors still make up over 50%

of blood donations in the developing countries.³ In the Kingdom of Saudi Arabia (KSA), most of the blood is provided from replacement donors instead of from volunteer blood donors.⁴ For satisfactory donor recruitment, the first essential step is to initiate Knowledge, Attitude and Practice (KAP) studies among a sample of donors and non donors. The objective of these KAP studies is to understand the prevailing misconceptions, beliefs and fears leading to negative attitude towards blood donation. The information so obtained could be helpful in developing appropriate messages to be used during recruitment campaigns, creating and strengthening positive attitudes towards blood donation and developing and implementing focused awareness programs for target populations.⁵

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Methods. Individuals coming to the Pathology Department, Armed Forces Hospital, Sharourah, KSA, as attendants with female patients were included in the study. The respondents were given briefing on the aims of the study. The respondents were ensured regarding confidentiality and consent taken prior to each interview. The first part of the questionnaire contained information on demographic data. The second part was regarding the knowledge, attitude and practice regarding blood donation. Initial questions were framed to assess the knowledge regarding blood donation like how much blood is taken during each donation and their perception of an inter donation interval. The attitude was assessed by response to questions such as perceptions why blood should be donated and reasons of non donation. Then they were asked whether they have donated the blood or not. Data was entered and analyzed using the Epi Info-version 6 statistical package.

Results. A total of 500 individuals were included in the study. Majority 296 (59.2%) of the individuals were between 18-30 years of age. One hundred fifty-two (30.4%) and 52 (10.4%) were between 31-40-years and 41-50-years of age. Two hundred thirty-seven (47.4%) individuals were married and 327 (65.4%) were educated. Out of these 291 (58.2%) were donors and 209 (41.8%) were non donors. **Table 1** shows the knowledge regarding the guidelines for blood donors and blood donation. Four hundred and seventy-one (94.2%) including donors and non donors replied that a person more than 45-years of age could not donate blood. Out of 209 non donors, 63 (30.1%) were of the opinion that donor should be of >70 kg of weight. Fifty-one point two percent of the non donors answered that one can donate blood once a year. One hundred and fifty-three (73.2%) non donors did not know the amount of blood extracted in each donation. The knowledge of the donor was more accurate than the non donors because they learnt it through donation process except the upper limit of age of blood donor. **Table 2** shows the attitudes of donors and non donors regarding blood donation.

Out of 291 donors, 186 (63.9%) donated blood for their family members or friends and 105 (36.1%) were volunteer blood donors. Out of these 105 volunteer blood donors, 81 (27.8%) donated blood to serve the humanity. Eighteen (6.2%) and 6 (2.1%) cited that blood donation is good for health and religious duty. Eighty-nine non donors (42.6%) replied that they were 'not approached by anybody' for blood donation and 80 (38.3%) considered themselves 'unfit' for donation due to weakness but none of them was aware of their hemoglobin levels. A total of 14 (6.7%) and 10 (4.8%) were unwilling

Table 1 - Knowledge regarding blood donation.

Correct awareness with regards to	Donors (291)	Non donors (209)
Age limit of donors		
17-35	23 (7.9)	53 (25.3)
17-45	248 (85.2)	147 (70.3)
17-60	20 (6.9)	9 (4.3)
Minimum weight of donors		
50kg	118 (40.5)	23 (11)
51-60kg	173 (59.4)	81 (38.7)
61-70kg	-	42 (20.1)
>70kg	-	63 (30.1)
Minimum inter-donation interval		
3 months	258 (88.6)	15 (7.2)
6 months	33 (11.3)	87 (41.6)
12 months	-	107 (51.2)
Amount of blood taken during each donation		
<500ml	269 (92.4)	56 (26.8)
500-1000ml	22 (7.6)	23 (11)
Do not know	-	130 (62.2)

Table 2 - Attitudes with regards to blood donation.

Perception	n (%)
Reasons of blood donations by blood donors	
Replacement	186 (63.9)
Voluntary	105 (36.1)
Blood donation to serve humanity	81 (27.8)
Good for own health	18 (6.2)
Religious duty	6 (2.1)
Reasons of non donation by non donors	
Not approached by anybody	89 (42.6)
Unfit to donate due to weakness	80 (38.3)
Might have to donate in future to relatives	16 (7.6)
Fear of needle/donation	14 (6.7)
Disease transmission	10 (4.8)
Frequency of blood donation	
1	213 (73.2)
2-5	40 (13.7)
6-10	26 (8.9)
>10	12 (4.1)
Motivation for blood donation	
Friends/relatives	197 (67.7)
Blood bank staff	56 (19.2)
Newspaper/books	33 (11.3)
Radio/television	5 (1.7)
Possible incentive for voluntary blood donation	
Blood donor certificates	190 (65.3)
Blood credit cards	87 (29.9)
Extra off work/leave	14 (4.8)
Money	-

to donate due to fear of donation and fear of transmission of disease to them such as hepatitis and acquired immune-deficiency syndrome. Sixteen (7.6%) said that they had not donated the blood because they might have to donate the blood for their relatives or friends in future.

Regarding frequency of blood donation by blood donors – 213 (73.2%) donated blood once, 40 (13.7%) donated 2-5 times, 26 (8.9%) more than 5 times and 12 (4.1%) donated more than 10 times. Out of 291, blood donors, 253 (86.9%) revealed that they received information regarding blood donation from relatives, friends and blood bank staff. The rest revealed that they were informed regarding blood donation through newspapers and books. One hundred and ninety (65.3%) blood donors were of the opinion that blood donor certificates can be the major incentive for blood donation and 87 (29.9%) asked for blood credit cards should be issued so that if blood is required they can get it by showing the card. Fourteen (4.8%) persons asked for extra leave for blood donation. None of the blood donor was of the opinion to get money for blood donation.

Discussion. Establishment of modern medical facilities has been accompanied by a simultaneous and marked increase in the requirement of blood and its product. The hospital blood bank has 2 options to meet this challenge, first to implement policies for appropriate use of blood⁶ and second to increase blood donor recruitment.⁷ Blood donation decision making has been investigated worldwide for decades to understand the process better to increase donation efficiency.⁸⁻¹⁰ These studies may not be pertinent to or representative of Saudi culture and therefore investigations are needed to assess the knowledge, attitude and practice amongst Saudi population regarding blood donation.

This study suggests that there is lack of basic knowledge regarding the blood donation among non donors. The majority of respondents including donors and non donors were of the opinion that only a person from 17-45-years of age can donate blood. Whereas no upper age limit exists for donation but a persons 17-60-years old can donate blood.¹¹ Minimum donor weight of 50 kg (110 lb) is recommended to donate the usual 450 + 45 mL of blood because a 50 kg person has a blood volume of approximately 3750 mL, donation of 405-495 mL would represent approximately 10-13% of the donor's volume.¹² Symptoms of hypovolemia can begin to occur in some people with the loss of 15% or greater of the total volume.¹³ Whereas in this study 63 (30.1%) non donors were of the perception that donor should have weight more than 70 kg. The whole blood donations are permitted every 56 days depending on the hemoglobin level.¹⁴ Two hundred and fifty-eight (88.6%) donors were of the opinion

that they can donate blood after 3 months but 51% non donors thought that blood could only be given once a year. One hundred and fifty-three (73.2%) non donors did not know how much blood is taken in each donation. Results suggest that there are large lacunae in basic knowledge blood donation among the population.

In response to the question regarding why they had not donated blood, 89 (42.6%) non donors said they were not approached for blood donation by anyone. Other major reason of non donation was the perception of a harmful effect such as weakness after donation on the body. Other studies assessing reasons for non donation from other parts of the world also cited this as one of the major factors of non donation.^{15,16} Sixteen (7.6%) non donors revealed that they had not donated blood as they might have to donate the blood to their relatives and friends in future. Similarly, 63.9% of blood donors donated blood for their family members or friends. This response reflects a situation in which blood is donated largely for a family member in need (replacement) and implies that donation for any other reason (altruism) is a low priority. This is in accordance with studies that have observed a low percentage of voluntary donors in developing countries compared to more developed nations.¹⁷ A study from KSA revealed 14.8%, 48.7% and 36.5% volunteer, replacement and statutory blood donors.¹⁸

In our study only 213 (73.2%) donated blood once. When they were asked why they have not donated blood regularly, they replied that they could not specify the reason but they were ready to donate if asked to do so. Globally, it has been found that 80% of first time donors every year give up the practice of blood donation.¹⁹ Friends and blood bank staff were a major source of information regarding the voluntary blood donation. Only 5 donors heard regarding voluntary blood donation on electronic mass media. So there is a need that regular programs/advertisement regarding safe blood should held on the television/radio. The various incentives for voluntary blood donation have been evaluated in different parts of the world.²⁰ Issuance's of blood donor certificate/blood credit card were claimed to be the best incentives for blood donation so that if they would require blood in future they could get after showing the card. Another incentive cited by 14 donors was work off/extra leave from place of work. No blood donor agreed to the payment of money for blood donation.

The significant findings of our study were the ignorance of the population of basic knowledge regarding blood donation, and the act of donating blood was associated with replacement than with voluntary donation. There is need for dissemination of information regarding safe blood and voluntary blood donation particularly on the electronic mass media.

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