

The Role of a Technician and Laboratory Specialist in Motivating Blood Donors

Saeed S. Alhashmi¹, Mohammed H. Alhazmi¹, Eman O. Sharaf², Moaaz H. Alshareef³, Shuruq A. Sumayli⁴, Amnah M. Khormi⁵, Talaat T. Aldaadi⁶, Wafa A. Alshareef⁷, Majed A. Khiamy⁸, Matiah S. Hussin⁹, Sami S. Alsawayidi¹⁰

Laboratory specialist at central blood bank in Makkah¹

Laboratory specialist at internal audit department in Makkah²

Laboratory specialist at regional laboratory in Makkah³

Laboratory specialist at regional laboratory in Jazan⁴

Laboratory specialist at Jazan specialized hospital⁵

Laboratory technician at Alnoor specialist hospital⁶

Laboratory technician at national guard hospital in Jeddah⁷

Laboratory specialist at Maternity children hospital in Makkah⁸

Laboratory technician at regional laboratory in Makkah⁹

Laboratory technician at Al-Shifa Health Center in Taif¹⁰

Abstracts

This study aims to highlight the importance of donating blood to save people's lives, the role of the Ministry of Health in motivating people (citizens or residents through rewards, gifts, and material or moral benefits) and breaking the barriers of people's fear of donating blood. The questionnaire was conducted via the Google Drive program and then distributed (randomly) to 650 people (men and women) via the social networking site (WhatsApp). Answers were obtained from 635 people in health centers in the Makkah region (Mecca and Taif).

Keywords: blood donation, Ministry of Health, Motivating, Mecca city.

1. Introduction

Blood is a fundamental section of human life and blood donation has become a requirement that every community must take into regard.(4,5) These days, both sophisticated and advanced countries are meeting hardness to detect steady donors.(6) The number of blood banks in Saudi Arabia is 251.[4] World Health Organization (WHO) advocates that 3-5% of the population should donate blood every year.(1) stratify this commendation in Saudi Arabia, in 2010, the full number of people was 27,136,977, so the perfect number of donors would be from 814,109 to 1,356,849.[8] However, the number of donations according to the centric statistics in 2011: was 341,688 blood units (8)In Saudi Arabia, youthfulness includes a high proportion of it (9). people

Out of them, healthcare occupations students are one of the most that have learned of the significance of donation. estimation of their realization in the hands and premeditation into their level of consciousness and their misbeliefs. blood donation: It is a willing medicinal step that picks blood or one of its complexes from a salutary person to an unwell person who wants blood. This process is necessary by millions of people every year; It is used during operations, accidents, or some illnesses that demand transfusion of some blood ingredients kinds of blood donation are complete blood: This is the most popular sort of blood donation. It contains all blood motifs (red cells, plasma, and platelets) plasma, and red blood cells. The value of donating blood is blood transfusion step is one of the surgeries that participate in rescuing lives. It is presented in such situations: When complexity happens for gravid women, such as those wounded before, during, or after. birth for patients during surgeries such as heart operations, blood containers, members implant surgery, etc., for those with blood illness, for those wounded in incidents, cancer patients. One of the terms for donating blood. The donor must be healthy and not in pain from any infectious illness, the age of the donor must be between 18-65 years, the weightiness of the donor should not be minimal than 50 kg, the hemoglobin level for males should be between 14-17 gm, and for females between 12-14 gm, and His beds are between 50-100 per minute, the temperature does not override 37 degrees Celsius, and the average blood pressure is less than 120/80 mmHg(10). The health dangers that could make the donation steps dangerous for the beneficiary are medically checked. Some of these limitations are dialectical and some look them, racist, such as the restriction of donations from homosexuals at risk of HIV (11). As for the self-donation process, there is no rigorous tying to the benignity of blood, as the donor is the one who will extradite his blood later, and no one else (12). The donor is also demanded if he is picking any type of drug; As some cures may damage or a discompose risk to the grantee, principally bigger females (13). Donors are checked for marks and symptoms of illnesses that can be inherited by blood transfusions, such as HIV, malaria, and viral hepatitis. They may check to expand to inquiries requested by the particularist about danger agents for many illnesses, such as travel to countries apt to malaria or Creutzfeldt-Jakob illness (14). These quizzes vary from country to country. For example, the Héma-Québec organization in the Canadian province of Quebec may postpone donors who were living in the United Kingdom at the hazard of Jacob's illness (15), however in the United Kingdom itself, the illness is not possessed into consideration except if the donor is He may have been to an objected blood transfusion within the United Kingdom itself (16). The donor is also subjected to checking and asking confirmed questions about his medical history to guarantee that the blood donation step does not discompose any danger to the donor's health. The level of hematocrit and hemoglobin in the donor's blood is examined to enclose that the donation will not affect anemia in the patient. The outcomes of this check are the most popular to manufacture the donor disqualified to contribute (17). pulsation, blood push, and body temperature are taken into counting during the valuation. Elderly donors are sometimes refused due to health attention (18). The security of donation during gestation has not yet been suitably calculated, so expectant females generally defer carriage (19). Before doing the donation steps, a blood donor is elected through the specified standard of medical and laboratory tests and medical history, and locate the blood kind (from the four renowned groups). size of hemoglobin concentricity (hemoglobin): by finger. weighing: (must be lower than 50 kg). stroke measure. Blood compression: (lower than 160/90) Conform the security of the transported blood and the instruments used for transfusion. Donors are generally requested to give written

approval before making a donation, so a small cannot donate blood without paternal agreement (20). For the sake of privacy, some countries connect donation input with blood kind without the person's name. In other countries, such as the United States, the powers use names to make rosters of donors who are not capable to donate (21). A donor who does not face the donation terms and criteria is named an address. He is invited, a postponed donor who afford that title as it is often the cause for prohibiting a donation from being interim and it hides at a later time. The sex of the donor or his venous surrounding is sometimes remarkable, as blood series, particularly uncommon ones, are popular with many people of the same racing (22). Genetically, in some countries, there have been laws where donation is based on sex, faith, or ethnic affiliation, but these laws are not a problem of medical causing and are not considered a scientific measure (23). blood test: the donor's blood kind must be defined if the blood is to be used for a transfusion. The fundraisers mark whether the blood type is A, B, AB, or O and object the blood bags of RH D antigen donors to the antigen decrease steps. These tests work in addition to the blood group agreeing to examine generally before a blood transfusion picks area. The donor with blood style O is always indicated as an international donor, due to the shortage of this sort of blood (24). This condition is used when talking about transfusions of red blood cells only. While in plasma transfusion, the AB group is mentioned as the global donor (25). Blood is often checked for illness, and contains some STDs (26). No practical diagnosis is made, as examinations with high sensibility and reliability are used. And by doing some more special checks, it can be detected that some of the outcomes that showed plus are false scores (27). In cases of minus consequences, the potential of an untruth examination is very unusual. But in general, statistics referred that most donors lost trust in using blood donations to the point of testing for sexually transferred illnesses. As the blood units with false plus outcomes are considered by the donors to be infected blood units. In the case of positive conclusions, blood samples are careless and damaged directly, except in the case of self-donation, where it is sufficient to inform the patient of the result (28). Donor blood is checked for many illnesses by purposes of tests, but the basic tests bespoke by the World Health Organization are four that are theorized laws and they are Hepatitis B surface antigen. antibodies to the hepatitis C virus. HIV antibodies usually subtype 1 and 2. Serum test for syphilis (29). After making the donation, drink a great number of fluids during the hours following the donation. Refrain from smoking for two hours. Do not block the compressive strip from the needle post two hours before. Hands should be raised to the top and pressure on the site of the needle if there is bleeding. If the donor feels nasty or dizzy, he should lie on the bed with the head level lower than the body or sit with the head between the laps for 5 minutes. Not doing hard work or trying, to practice for 24 hours (30).

2. Material and Methods:

This study was started in (the city of Mecca in Saudi Arabia), begin writing the research and then recording the questionnaire in January 2024, and the study ended with data collection in July 2024. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (Motivating blood donors by the ministry of health). This kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health

of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation (2), And use the Excel 2010 Office suite histogram to arrange the results using frequency tables Percentages (3). The questionnaire consists of seventeen questions all are closed.

3. Results and Discussion:

A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, only answered the questionnaire electronically, the online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere (4). With regard to the first question, it was about did you donate blood. If yes? Answer the next question. The answer was yes 91.7% and no 8.3%. The second question is, did you donate blood to any of your relatives? 66.7% answered yes and 33.3% answered no. As for the third question, was the blood donation procedure easy? 91.7% yes and 8.3% no. The fourth question was about the manner of the employee concerned with you friendly before, during, and after your blood donation. 100% answered yes and 0% no. As for the fifth question, was there an incentive for you from others (your family, friends) to donate blood? 58.3% answered yes and 41.7% answered no. The sixth question was about whether you were forced to donate blood. 100% answered no and 0% yes. The seventh question is about whether you donated blood because of a job that was offered to you in exchange for an incentive for you. He also answered 100% no, and yes 0%. The eighth question was about whether you were forced to donate blood because of obtaining a driving license. The eighth question was about where you were forced to donate blood because of obtaining a driving license. 83.3% of them answered yes and 16.7% answered no. The ninth question is about where were you asked to donate by one of your relatives in order to obtain in return the blood of another relative of yours to perform an operation on him, due to the severe shortage In a particular platoon in the hospital. 25% answered yes and 75% answered no. As for the tenth question, was there an incentive for you from the health facility to donate blood? The answer was equal to those who refused and accepted, 50% for each of them. The eleventh question is, do you have a fear of donating blood? 91.7% answered no, and 8.3% answered yes. The twelfth question is: Do you think that the point of blood donation should be added to the conditions of the marriage contract by the state? 33.3% answered yes and 66.7% answered no. As for the thirteenth question, were blood tests done for you according to the conditions of the marriage contract? The answer was the same as the previous one: 33.3% yes and 66.7% no. The fourth question was about whether is there an importance in your opinion to donating blood. If your answer is, yes? Write your answer. All of them answered yes 100%, and their answer was to reduce the percentage of iron, for emergency and critical cases, save the lives of others, renew the blood, and stimulate the bone marrow to form new blood, as for the fifteenth question about do you advise others to donate blood? All participants answered the questionnaire with a 100% yes. The penultimate question about does the competent employee take care of himself, cleans, and sterilizes the donation place before, during, and after blood donation. 91.7% yes and 8.3% no. As for the last question, does the competent employee follow all the procedures and instructions for drawing blood from donors? 100% answered yes.

Table No.1: Opinions and attitudes of people regarding the importance of blood donation and the role of health in this regard

Questions	Yes	No
did you donate blood?	91.7%	8.3%
did you donate blood to any of your relatives?	66.7%	33.3%
was the blood donation procedure easy?	91.7%	8.3%
was about the manner of the employee concerned with you friendly before?	100%	0%
was there an incentive for you from others (your family, friends) to donate blood?	58.3%	41.7%
was about whether you were forced to donate blood ?	0%	100%
whether you donated blood because of a job that was offered to you in exchange for an incentive for you ?	0%	100%
whether you were forced to donate blood because of obtaining a driving license ?	16.7%	83.3%
were you asked to donate by one of your relatives in order to obtain in return the blood of another relative yours to perform an operation on him, due to the severe shortage In a particular platoon in the hospital ?	75%	25%
was there an incentive for you from the health facility to donate blood?	50%	50%
do you have a fear of donating blood?	8.3%	91.7%
: Do you think that the point of blood donation should be added to the conditions of the marriage contract in the state?	33.3%	66.7%
were blood tests done for you according to the conditions of the marriage contract?	33.3%	66.7%
whether is there an importance in your opinion to donating blood?	100%	0%
do you advise others to donate blood?	100%	0%
does the competent employee take care of himself, cleans and sterilize the donation place before, during and after blood donation?	91.7%	8.3%
does the competent employee follow all the procedures and instructions for drawing blood from donors?	100%	0%

4. Conclusion:

Donating blood in order to save the lives of others is considered a noble and sublime act, and the state urges and motivates all people, whether citizens or residents of its territory, to save innocent lives that deserve life, young and old. Therefore, by participating in the questionnaire, 50% of the participants stated that there is motivation from the health facility management, whether blood bank officials, to motivate everyone, and to support and bless the efforts of blood donors.

Acknowledgment:

To begin with, I would like to Praise God and and the researchers who make the project comes to light.

WORKS CITED

- 1-Alserahy, Hassan Awad, et al (2008), The thinking and scientific research, Scientific Publishing Center, King Abdul-Aziz University in Jeddah, the first edition.
- 2- Al Zoghbi, Muhammad and AlTalvah, Abas (2000), Statistical system understanding and analysis of statistical data, first edition, Jordon- Amman.
- 3-Kadasah, N.A.; Chirwa, G.C.; et al. Knowledge, Attitude, and Practice Toward COVID-19 Among the Public in the Kingdom of Saudi Arabia: A Cross-Sectional Study. *Front. Public Health* 2020, 8, 217.
- 4- Blood Safety and Availability [Internet]. World Health Organization; 2016. Available from: <http://www.who.int/mediacentre/factsheets/fs279/en/>. [Last accessed on 2019 May 09]
- 5- Safizadeh H, Pourdarnghan N, Mohamadi B. University student awareness and attitude toward blood donation in Kerman City. *IJBC* 2009; 1:107-11.

- 6- Karim MR, Alam M, Farazi MMR, Labone RJ. Factors influencing blood donation behavior of a university-level student in Bangladesh. *JIT* 2012;1:35-40.
- 7- Health Minister: Establishment of Blood Plasma Derivatives Factory in Saudi Arabia [Internet]. Official Saudi Press Agency; 2010. Available from: [http://www.spa.gov.sa/viewstory.php?lang=en](http://www.spa.gov.sa/viewstory.php?lang=en&newsid=792636) and [newsid=792636](http://www.spa.gov.sa/viewstory.php?lang=en&newsid=792636). [Last accessed on 2019 May 10].
- 8- The General Population and Housing Census | General Authority for Statistics [Internet]. General Authority for Statistics. 2016 [cited 2019 May 10]. Available from: <http://www.stats.gov.sa/en/13>.
- 9- Stats.gov.sa. [online]. Available from: [https://www.stats.gov.sa/sites/all/modules/pubdlnet/pubdlnet.php?file=https://www.stats.gov.sa/sites/default/files/table_4-34.xlsx](https://www.stats.gov.sa/sites/all/modules/pubdlnet/pubdlnet.php?file=https://www.stats.gov.sa/sites/default/files/table_4-34.xlsx&nid=12901) and [nid=12901](https://www.stats.gov.sa/sites/all/modules/pubdlnet/pubdlnet.php?file=https://www.stats.gov.sa/sites/default/files/table_4-34.xlsx&nid=12901). [Last accessed on 2019 Jan 04].
- 10- General Administration of Health Promotion and Health Education, <https://www.moh.gov.sa/HealthAwareness/EducationalContent/Diseases/Hematology/Pages/007.aspx>.
- 11- "Drug Agency Reaffirms Ban on Gay Men Giving Blood". *New York Times*. Archived from the original on July 27, 2018. Viewed on 2009-03-26.
- 12- Heim MU, Mempel W (1991). "[The need for thorough infection screening in donors of autologous blood]". *Beitr Infusionsther* (in German). 28: 313-6. PMID 1725645.
- 13- Avodart consumer information". US Food and Drug Administration. Archived from the original on May 20, 2009. Retrieved June 1, 2008.
- 14- AABB Full-Length Donor History Questionnaire (UDHQ)". AABB, U.S. Food and Drug Administration. Archived from the original on March 3, 2009. Retrieved June 25, 2008.
- 15- Donor Eligibility Criteria', Quebec, Canada. Archived from the original on 7 June 2010. Retrieved 17 December 2006.
- 16- Avodart Consumer Information. FDA. Archived from the original on May 20, 2009. Retrieved June 1, 2008.
- 17- Gómez-Simón A, Navarro-Núñez L, Pérez-Ceballos E; et al (June 2007). "Evaluation of four rapid methods for hemoglobin screening of whole blood donors in mobile collection settings". *transfus. Apher. Sci.* c. 36 p. 3:235-42. doi 10.1016/j.transci.2007.01.010. PMID 17556020. {{Citation of a peer-reviewed journal}}: Explicit use of et al. in: |author= (help).
- 18- Goldman M, Fournier E, Cameron-Choi K, Steed T (May 2007). Effect of changing age criteria for blood donors. *Fox sang.* c. 92 p. 4: 368-72. doi: 10.1111/j.1423-0410.2007.00897.x. PMID 17456161.
- 19- R. Miller, B.; Hewitt, R.; Warwick, MC. Moore, B. Vincent (1998). A review of counseling in the blood transfusion service: the London (UK) experience. *Fox sang.* c. 74 p. 3:133-9. doi: 10.1046/j.1423-0410.1998.7430133.x. PMID 9595639.
- 20- Parental Consent Form" (PDF). Australian Red Cross Blood Service. Archived from the original (pdf) on 2008-06-25. Retrieved 2008-06-01.
- 21- FDA Regulations on Deferring Donors". U.S. Food and Drug Administration. Archived from the original on March 4, 2016. Retrieved June 1, 2008.
- 22- "Donors' Races to Be Sought To Identify Rare Blood Types". *New York Times*. Archived from the original on March 3, 2009. Viewed on 01-06-2008.
- 23- Retired Site / PBS. Public Broadcasting Service (United States). Archived from the original on 07-03-2015. Retrieved 2008-06-01.
- 24- Blood Type Test". WebMD.com. Archived from the original on September 29, 2017. Retrieved June 1, 2008.
- 25- Plasma fact sheet (PDF). American Red Cross. Archived from the original (PDF) on 2008-06-25.
- 26- Bhattacharya P, Chandra PK, Datta S; et al (July 2007). "Significant increase in HBV, HCV, HIV and syphilis infections among blood donors in West Bengal, Eastern India 2004-2005: exploratory screening reveals high frequency of occult HBV infection". *World J. Gastroenterol.* c. 13 p. 27:3730-3. PMID 17659734. Archived from the original on January 6, 2016. {{Citing a peer-reviewed journal}}: Explicit use of et al. in: |author= (help).
- 27- "Testing of Donor Blood for Infectious Disease". AABB. Archived from the original on May 4, 2010. Viewed on 2008-06-25.

Saeed S. Alhashmi, Mohammed H.Alhazmi, Eman O.Sharaf, Moaaz H.Alshareef, Shuruq A.Sumayli, Amnah M.Khormi, Talaat T.Aldaadi, Wafa A.Alshareef, Majed A.Khiamy, Matiah S.Hussin, Sami.S.Alsuwayidi

- 28- R. Miller, B.; Hewitt, R.; Warwick, MC. Moore, B. Vincent (1998). A review of counseling in the blood transfusion service: the London (UK) experience. *Fox sang. c.* 74 p. 3:133-9. doi: 10.1046/j.1423-0410.1998.7430133.x. PMID 9595639.
- 29- World Blood Donor Day 2006. Global Health Organization. Archived from the original on October 3, 2013. Viewed on 2008-06-26.
- 30- Frequently asked questions about donating blood. American Red Cross. Archived from the original on 2011-09-04. View it on 10-26-2009.
- 31- Alsalmi MA, Almalki HM, Alghamdi AA, Aljasir BA. Knowledge, attitude, and practice of blood donation among health professions students in Saudi Arabia; A cross-sectional study. *J Family Med Prim Care* 2019;8:2322-7 .