


# A Comparison of the Knowledge, Attitude, Practice and Motivation Towards Blood Donation Among Albanian, Saudi and Turkish Citizens

Mateq Ali Alreshidi , Idris Sula

Department of Medical Laboratory Sciences, College of Applied Sciences, Sulaiman Al Rajhi University, Bukayriah, Al Qassim, Saudi Arabia

Correspondence: Mateq Ali Alreshidi, Department of Medical Laboratory Sciences, College of Applied Sciences, Sulaiman Al Rajhi University, PO Box 777, Bukayriah, Al Qassim, 51941, Saudi Arabia, Tel +966 16 3355555 Ext. 7506, Email [ma.alreshidi@sr.edu.sa](mailto:ma.alreshidi@sr.edu.sa)

**Background and Objectives:** Blood donation is a remarkably safe medical procedure. However, it is affected by attitudes, beliefs, and knowledge level. A knowledge, attitude, and practice survey was carried out in Albania, KSA (Kingdom of Saudi Arabia) and Turkey to understand and identify: (1) the factors that influence blood donation, and stop people from blood donation, (2) the behavior and approach of the people towards blood donation (3) the knowledge level among donors and non-donors, and (4) the blood donation-related misconceptions.

**Materials and Methods:** This search was conducted through online surveys using Google Forms, which were shared through social media platforms, ie, Facebook, WhatsApp, Gmail, etc. A self-administered questionnaire form was shared to random people through social media platforms and 1281 responses were received.

**Results:** A total of 1281 forms were filled and submitted through Google Forms. Among these answers, 858 were from Albania, 273 were from KSA, 90 were from Turkey, and the remaining was from other countries. According to the answers, only 32% people were blood donors in Albania compared to 46% in KSA and Turkey. The factors primarily encouraging the people in Albania, Turkey, and KSA to donate blood included intention to help others in need, save lives, and help their family members. The primary reasons preventing people from blood donation included that they were not asked and some medical reasons. In Albania 88.6% would donate if asked, compared to 86% in KSA and in 77.7% in Turkey 77.7%.

**Conclusion:** Despite considerable differences in the culture and demographics of the three countries, several common factors emerged from the surveys. Some of these results reflected an encouraging attitude toward blood donation. Further future planning with emphasis on educational programs and more organizations of donor recruitment campaigns can increase blood donations to fulfill the patients' needs in these countries.

**Keywords:** blood donation, attitude, motivation, blood donation system, blood transfusion

## Introduction

On World Blood Donor Day 2017, on the 14th of June, the theme “Give blood, Give now, Give often” emphasized the critical need for more people worldwide to become life-savers by regularly donating blood. According to the World Health Organization (WHO) data from 173 countries, 112.5 million donations are made annually.<sup>1</sup> In a recently published report, Ministry of Health (MoH) in KSA received a collection of 252 thousand units during 2020 (<https://www.statista.com/statistics/1308070/saudi-arabia-amount-of-collected-blood-units/>) which was higher than 180 thousand units donated in Turkey annually (<https://jpma.org.pk/article-details/6877>) and 30,000 units in Albania (<https://www.otp.bank.al/en/blood-donation/>). These figures hardly meet the 1–3% donor limit set by WHO. Currently, only 57 countries fulfill their blood requirements from volunteering donors. According to one estimate, if only one percent of the population donated, it would be sufficient for each country to achieve its basic requirements for blood supply. As donated blood can save human lives, blood availability remains a significant concern to health-care institutions and society.

Several questions can help to understand people's approaches toward blood donation. What encourages a person to donate blood voluntarily? What kinds of obstacles are faced by a donor? How can the blood centers convince the donors to donate again and become regular donors? What are the misconceptions about blood donation? Answers to these questions provide information for blood collection agencies in their recruiting campaigns.<sup>2,3</sup> The knowledge about the psychology and motivation of blood donors is essential to establishing a safe blood supply based on voluntary, non-remunerated donors in many countries worldwide. On the other hand, more research should be conducted on the motivational factors affecting blood donations.

The three countries included in this study, ie, Albania, Turkey, and KSA, differ in their history, cultural background, economy, geography, and many other things. The primary objective of our study was to observe how these changes impact their respective population's attitudes toward blood donation. Previous studies have shown that different countries with differences in culture, economy, and geography face similar problems in recruiting blood donors.<sup>2</sup> For instance, over the past decades, there has been an increasing shift of reliance on blood from imported blood and paid donations to local volunteering donations in Albania, KSA, and Turkey. It was during the COVID-19 pandemic that this trend changed, and a significant impact was given on the blood supply system worldwide. Anxiety and fear of infections were the most common misconceptions hindering donor's access to donation facilities.<sup>5</sup> WHO estimated that the COVID-19 pandemic caused a significant 20–30% blood supply reduction in KSA alone. That drop reached up to 39% in some cases.<sup>4,6</sup> This resulted in a more active campaign to eliminate misconceptions and recruit more donors to fulfill the demands.

Knowledge, Attitude, and Practice (KAP) surveys are routinely used by government institutions and donor recruiting agencies to better understand the behaviors of the general population on blood donation in developing settings. The logic model underlying KAP surveys on blood donation provides a better understanding of the knowledge, attitude, practices, and behaviors surrounding blood donation. They will lead to better actions to promote safe, voluntary blood donation worldwide and form the basis for developing educational material and communication strategies. Moreover, one of the leading implementations of the World Assembly Resolution 28.72 of May 1975 is that the member nations should work to establish a national BTS based on unremunerated blood donation. Hence, this study aimed to find, understand, appraise, compare and summarize the results of KAP surveys on blood donation in Albania, KSA, and Turkey. Such information is crucial for planning the attainment of total voluntary blood donations in accordance with World Assembly Resolution 28.72 of May 1975.

## Material and Methods

We prepared a self-administered online [questionnaire form](#) using Google Forms after a review of other similar studies that probed the attitudes toward blood donation in different countries and was shared using social media.

The questionnaire form was distributed randomly among people. It was shared on social media, and receivers were encouraged and reminded to share it with others between March and April 2021. The questionnaire form was available in English, Albanian, Turkish, and Arabic. The participants were of genders, males and females. The questionnaire form analyzed various aspects of the knowledge, beliefs, attitudes, and motivations toward blood donation. Respondents were asked to answer with a “Yes” or “NO” to some questions; on other questions, they were asked to select or even write reasons for donating or not donating. There was a section where questions had to be answered using a “Likert scale”. The questionnaire form needed 5–10 minutes to be completed and was automatically collected by Google Forms.

A total of 1222 invitations were sent out in the three countries, 274 in KSA, 90 in Turkey and 858 in Albania.

## Results

The study was conducted during March and April 2021. The distribution was random and responders were encouraged to share and encourage others to fill the survey. The total number of respondents was 1281. [Table 1](#) shows the country-wise breakdown of the responders from each country. [Table 1](#) provides a summary of the participants per country and sample selection.

## Behavior

[Table 2](#) shows the percentage of those who had previously donated blood among the responders. In Albania, only 32% reported having donated blood; and from them, only 5.2% responders were regular donors. In KSA, 46% of responders

**Table 1** Summary of the Participants per Country and Sample Selection

Country	Author	Time Period	Population Surveyed	Sample Selection	Survey Delivery
Albania	Idris Sula	March-April 2021	858 Adults	Random sample	Self-administered online questionnaire
KSA	Idris Sula	March-April 2021	274 Adults	Random sample	Self-administered online questionnaire
Turkey	Idris Sula	March-April 2021	90 adults	Random sample	Self-administered online questionnaire

**Table 2** The Percentage of Study Responders Who Previously Donated Blood

Country	Population Surveyed	Total Blood Donors	Regularly 2–3 Times a Year	Once a Year	Every Two or Three Years
Albania	General population	32% (273)	5.2%	38.4%	56.4%
KSA	General population	46% (131)	8%	35.2%	56.8%
Turkey	General population	46% (46)	28.6%	45.2%	26.2%

have previously donated, and only 8% were regular donors. In Turkey, the percentage of donors was the same as in Saudi Arabia, 46%, but the rate of regular donors was significantly higher, up to 28.6%.

## Knowledge

Overall, as seen in [Table 3](#) general knowledge of the health benefits, required age, and blood group was high across all countries. On the other hand, specific knowledge of the donation intervals was relatively low. Donors tended to have more general knowledge than non-donors, except in Albania, where non-donors knew more about health benefits, required age, and donation intervals, as shown by in [Table 3](#).

In the survey, some questions evaluated the degree of misconception about the blood donation process. As shown in [Table 4](#), the most common misconceptions regarding blood donation in the three countries are the conditions that “should the donor be fasting” and that “a smoker cannot donate”. Another misconception was that the donated blood was being sold to patients which significantly discouraged the volunteers.

## Attitude and Motivation Toward Blood Donation

The current report found an overall positive attitude towards blood donation among people in the three countries. [Table 5](#) shows the percentages of the three countries reporting a positive attitude toward different scenarios. No negative attitude was observed towards blood donation among the responders from the three countries. In addition to these results, more than 80% of responders agreed or strongly agreed that every healthy person should donate blood. Almost 90% of all responders agreed or strongly agreed that their donation would encourage others to donate. More than 95% believed that

**Table 3** General Knowledge of the Health Benefits, Required Age, and Blood Group Amongst the Responders

Country	Knowledge on Health Benefits of Blood Donation		Knowledge of Age Requirement		Knowledge of Their Blood Group	
	Donors	Non-Donors	Donors	Non-Donors	Donors	Non-Donors
Albania	92.4%	95.2%	69%	75.3%	90.6%	53.8%
KSA	87.3%	67.3%	63.4%	72.1%	98.4%	90.4%
Turkey	96%	85%	76%	75%	100%	40%

**Table 4** The Most Common Misconceptions Regarding Blood Donation Amongst the Responders in Three Countries

Country	A Smoker Cannot Donate		Blood is Sold to Patients by Hospitals		In Order to Donate Blood, the Donor Should be Fasting	
	Donors	Non-Donors	Donors	Non-Donors	Donors	Non-Donors
Albania	38%	60.5%	15.8%	21.5%	33.8%	60.8%
KSA	51.6%	55.8%	16.7%	23.8%	22.2%	42.8%
Turkey	20%	62.5%	2%	7.5%	30%	47.5%

**Table 5** The Percentages of the Three Countries Reporting a Positive Attitude Toward Different Scenarios

Country	I Would Encourage Others to Donate	I Think Blood Donation is a Duty of Citizens	I Will Donate if Called Upon	I Would Donate to an Unknown Person	I Think I am Fit to Donate?
Albania	83.9%	74.5%	88.6%	87.2%	65.7%
KSA	82.7%	74.7%	86%	78.3%	71%
Turkey	78.8%	70%	77.7%	81%	70%

blood donation could save lives. More than 75% of the responders believed that blood donation was a duty of citizenship. More than 80% responders would not accept monetary compensation for their donation.

## Reasons Preventing Non-Donors from Donating

As summarized in Table 6, the top reasons for not donating in Albania were fear, nobody had ever asked for donation, and some serious medical conditions. Fears of anemia, sight of blood, and injection were the most common deterrent fears among non-donors in Albania. Medical reasons included anemia, heart diseases, underweight, blood infection, cancer, etc. In KSA, the top reasons for not donating were that they never thought of it, and nobody ever asked for blood donation, and medical reasons. It was indicated in a previous study that the primary reason for not donating blood was that “nobody had ever asked for it”.<sup>7</sup> In Turkey, 34% non-donors reported not having a specific reason for not donating. Other reasons included medical reasons and the fact that they had never thought of it.

The main reason for donation in the three countries was altruism (the desire to help those in need and save lives). In Albania and KSA, the second most common reason for blood donation was to support their family members, whereas in Turkey, the second most common reason was encouragement from family members or friends. The consciousness to donate due to a rare blood group was observed among donors from all three countries, as shown in Table 7.

**Table 6** The Primary Reasons for Not Donating Blood in Three Countries

Reason Country	Fear	I Have Never Thought of it	Nobody Asked for	Objection from Family	Medical Reasons	No Specific Reason	I Would Rather Not Say
Albania	33.1%	20.3%	32.2%	1%	23.4%	16.5%	3.6%
KSA	16%	44.3%	24.6%	6.3%	24.6%	0%	1.4%
Turkey	16.3%	18.3%	10.2%	0%	28%	34%	2%

**Table 7** The Main Reason for Donation Among the Three Countries Was Altruism (the Desire to Help Those in Need and Save Lives)

<b>Reason Country</b>	<b>I Want to Help Others in Need and Save Lives</b>	<b>My Family/Friends Donate and Encouraged Me to Contribute</b>	<b>I Donated for My Family Members</b>	<b>I Have a Rare Blood Group</b>
Albania	81.3%	10.2%	34%	5.8%
KSA	59.8%	16%	17.9%	4.9%
Turkey	74%	14%	4%	4%

## Blood Group Distribution Among Responders

As shown in Table 8, the blood group distribution among people in the three countries is similar, and these values are close to the ones reported prior studies.<sup>8,9</sup>

## Discussion

KAP surveys provide a contextual evidence base for developing communication strategies and interventions to encourage voluntary, non-remunerated blood donors, a crucial component of a safe and continuous blood supply in any health-care setting. Undoubtedly, donor recruitment problems diverge in different countries and are primarily determined by cultural, social, educational, and other factors. Thus, in many developed countries where donations are mainly voluntary and unremunerated, the main concern is a decline in blood supply. On the other hand, in most developing countries where they are facing a severe shortage of blood, blood donation is still predominantly involuntary in which family members, relatives, and friends of patients give a significant contribution in fulfilling the demands for blood, leaving a small proportion to voluntary unremunerated donors. In both situations, donor behavior and attitude must be analyzed to ensure that the blood supply is sustained by recruiting new donors and maintaining those who have already donated, mainly the voluntary unremunerated donors.

While there is a considerable difference in the demographics, culture, and social life of these countries, several common themes emerge, such as fear of blood donation, misinformation, the potentially positive effect of altruism, the fact of not being asked to donate, and willingness to donate even for unknown people. This is evident from the responses summarized in Tables 5 and 6. For example, more than 24% respondents in KSA stated that they have never been approached for blood donation while more than 44% respondents have never thought of blood donation. These data point to an opportunity here that proper campaigning can help to bring these more 68% people to donate. Additionally, the 16% population who is scared can be convinced by educating them regarding the benefits of blood donation. Such opportunity

**Table 8** the Blood Group Distribution Among People in the Three Countries Included in the Study

	<b>Albania</b>	<b>Saudi Arabia</b>	<b>Turkey</b>
A Positive (A+)	34%	30.5%	31.7%
A Negative (A-)	4.2%	2.7%	6%
B Positive (B+)	13%	12.5%	10.9%
B Negative (B-)	1.4%	1.1%	1.2%
AB Positive (AB+)	7%	7.8%	6.9%
AB Negative (AB-)	1.2%	1.5%	0%
O Positive (O+)	31.9%	36.8%	34.1%
O Negative (O-)	6.5%	6.7%	9.7%

to convince this huge section of society is supported by the observation in Table 8 that family and friends encouraged the non-donors to become donors. Hence, there is an urgent need for a systematic drive from relevant authorities in this regard. Table 5 clearly supports this opportunity as between 77% and 86% respondents are willing to respond positively if they are asked to donate blood even if the recipient is unrelated to them (Table 5).

Money compensation has remained out of favor in many studies. According to our data, nearly 85% of the responders objected to money as compensation for their donations. All three countries tried to move from paid donations to volunteering donations. Presently, paid blood donations are being used widely for plasma donations in developed countries. For example, paid plasma donations account for almost 70% of total donations in Canada.<sup>10</sup> According to the reports published by the Albanian ministry of health, nearly 70% of the donations were paid donations, 25% were donations for family members, and only 5% accounted for voluntary donations. In 2019 family replacement donations accounted for 73% of total donations and paid donations dropped as low as 1%.<sup>11</sup>

Recruiting a sufficient number of safe blood donors is an emerging challenge worldwide, especially during COVID-19 pandemics, which have reduced blood-related activities, putting the safe blood supply and demand at risk.<sup>5</sup> The COVID-19 pandemic has negatively impacted donor attendance.<sup>4</sup> WHO estimated that the COVID-19 pandemic caused a 20% to 30% reduction in blood supply in KSA alone, dropping to 39%.<sup>4,6</sup> According to the Turkish Red Crescent, 2020 observed a decrease of 18% in donations in Turkey.

It is possible that with the decline in the number of voluntary donors in the surveyed countries, monetary compensation may be reconsidered as a way to attract more donors. However, there are potential serious disadvantages of paid donations, ie, attracting risky donors, especially drug users. Also, monetary rewards tie donors' interests with their financial needs rather than regular donations toward establishing regular unremunerated donations. Besides this, a paid donation cannot be a wholly reliable option by taking into consideration that many developing countries, including Albania, might not be able to have a sufficient budget to afford and fulfill the needs of the country.

The current study shows that in KSA and Turkey nearly half (46%) of the responders are blood donors, whereas, in Albania just one-third (32%) of the responders were blood donors. However, in recent years, Albania, Saudi Arabia, and Turkey have seen an increasing trend in blood donations. In 2004, local blood donations met only 11% of the country's needs; in 2017, that number increased to 45%.<sup>11</sup> In KSA and Turkey according to some studies and reports from World Health Organization blood banks can almost fulfill their requirements from volunteer donating, and there is an increasingly positive trend toward donation.<sup>7,12</sup> In KSA, 71% of blood in blood banks is from voluntary donors.<sup>7</sup> According to the Turkish Red Crescent, one million 937 thousand 932 donations were made during 2015, which increased to two million 809 thousand 237 blood units across the country that is incidentally the highest number in the past five years.<sup>13</sup> The level of knowledge among responders was good, where donors scored higher than non-donors. More than 67% of the responders knew health benefits of blood donation. Interestingly, in Albania, there is no significant difference between donors and non-donors, but non-donors scored higher, 95.2%, versus donors 92.4%. Even though the level of knowledge on health benefits of blood donation is high among Albanians only 32% of responders were actual donors. Considering that the primary reasons for not donating in Albania were fear and that nobody had ever been asked, it means more work needs to be done in recruiting volunteering-donors. In KSA, there is a clear gap between donors and non-donors (87.3% vs 67.3% respectively). Even though the knowledge level among Saudis compared to Albanians is lower, their awareness and practice are better as 46% of the responders from KSA were donors. In Turkey, knowledge of the health benefits of blood donation was good as the donors scored 96% and non-donors scored 85%. Besides this, their awareness and practice are good, as 46% of responders were donors.

The knowledge of the required age was significantly good as more than 63% of responders answered: "NO" when asked if someone younger than 16 years old could donate blood.<sup>14</sup> There was a clear knowledge gap regarding the blood groups. More than 90% of the Saudi donors knew their blood group as compared to 50% of non-donors in Albania and Turkey knew their blood group. This number was much higher in Saudi Arabia, where 90% of non-donors knew their blood group.

Some misconceptions might have hindered blood donation. For example, the most common misconceptions among all responders were that a donor should be in a fasting state at the time of blood donation, and a smoker cannot donate. These misconceptions were almost twice elevated amongst the non-donors compared to donors.

Among all surveys, the most important motivating factor for blood donation was altruism, which was “the desire to help others in need and save lives”. This can be related to the religion as these countries are of Muslim majority and according to many Muslim scholars, donating blood is a duty for every Muslim. For example, the late Sheikh Abdul Aziz bin Baz urged Muslims to donate blood in the local hospitals to save the lives of needy patients. This trend is consistently overcoming the paid donation and increasing the donation rate in these countries.<sup>7,12</sup> Donation for family members is the second leading and motivating reason for blood donation. According to WHO, the strong willingness to donate blood for friends or family is a way for blood banks to recruit more donors. In Nigeria, around 67% of blood donations in Nigeria are made for family members; this is due to the policies of many hospitals, which require the donation of a blood unit as a condition for a family member to receive antenatal care<sup>15</sup> because of the fragmented blood supply system and an inadequate supply in the country. Social encouragement plays a minor role in recruiting donors, where just 10–16% of responders are encouraged by their relatives and friends. Only 4–6% of donations were made due to the awareness of the rarity of their blood group.

Although having many commonalities, the three countries differed in the reasons preventing people from donating. For example, in Albania, the most common deterrent to blood donation was fear and the fact of not being asked to donate. Several specific fears were reported, ie, fears of anemia, the sight of blood, and injection. In Saudi Arabia, the top reasons for not donating were that they never thought of it, that nobody asked for it, and for medical reasons, which included anemia, heart diseases, underweight, blood infection, cancer, etc. It was indicated in a previous study in Saudi Arabia that the primary reason that they did not donate blood was that nobody ever asked them to donate.<sup>2</sup> In Turkey, 34% of non-donors reported no specific reason for not donating. Other reasons included medical reasons and the fact that they had never thought of it.

A common theme that emerged from survey results in the three countries is the need for more work to convert positive attitudes towards blood donation into the practice of volunteering donations. In Albania, nearly 90% of responders were willing to donate even to someone they did not know, while 65% believed that they were fit enough to donate, and only 32% had donated at least once. In Saudi Arabia and Turkey, the positive attitude was better translated into voluntary donations where around 80% of responders were willing to donate even to someone they did not know, and about 70% believed they were fit enough to donate, while 46% of the responders were blood donors.

There are different ways to recruit repeated donors, and diverse reasons affect their willingness to donate again. Donating for the first time significantly contributes to the willingness to donate again. Thus, future KAP studies should focus more on strategies to convert first-time donors into repeat donors by trying to identify and eliminate anything preventing them from donating again. Proper knowledge of blood donation plays a crucial role in encouraging blood donation. The present study found that more knowledgeable subjects tended to donate blood more than those with limited or scanty knowledge.

## Conclusions

The collection of blood donation surveys undertaken in the three countries confirms that KAP surveys provide an essential source of information about blood donation trends that can be used to develop targeted strategies for encouraging voluntary unremunerated donors and building a safe blood donation system. Although knowledge, beliefs, attitudes, and behaviors toward blood donation are similar among these countries, our data show that new strategies are warranted to recruit non-donors. Fear of donating and the fact that “nobody has ever asked me to donate” were the two most common deterrents to blood donation; altruism was the primary motivating factor. There is an apparent gap between the positive attitude toward blood donation and the number of donors in the Albanian, Saudi, and Turkish populations. New communication strategies are warranted to overcome these issues, establishing a safe and optimum blood supply from voluntary, non-remunerated donors.

## Ethical Approval

This study was approved from Qassim Ethical Committee, Ministry of Health, KSA, with written consent form all participants and complies with the Declaration of Helsinki.

## Disclosure

The authors report no conflicts of interest in this work.

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