



## Promoting Awareness of Blood Donation Among Medical Students Through Health Promotion

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 11 Sept 2023	<b>Aim:</b> Blood donation is crucial for the survival of critically ill persons and for complex medical procedures. However, in Ecuador, measures are needed to promote voluntary blood donation. <b>Material and method:</b> This study focused on medical students at Uniandes- Sede Santo Domingo, using qualitative research and a survey to identify motivations and barriers to blood donation. After a health promotion intervention, it was found that 20 of the 250 participants were willing to donate blood. It is important to continue to develop strategies to effectively obtain blood donors in the university student setting. <b>Statistics and Result:</b> Three people did not meet eligibility criteria and the remaining 17 people did donate blood. The university student population is a scenario to apply strategies to obtain blood donors effectively.
CC License CC-BY-NC-SA 4.0	<b>Keywords:</b> Blood Donation, Medical Procedures, Students

### 1. Introduction

Blood and its blood components are essential for the survival of critically ill people, including for complex medical and surgical procedures, such as childbirth, injuries caused by accidents and disasters. Blood donation is a social necessity; Every day hundreds of people, whether due to transplants, surgeries, burns, illnesses or accidents in which there is blood loss, require a blood transfusion (WHO, 2022).

The situation of Ecuador with respect to the voluntary act of blood donation is not in good conditions. According to data provided by the Ministry of Public Health (MSP), in In 2018, 53% of blood banks had inefficient production; (less than 5,000 units of blood/year); 6% achieved an acceptable collection (between 5,001 and 10,000 units of blood/year) and 41% presented a satisfactory collection, since they collected more than 10,001 units of blood/year (MBH, 2018).

Blood donation is important in terms of health, since it saves the lives of all those patients who require this fluid in different situations. However, the development of this activity is currently conflictive, since it is currently common for people to refuse to carry it out for different reasons associated with different factors among which culture predominates, lack of knowledge and education regarding the usual practice of blood donation (Garcia et al., 2016).

### Requirements to donate

The Ministry of Public Health recommends that voluntary donors maintain healthy lifestyle habits as this ensures the quality of blood products and therefore the well-being of people receiving blood transfusions.

To be a voluntary and unpaid donor it is important to take into account the following:

- Be willing to help others.
- Be in good health.
- Be from 18 to 65 years old.
- Weigh at least 110 pounds (50 kilos).
- Present your identification document
- You can donate up to three times a year.

In Ecuador, all regions are suitable for voluntary blood donation, however, in most of the provinces of the East it is recommended that collection teams properly direct the selection of the donor due to the frequency of diseases such as hepatitis B and malaria, which can be transmitted through blood (MPH, 2020).

### **Biological Qualification**

Once the blood is obtained, a biological qualification will be made to classify the group and factor to which it corresponds, different immunoserological studies will be carried out that are mandatory to detect the infections transmissible by transfusions mentioned at the end of the previous chapter and finally the fractionation of the blood will be carried out, which consists of separating the components: platelets, plasma and red blood cells. Blood is never transfused directly without first testing (Saúde, 2022).

The biological qualification will be carried out, for the determination of ABO blood groups and Rh factor. This consists of placing a drop of blood on a plate previously labeled as Anti-A, Anti-B and Anti-D. One drop of each reagent will be placed and mixed with a toothpick. For two minutes the plate should be balanced with gentle movements. After a few minutes you can see the agglutination that occurred (Saúde, 2022).

If agglutination occurs it indicates that the reaction is positive, the erythrocyte contains the corresponding antigen, and if it is not observed the reaction is negative therefore there is absence of antigen. For the Rh factor, the same technique is performed. If agglutination is observed, it indicates that the reaction is positive therefore it is an Rh positive, if there is no agglutination, it is a negative reaction (Saúde, 2022).

In addition, the Immunoserology laboratory will perform detection tests for: Hepatitis B, Brucellosis, Chagas, Syphilis and HIV. The methods used to determine the different diseases are obtained by means of agglutination or ELISA (Wikimedia, 2022; Diaz et al., 2020)

Despite the importance of blood donation, the literature available at the national level on blood donation promotion activities is scarce. The results of two studies are cited. First, the study of "knowledge and attitudes towards voluntary blood donation in users of the El Paraíso Cuenca Health Center 2019" prepared by Morocho in 2019, which aimed to describe the knowledge and attitudes towards voluntary blood donation in users. And, we can also mention the work that aimed to determine the factors related to voluntary blood donation in the population between 18 – 50 years old that attended the outpatient service of the Julius Doepfner Provincial Hospital of Zamora (2018 – 2019).

These investigations allow us to partially understand the Ecuadorian context on the issue of voluntary blood donation, but resolve the gap on activities that are effective in promoting voluntary blood donation. In this sense, it is essential to know, initially, the reasons that limit voluntary blood donation. (Morocho, 2019; Cardenas et al., 2020; Delgado et al., 2020).

A study by García, Quituizaca and SichiQui found that in the Ecuadorian context there is a high demand for blood in different hospital entities, and a very limited number of donors despite the

promotion and education efforts that have been carried out in the national context in order to add more people to this activity. In view of this limitation of access to a biological of such importance, the following question arises: (Garcia et al., 2016)What activities can be carried out to promote voluntary blood donation in medical students at the University, Uniandes- Santo Domingo Campus?

In order to answer this question, the objective was to develop activities that promote voluntary blood donation of medical students at the university, Uniandes-Santo Domingo Campus. As this is a general objective, specific objectives were also raised: to sensitize the student population of the medical career of the Uniandes University in Santo Domingo on the importance of the voluntary act "blood donation"; and, to analyze the motivations of students who oppose voluntary blood donation at the Uniandes University in Santo Domingo.

## **2. Materials And Methods**

This research is part of an exploratory scope, with the purpose of deepening the issue of blood donation and understanding the underlying motivations that may influence people's decision not to donate. To approach this research, a qualitative modality has been adopted, specifically an action research design.

The selected action research design allows for a combination of qualitative and quantitative approaches, providing a more complete and enriching understanding of the phenomenon under study. In the initial phase of the research, quantitative data obtained through a survey specifically designed to identify the motivations that lead people not to donate blood were used. This survey made it possible to collect information in a systematic and structured way, providing an overview of participants' perceptions and attitudes.

Based on the results obtained in the survey, a health promotion intervention was carried out, whose main objective was to invite survey participants to donate blood voluntarily. This intervention was based on the intervention alternatives identified in the initial phase, using quantitative data as a basis for the development of effective strategies. Action research allows these strategies to be put into practice and concrete actions to be implemented in the real context, evaluating their impact and making adjustments based on the results obtained.

It is important to highlight that ethical principles were followed and informed consents were obtained from participants in both the survey and the intervention. Data confidentiality was guaranteed and identification codes were used instead of real names to protect participants' privacy.

This research takes an exploratory and qualitative approach, using an action research design that integrates quantitative and qualitative data. The application of an initial survey allowed to identify the motivations for not donating blood, and from these results a health promotion intervention was implemented aimed at encouraging voluntary blood donation. This dynamic and participatory approach seeks to generate a real impact in the community and contribute to the development of effective strategies in the field of blood donation.

### **Population and sample**

The surveys were administered both to medical students and to the public attending an academic event organized by the Uniandes University - Santo Domingo campus. This selection of participants was based on convenience sampling, that is, those individuals who were available and willing to participate voluntarily in the study.

Convenience sampling was employed due to the accessibility and availability of potential participants in the context of the academic event. This selection strategy does not intend to represent the general population in a statistically generalizable way, but seeks to obtain an initial and exploratory perspective on the motivations for not donating blood in the group of volunteer participants.

As part of the qualitative research design, it was considered relevant to consult participants at the end of their participation in the study. In this consultation, they were asked about their willingness to donate blood, which allowed them to obtain additional information about their attitudes and behaviors related to blood donation.

It is essential to emphasize that ethical principles were respected at all times, obtaining the informed consent of the participants before their inclusion in the study. In addition, the confidentiality of the information collected was guaranteed, using identification codes instead of real names to preserve the privacy of the participants.

The surveys were applied to both medical students and those attending the academic event organized by the Uniandes University - Santo Domingo campus, using a convenience sampling of volunteer participants. This strategy allowed to obtain an initial perspective on the motivations for not donating blood in this specific group, and was complemented by a final consultation to assess the willingness of participants to donate blood. The research was carried out respecting ethical principles and ensuring the confidentiality of the information collected.

### **Techniques and instruments**

The survey used in this study was the questionnaire developed by Vásquez et al. (8), a validated and recognized tool in the field of blood donation research. This questionnaire was selected due to its ability to investigate and evaluate the perception of participants in relation to various aspects related to blood donation.

The questionnaire by Muñoz (2016) covers different dimensions relevant to the study, such as knowledge and motivations related to blood donation, as well as the demotivations and myths associated with this act of solidarity. This tool provides a systematic structure for collecting valuable information about participants' attitudes, beliefs and perceptions regarding blood donation.

It should be noted that the questionnaire developed by Muñoz (2016) has been validated and used in previous research, which supports its reliability and validity in the context of the subject studied. By using a validated instrument, consistency and accuracy in data collection is guaranteed, which strengthens the credibility of the results obtained.

It is important to mention that copyright was respected and the necessary permissions were obtained for the use of this questionnaire in the present study. In addition, the recommendations of application and analysis established by the original authors were followed to ensure the correct interpretation of the results.

In summary, the survey used in this research was the questionnaire developed by Muñoz (2016), a validated and recognized instrument in the field of blood donation. This tool allowed to investigate the perception of the participants in relation to various aspects of donation, including knowledge, motivations, demotivations and associated myths. Its use ensured the consistency and reliability of the data collected, thus contributing to obtain solid results based on scientific evidence.

### **Intervention**

As it is an action research, a sequence of actions aimed at sensitizing participants to voluntary blood donation was applied. The sequence of actions was as follows: 1) survey; 2) educational talk on cardiac functioning (health awareness); 3) consult; 4) addressing; and, 5) donation.

Survey: Application of the described instrument, face to face to all participants.

Educational talk: Informative activity developed as part of the event that included an explanation of cardiac physiology through the use of a simulator.

Consult: Ask the participant if they were willing to donate blood.

Address: The people who had answered affirmatively were led to an area in charge of the medical staff of the Ecuadorian Red Cross where they proceeded to make an evaluation of the suitability of the potential donor.

Donation: Those who met eligibility requirements were blood donors during the activity described.

### **3. Results and Discussion**

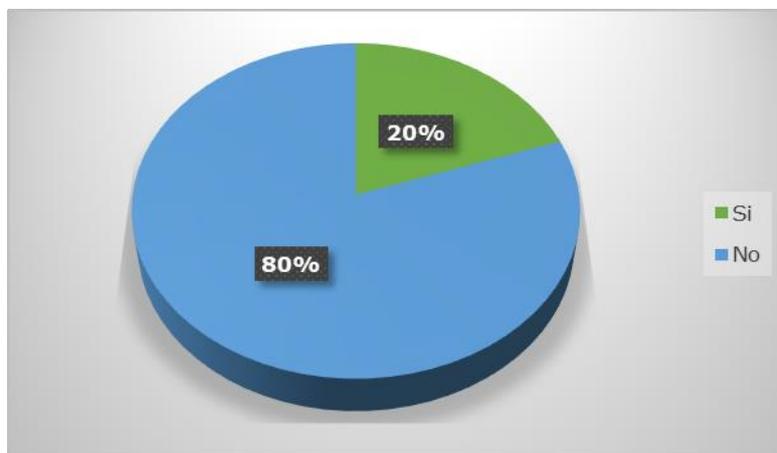
A total of 250 participants completed the survey, of which 104 were male and 146 female. Most participants had not previously donated blood (90% versus 10%) as shown in Figure 1. 80% of the students answered that they do not have any type of fear related to the process that is required when

donating blood, while the remaining 20% answered that they do (Figure 2). Only 19% of participants recognized a social influence for the refusal to donate blood (Figure 3).

82% of student participants responded that after proper training on the benefits of donating blood, they would agree to donate voluntarily without any problems. And 90% responded that they consider it necessary to donate blood. Most participants responded that if they know what the donated blood is for (95% versus 5%), about two-thirds of participants (65% versus 35%) do not believe that the blood is marketed.

82% of students know where to go to donate blood, while the remaining 18% say they don't know. The causes that were identified as very important as reasons for not donating blood were: having had hepatitis (76%), believing that blood is marketed (57.2%), medical causes (56.8%), and low weight (53.6%) (Table 2).

Of the 250 participants who responded to the surveys, a total of 20 people responded affirmatively with the intention of being willing to donate blood. As detailed in the intervention these people were taken with the personnel of the Ecuadorian Red Cross where they were evaluated, 3 people did not meet suitability criteria and the remaining 17 people did donate blood.



**Figure 1.** Fear related to the blood donation process

According to the results of the survey, it is observed that 20% of the participants indicate that they experience fear related to the blood donation process, while the remaining 80% do not report that feeling. This finding suggests that a significant percentage of respondents face fears associated with the act of donating blood.

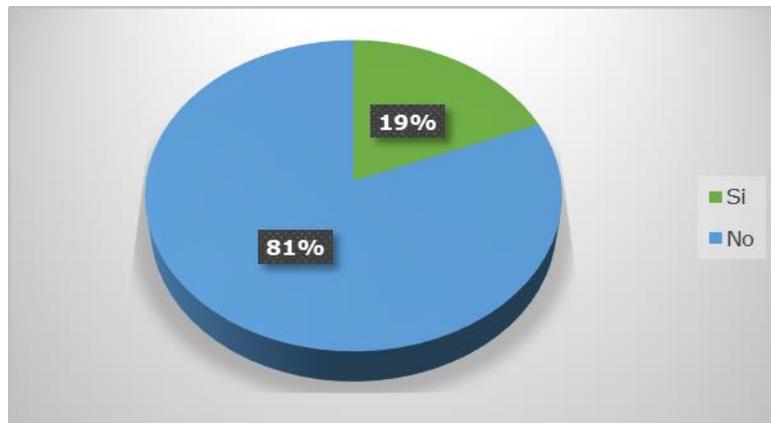
Fear can be a major factor influencing people's willingness to donate blood. It is important to identify and address the reasons behind this fear, as understanding the concerns and fears of potential donors can help implement strategies to overcome them and promote blood donation.

It is recommended that blood donation centers and related organizations provide clear and detailed information about the blood donation process, including the description of each step, requirements, and safety protocols. In addition, it is important to address specific potential fears, such as fear of needles, pain during extraction, or the possibility of side effects.

Conducting awareness and education campaigns on the importance of blood donation, as well as highlighting the benefits and lives saved by this solidarity action, can help lessen fears and build trust in potential donors.

It is also essential to offer a welcoming and supportive environment during the donation process, with trained and friendly staff who can answer questions and provide peace of mind to donors. Clear communication and empathy are valuable tools for building trust and reducing the fear associated with blood donation.

In summary, fear related to the blood donation process is a relevant factor that was identified in a significant percentage of participants. Addressing these fears through accurate information, education, emotional support, and effective communication can help overcome barriers and encourage potential donors to participate in blood donation.



**Figure 2.** Social influence on the refusal to donate blood

The results of the survey indicate that 19% of the participants perceive that social influence has an effect on the refusal to donate blood, while the remaining 81% do not consider this influence to be relevant.

Social influence can play an important role in people's attitudes and behaviors, including their decision to donate blood. The perception of negative social pressure or lack of support from their environment can discourage some individuals from participating in blood donation.

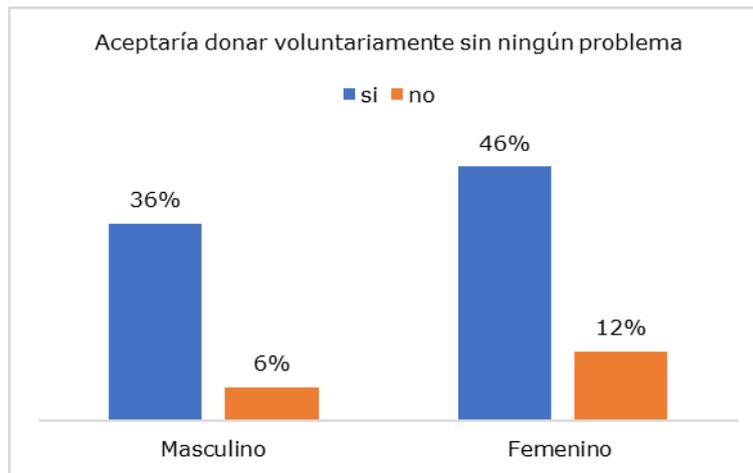
It is important to note that the perception of social influence may vary among participants due to differences in their social environment, cultural norms, and social interactions. Some people may feel more influenced by the opinions and attitudes of others, while others may have greater autonomy and confidence in their own decision-making.

To address the negative social influence on the refusal to donate blood, it is essential to carry out awareness and education campaigns that highlight the importance of this altruistic and supportive act. In addition, it is necessary to foster a culture of support and recognition towards blood donors, promoting positive messages and providing accurate information about the benefits and lives that are saved through donation.

In addition, community participation strategies and promotion of blood donation can be implemented, involving local leaders, organizations and the media to raise awareness and generate a supportive social environment in favor of blood donation.

Importantly, each individual has the right to make their own decisions regarding blood donation, and social influence should not be coercive or imposing. It is critical to respect individual decisions and foster an inclusive and respectful environment, where blood donation is seen as a personal and valuable choice.

In summary, although the percentage of participants who perceive social influence as a factor in the refusal to donate blood is relatively low, it is important to address this perception to promote a culture of support and recognition towards blood donation. Awareness-raising, education and community engagement strategies can play a key role in overcoming negative social influence and encouraging the involvement of potential donors in blood donation.



**Figure 3.** Training and interest in donating blood voluntarily.

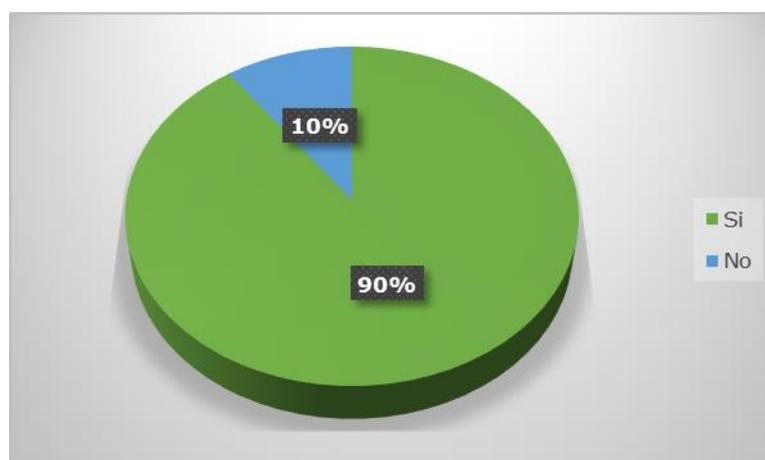
According to the survey results, it is noted that 36% of male participants are willing to donate blood voluntarily without any problems, while the remaining 64% do not agree with doing so. On the other hand, 46% of female participants are willing to donate blood voluntarily without any problems, while the remaining 54% do not agree with doing so.

It is encouraging to see that a significant percentage of participants, both male and female, are willing to donate blood voluntarily. Voluntary blood donation is essential to ensure a safe and sufficient blood supply for people who need it.

It is important to continue to promote awareness about the importance of blood donation and provide clear information about the process, benefits and requirements for donating. In addition, it is critical to address concerns and demotivations that may have been expressed by those who are unwilling to donate, in order to understand and address barriers that may exist.

It is essential to emphasize that blood donation is a personal and voluntary decision, and each individual has the right to make their own choice in relation to this. It is important to respect individual decisions and not to put undue pressure on participants to donate blood.

In summary, the results show that there is a significant percentage of participants, both male and female, who are willing to donate blood voluntarily. This finding highlights the importance of continuing to promote education and awareness about blood donation, as well as addressing concerns and demotivations that may exist among those who are unwilling to donate. Voluntary and altruistic blood donation is a valuable act that saves lives and contributes to the well-being of society.



**Figure 4.** Need to donate blood

According to the results of the survey, it is observed that 90% of the participants recognize the need to donate blood, while the remaining 10% do not consider it necessary to do so.

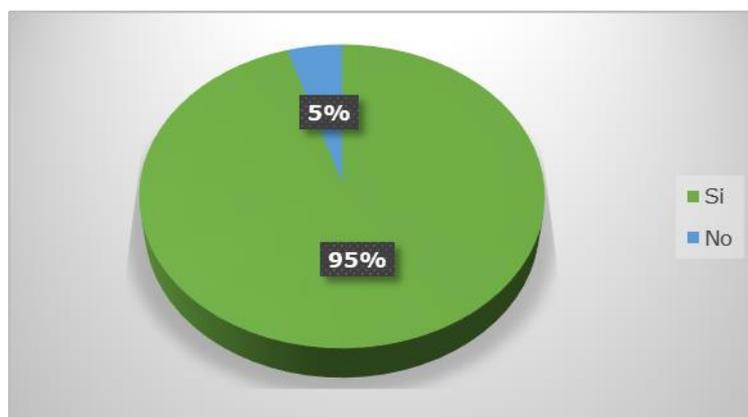
It is encouraging to see that the vast majority of participants recognize the importance and necessity of blood donation. Donated blood is essential for medical emergencies, medical and surgical treatments, and helping patients with chronic diseases and other health conditions. Blood donation is an act of solidarity and generosity that can save lives and improve the quality of life of many people.

It is important to continue to promote awareness about the need to donate blood and provide clear and accurate information on how to donate, the requirements and associated benefits. This may include educational campaigns, community outreach programs, and collaborations with health institutions to encourage the participation of potential donors.

In addition, it is relevant to address concerns and myths that may exist among those who do not consider blood donation necessary. Providing information based on scientific evidence and testimonials from blood donation recipients can help clarify doubts and dismantle misconceptions.

It is important to remember that blood donation is a personal and voluntary choice, and each individual has the right to decide whether or not to donate. However, promoting awareness of the need to donate blood and its benefits can be crucial to increasing participation and ensuring an adequate supply of blood for those in need.

In summary, the results reflect a high percentage of participants who recognize the need to donate blood. Continuing to promote awareness of this need, providing clear information, and addressing concerns can be effective strategies to encourage blood donation and ensure an adequate supply of safe and sufficient blood for patients at all times.



**Figure 5.** Knowledge about the use of donated blood

According to the results of the survey, it is noted that 95% of the participants have knowledge about the use of donated blood, while the remaining 5% are not familiar with this topic.

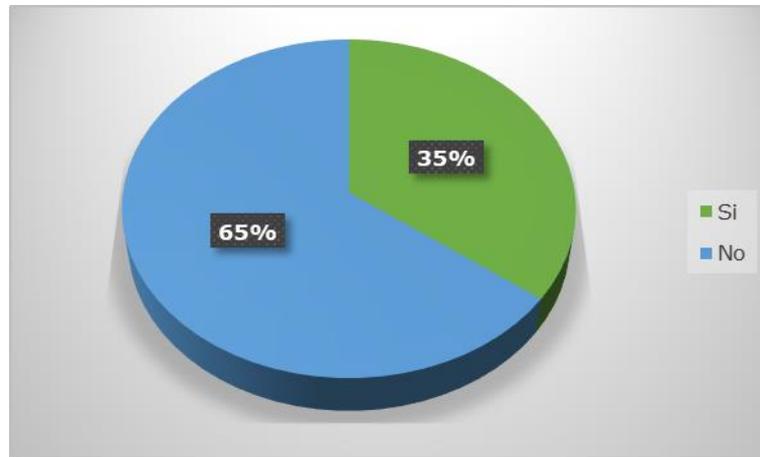
It is encouraging to see that the vast majority of participants have a level of knowledge about the use of donated blood. This shows that there is a general level of awareness about how donated blood is used to save lives and provide medical treatment to those in need.

Knowledge about the use of donated blood is fundamental, since it allows us to understand the direct and beneficial impact that donation has on people's health. Donated blood is used in various medical contexts, such as emergencies, surgeries, cancer treatments, chronic diseases, and other medical conditions that require blood transfusions.

It is important to continue promoting education and outreach about the use of donated blood, highlighting how each donation can make a difference in someone's life. This may include information campaigns, testimonials from patients benefiting from blood donation and collaborations with health institutions to disseminate this information.

In addition, it is necessary to address the doubts and questions of those participants who indicated that they had no knowledge about the use of donated blood. Providing clear and accurate information about how donated blood is processed, safety protocols, and the medical procedures in which it is used can help generate greater understanding and awareness.

The results show a high level of knowledge about the use of donated blood among participants. It is important to continue promoting education and outreach on this topic, highlighting how each donation can save lives and provide medical treatment to those in need. Knowledge about the use of donated blood is critical to encourage participation and ensure an adequate supply of safe and sufficient blood for patients.



**Figure 6.** Knowledge about blood marketing

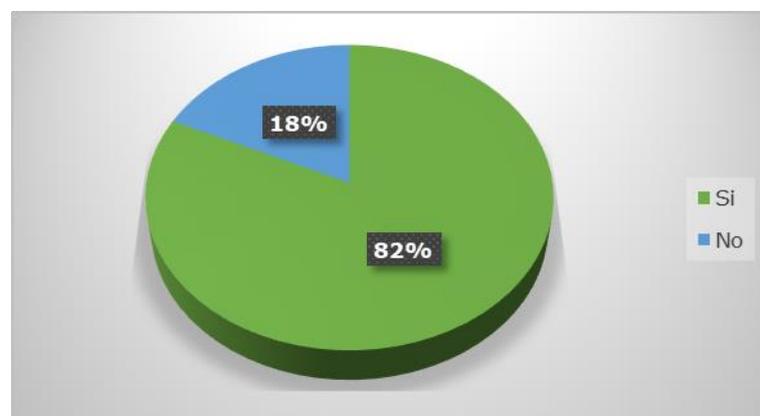
According to the results of the survey, it is noted that 35% of the participants have knowledge about the marketing of blood, while the remaining 65% are not familiar with this topic.

Importantly, knowledge about blood marketing is critical to understanding and addressing any concerns or misperceptions that may exist about it. The marketing of blood refers to the illegal or unethical sale of blood, which can generate distrust and discourage people from donating blood.

It is important to continue to educate and provide clear information about the blood donation process, emphasizing that blood donation must be an altruistic and voluntary act, and that the sale of blood is illegal in most countries.

It is advisable to address the doubts and questions of those participants who indicated that they had no knowledge about the commercialization of blood. Providing accurate information about existing procedures and regulations regarding blood donation can help dispel any confusion and promote confidence in the blood donation system.

It is important to remember that blood donation is a life-saving act of solidarity and altruism and should not be associated with business practices. Health institutions and blood donation centers should continue to implement measures to ensure safety, quality and transparency in the blood donation process, which contributes to maintaining donor trust.



**Figure 7.** Knowledge about where to donate blood

According to the results of the survey, it is observed that 82% of the participants have knowledge about where to donate blood, while the remaining 18% indicated that they do not have such knowledge.

It is encouraging to see that the vast majority of participants are familiar with the right places to donate blood. This shows that there is a general level of awareness about blood donation centers and the importance of going to them to make a donation.

It is essential to continue promoting education and outreach about places where blood can be donated. This may include providing clear information about blood donation centers, hospitals, clinics, and mobile campaigns that conduct blood collections.

In addition, it is important to address the doubts and questions of those participants who indicated that they did not know where to donate blood. Providing information on donation requirements, donation center operating hours, and any other relevant details can help ensure potential donors are informed and know how and where to donate.

It is critical to ensure that information about blood donation sites is widely available, whether through websites, awareness campaigns, educational materials or other forms of communication. In this way, access to blood donation centers can be facilitated and a culture of regular and constant donation can be promoted.

The results show that the vast majority of participants have knowledge about where to donate blood. It is important to continue to promote education and outreach about the right places to donate, to ensure that potential donors are informed and able to donate effectively. The availability of clear and accessible information about blood donation centres is essential to encourage participation and ensure an adequate supply of safe and sufficient blood for patients.

**Board 1: Reasons not to donate blood**

<b>Options</b>	<b>Very important</b>	<b>Regularly important</b>	<b>Neutral</b>	<b>Not so important</b>	<b>Not important at all</b>	<b>Total</b>
For medical reasons	56,8	14	22,4	4,8	2	100
For little information about donation	35,6	20	38	4,8	1,6	100
Distrust in the sterility of the material	30	17,2	26	16,8	10	100
For believing that it is marketed with blood	57,2	17,2	8,8	11,2	5,6	100
By religious beliefs	9,2	21,6	67,2	1,2	0,8	100
Due to lack of time	44,8	17,2	22,4	12,8	2,8	100
For not knowing where to go to donate	26	8	58	7,2	0,8	100
For having had hepatitis	76	6	14,8	2	1,2	100

## Promoting Awareness of Blood Donation Among Medical Students Through Health Promotion

For weighing little	53,6	18	26	1,6	0,8	100
Because no one has asked me	24	0	8,4	21,6	46	100
Because I'm on my period	6,8	2,8	22,4	12,8	55,2	100
I have tattoos	21,6	12,8	22,4	4,4	38,8	100

**Source:** applied survey

For medical reasons: 56.8% of participants consider it very important to donate for medical reasons, which indicates an awareness about the need to donate blood to help those who require it due to health conditions.

For little information about donation: 35.6% of participants consider the lack of information about donation to be very important, while 38% rate it as neutral. This suggests that there is a segment of the population that does not have enough knowledge about the blood donation process, which can be addressed through education and outreach campaigns.

Distrust in the sterility of the material: 30% of the participants consider that distrust in the sterility of the material is very important, while 26% qualify it as neutral. This perception can affect people's willingness to donate blood, so it is important to ensure transparency and security in blood collection and processing procedures.

Belief that it is marketed with blood: 57.2% of participants consider that the belief that it is marketed with blood is very important. This misperception can generate distrust and discourage blood donation. It is essential to demystify this belief and promote correct information about blood donation as an altruistic and supportive act.

By religious beliefs: 67.2% of participants consider that religious beliefs are neutral regarding blood donation. This indicates that religious beliefs do not appear to be a determining factor in the decision to donate blood for most participants.

Due to lack of time: 44.8% of participants consider that lack of time is very important as a lack of motivation for blood donation. This suggests that unavailability of time may be an obstacle for some individuals in their participation in blood donation.

Not knowing where to donate: 58% of participants believe that not knowing where to donate is neutral. This highlights the importance of proper dissemination of blood donation centers and providing clear information on how and where to donate.

For having had hepatitis: 76% of participants consider that having had hepatitis is very important as a lack of motivation for blood donation. This response indicates a concern about eligibility to donate due to prior health conditions.

For weighing little: 53.6% of participants consider that little weight is very important as a demotivation for blood donation. This misperception can negatively influence people's willingness to donate, as weight is not a determining criterion for blood donation.

Because no one has asked me: 46% of participants consider that no one has asked them to donate blood as very important. This response indicates the importance of communication and active promotion of blood donation to encourage the participation of individuals.

Because I am with the menstrual period: 55.2% of the participants consider that being with the menstrual period is very important as a demotivation for blood donation. This response may be the result of myths or misconceptions about donating blood during the menstrual cycle.

I have tattoos: 38.8% of participants consider that having tattoos is very important as a demotivation for blood donation. This response suggests a misperception about the eligibility of people with tattoos to donate blood.

The survey results show a variety of motivations and demotivations for blood donation among participants. Some factors, such as lack of information, distrust in the sterility of the material and the belief that it is marketed with blood, may be areas of focus to improve education and promote a more accurate understanding of blood donation. In addition, misperceptions were identified, such as body weight, the presence of tattoos and menstrual period, which require further disclosure and clarification to encourage participation in blood donation.

The study conducted by Macero, Peña and Macero in the city of Cuenca provides information on the characteristics of effective blood donors during the period of 2017-2020. According to the study, it was found that about 41.7% of donors were students, while less than 18.3% belonged to the health sector (Macero, 2019). These findings suggest that blood donation promotion strategies appear to be effective in this population.

In addition, the study mentions a specific experience in which a health promotion activity was carried out at a science fair aimed at students. After the activity, the participation of effective donors was observed, indicating a positive response from students (Macero, 2019).

Another study conducted by Isacaz Acosta, Salcedo-Cifuentes and Isacaz Acosta focused on identifying attitudinal and behavioral profiles that allow the development of social marketing strategies to promote voluntary blood donation in university students. The study found that the attitudes most related to the intention and practice of donation were pure altruism, voluntarism or impure altruism, and interest in helping family and friends. However, only 23% of the university population was a blood donor, although 89.7% of non-donor students showed willingness to collaborate in the promotion of blood donation, either for altruistic motivations or looking for something in return (Isacaz et al., 2011; Gomezs et al., 2022; Jaramilo et al., 202).

These studies support the importance of social marketing strategies, such as voluntary blood donation, in the university population. In addition, they highlight the need to continue organizing this type of event and promote the active participation of students (Isacaz et al., 2020; Valles et al., 2020).

The work carried out by Olivera, Cárdenas and Ferrera proposes awareness sessions for medical students, with the aim of turning them into promoters of blood donation. The study describes a three-stage methodology, including an inquiry stage, the development of a 12-encounter programme and the implementation of a survey (Olivera et al., 2019).

Compared to previous work, the approach proposed in this study has a more interactive dynamic, as it involves consultation about voluntary donation with participants rather than following a longer program of encounters. In addition, it is mentioned that the activity proposed in this work lasted one day and managed to obtain 17 donors in that period (Olivera et al., 2019). However, it is important to note that no specific results are provided and no indicator is mentioned to measure the success of these activities.

Establishing effective strategies to promote blood donation is an ongoing challenge. While the above-mentioned study presents positive results in terms of effective donation, it is important to consider that benchmarking with other existing strategies is essential to fully understand its effectiveness.

Long-term evaluation of blood donation promotion strategies is essential to determine their sustainable impact. In addition to measuring actual donation, the importance of encouraging the participation of permanent voluntary donors should also be taken into account. Having a group of long-term committed donors is crucial to ensure a steady and sustainable supply of blood for medical needs.

In addition to long-term evaluation, it would be relevant to analyze other indicators and measures of success in blood donation promotion strategies. This could include analysis of donor retention rate, donor satisfaction, public awareness of blood donation, and community involvement.

It is important to note that the field of blood donation and promotion strategies is constantly evolving. Studies and ongoing research are critical to improving existing strategies and developing new initiatives that encourage participation and awareness of blood donation in different populations and contexts.

In short, while the strategy described in the aforementioned study shows apparent success in terms of effective donation, it is crucial to evaluate its effectiveness in comparison with other strategies, measure its long-term impact and consider the importance of having permanent voluntary donors to ensure a sustainable blood supply.

#### 4. Conclusion

The student population, and the university specifically speaking, represents a scenario where health promotion strategies can be applied to obtain blood donors effectively. Assessments of the sustainability of the effects described in subsequent research are required. The main obstacle to the lack of blood donors is the lack of knowledge of what happens with blood, which is why health promotion activities are important to bridge these gaps through health education in the community. Universities as centers of knowledge and knowledge must participate by encouraging and motivating to inculcate in the general population the different strategies for health promotion (such as blood donation) and actively influence the communities where they are settled. In this case, this influence would allow to supply, in some way, the demand for blood products required in health homes, so it is a key point to implement a culture of blood donation.

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