

POTENTIAL RECRUITMENT OF BLOOD DONORS IN HIGHER EDUCATION INSTITUTIONS, AN OPPORTUNITY FOR SOCIAL RESPONSIBILITY AND THE SUSTAINABILITY OF BLOOD BANKS

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Abstract: Donating blood (blood components) is of great importance, as there is no type of substance that can replace blood in medical treatments. This practice depends on voluntary donors. Global statistics reveal that blood donation is not keeping up with the increase in transfusions and many countries face difficulties in guaranteeing the adequate quantity of necessary blood components.

With this problem that we find related to the need for blood donors, this work aims, through field research, to find out what the rate of blood donors is, according to basic criteria, in a higher education institution and discuss the importance of donating blood, for this group. As a methodology, a field investigation (quantitative and qualitative) was carried out using a survey in the period of October and November 2018 with 639 students aged between 16 and 50 years old, all students in the first year of the medical course at the Universidad Privada Del This one from Paraguay is a bibliographic review investigation using relevant scientific articles to discuss the importance of blood donation. According to the results obtained, mainly through the questionnaire, it was possible to observe that an extremely high number of students on the course did not know their blood type nor did they donate blood, the vast majority of them being young. Over time, investigations indicate a decrease in blood donations among young people. This demonstrates the importance of blood donation programs among students at higher education institutions, mainly because it is a group with a young majority. It is extremely important to carry out campaigns to guide and attract donors with the aim of increasing donations, keeping the Blood Bank inventory stocked and creating a permanent culture of the need for blood donation.

Keywords: blood donation, blood typing, altruism.

INTRODUCTION

Blood circulation was discovered by William Harvey in 1628. Richard Lower performed the first blood transfusion between animals in 1666, and Jean-Baptiste Denys, a French physician, performed the first transfusion in humans in 1667, marking the beginning of advances in medicine through over time ⁶.

In 1900, Karl Landsteiner discovered types of red blood cells A, B and O, forming the ABO system, complemented by the AB group by Jansky and Moss. The RH factor was identified 30 years later. Since 1907, Hektoen emphasized the importance of blood cross testing to avoid transfusion reactions. ⁶

Blood donation is vital in medical practice and remains a global problem, as there is no substance that can replace blood ⁹.

Blood component transfusions are used in seriously ill patients when other treatments are not viable ⁹.

Blood transfusion is necessary in several health problems, such as extensive surgeries, hematological disorders, complications in pregnancy and childbirth, accidents and violence. ². Thus, leading to lower mortality and reducing complications in critically ill patients ⁹.

Every collection, processing and storage task initially depends on the availability of volunteer donors. This is the biggest challenge faced by all blood centers around the world ⁴.

Global statistics show that blood donation does not meet the demand for transfusions, and many countries, including Paraguay and Brazil, face challenges in securing sufficient blood components ¹⁰.

The landmark United Nations Declaration on HIV/AIDS states that blood donation must be voluntary, anonymous and altruistic, and the donor must not, directly or indirectly, receive any remuneration or benefit as a result of carrying it out. ³.

Voluntary donation reduces the risk of transmission of diseases, such as HIV, through blood, as payments to donors can undermine blood safety and destabilize social cohesion^{3,8}.

The training of voluntary donors is carried out through public policies and programs that highlight the importance of blood donation⁴.

Marketing is very important for training donors, requiring consistent strategies to make donation a habit and form part of the population's values¹⁰.

According to the Brazilian Ministry of Health website, the requirements to donate blood include age between 16 and 69 years old, with the first donation up to the age of 60, in addition to the consent of guardians for those under 18 years old and a minimum weight of 50 kg².

According to the website of the Ministry of Public Health and Social Welfare of the National Government of Paraguay, the basic requirements for donating blood include age between 18 and 60 years old, minimum weight of 55 kg, and parental authorization for those under 18 years old.⁷

In this study, we carried out field research at a higher education institution to assess the number of blood donors and highlight the importance of blood donation awareness programs for this group.

SURVEY QUESTIONS

GENERAL ISSUES

How important are blood donation programs for higher education institutions?

SPECIFIC

Do students at a college know their blood type?

Are students at a college blood donors?

Who are the possible donors for future donation campaigns?

OBJECTIVES OF THE RESEARCH

GENERAL ISSUES

To discuss the importance of blood donation programs in higher education institutions.

SPECIFIC

Find out if students at a university are blood donors.

Find out if students at a university know their blood type.

Analyze potential donors for future blood donation campaigns.

MATERIALS AND METHODS

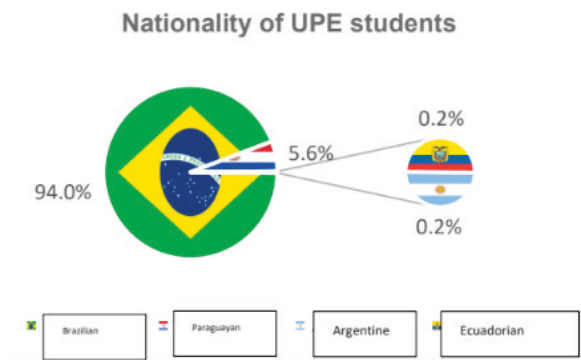
Field research (quantitative and qualitative) was carried out using a questionnaire in the period of October and November 2018 with 639 students aged between 16 and 50 years old, all students in the first year of the medical course at the Universidad Privada del Este do Paraguay. The students answered a questionnaire (Image 1) and were evaluated regarding their blood type using the ABO and RH system, whether they were a voluntary blood donor and whether they could be a donor, the latter taking into consideration, age between 16 to 69 years and weight minimum of 50kg as basic criteria, without further ado there are other factors that could make blood donation impossible. No blood typing tests were carried out, all results were based on the knowledge of the volunteers themselves. With the results of the blood typing questionnaires, the data collected in the questionnaire were organized according to their frequency and percentage.

Furthermore, a descriptive and exploratory bibliographic review investigation was carried out through online research of scientific articles. The texts were analyzed by area of interest and the search terms were:

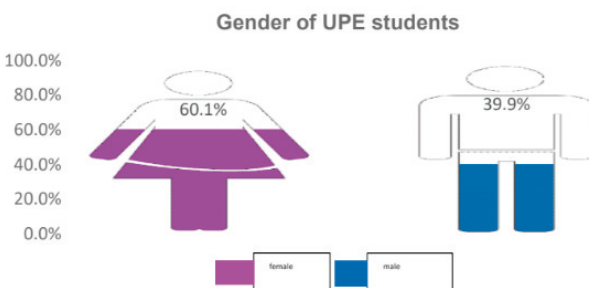
blood donation, blood typing, altruism. As a selection criterion, publications in Portuguese, Spanish and English were used, of materials that corresponded to the research goals. After carefully reading the materials, the investigation was effectively developed with 12 scientific articles. To carry out the research, articles published between 2008 and 2019 were considered.

RESULT OF DATA COLLECTION

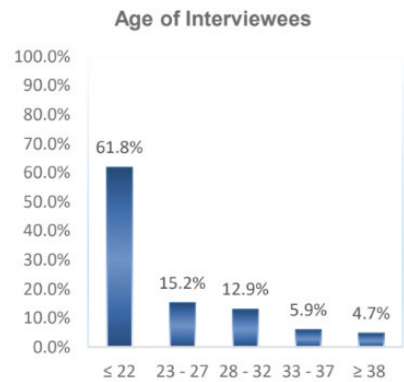
A total of 639 volunteers were evaluated and the results regarding sex, nationality, frequency distribution of blood groups according to the ABO and RH system, being a voluntary donor or a potential donor were as follows:



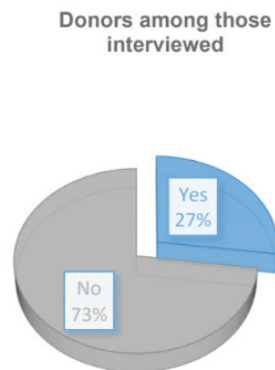
Graphic 1: It points out that 94% of UPE-CDE students are Brazilian, 5.6% are Paraguayan, 0.2% are Argentine and Ecuadorians are represented by 0.2%.



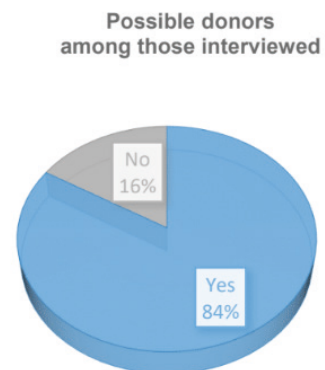
Graphic 2: It shows that 60.1% of first-year students are female. And men are represented by 39.9%.



Graphic 3: It points out that more than half of those interviewed are aged up to 22 years.

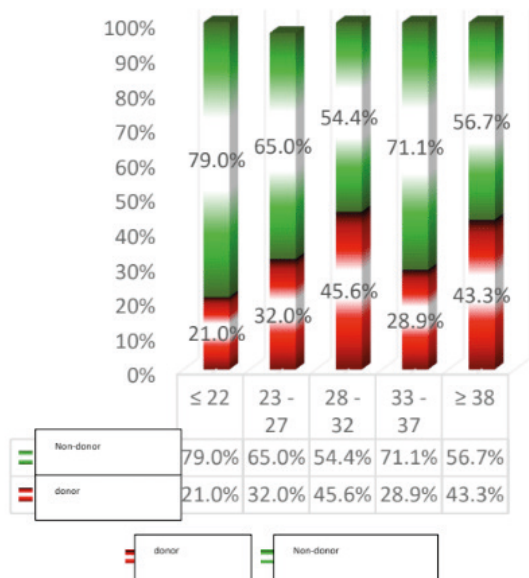


Graphic 4: Regarding the question about blood donation, 73% of all respondents said they had never donated.



Graphic 5: Analyzing the data collected, it was detected that 84% of those interviewed were potential donors according to the basic criteria.

Percentage of donors by age



Graphic 6: The Graphic shows the percentage of donors by age.

Age	Donors	Non-donors	Total
≤ 22	83	312	395
22 - 27	32	65	97
28 - 32	36	43	79
33 - 37	11	27	38
≥ 38	13	17	30
TOTAL	175	464	639

Table 1: The table presents the age of the interviewees, separated by donors and non-donors.

Blood type	Absolute number
O+	155
O-	69
A+	153
A-	27
B+	40
B-	14
AB+	19
AB-	4
The person doesn't know	158
TOTAL	639

Table 2: number of interviewees by blood type.

Among non-donors			
Blood type	The person can donate blood	The person cannot donate blood	Total
O+	87	12	99
O-	35	7	42
A+	103	11	114
A-	19	2	21
B+	20	4	24
B-	7	2	9
AB+	13	3	16
AB-	1	0	1
The person doesn't know	118	20	138
TOTAL	403	41	464

Table 3: Table 3 shows the blood type of non-donors interviewed and whether they can donate or not.

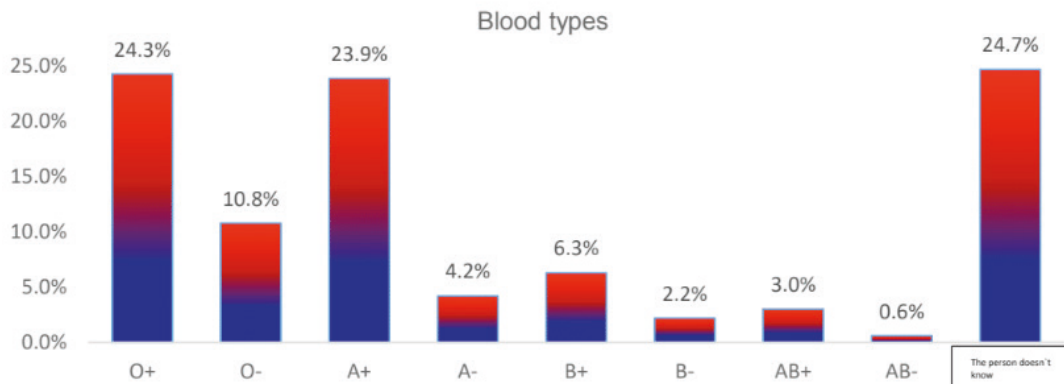
Among non-donors			
	The person doesn't know his type	The person knows his type	Total
≤ 22	104	208	312
22 - 27	22	43	65
28 - 32	7	36	43
33 - 37	3	24	27
≥ 38	2	15	17
TOTAL	138	326	464

Table 4: The table shows the number of people who know and do not know their blood type according to their age.

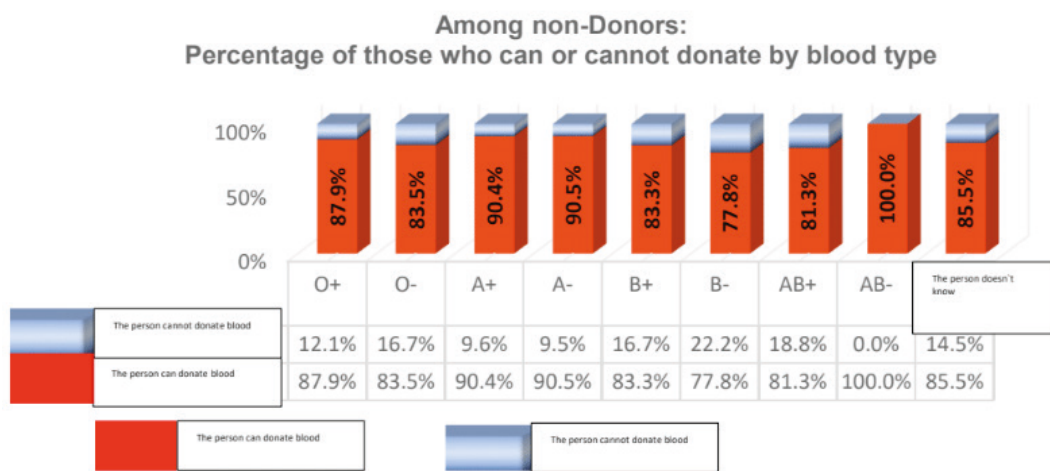
DISCUSSION

Of the 639 interviewed, 94% are Brazilian, 5.6% are Paraguayan, 0.2% Argentine and Ecuadorian are represented by 0.2% where the female sex had a prevalence of 60.1%. Of this total of 639 respondents, 84% are possible donors according to the basic criteria, the vast majority corresponding to 73% have never donated blood and 24.7% do not know their blood type.

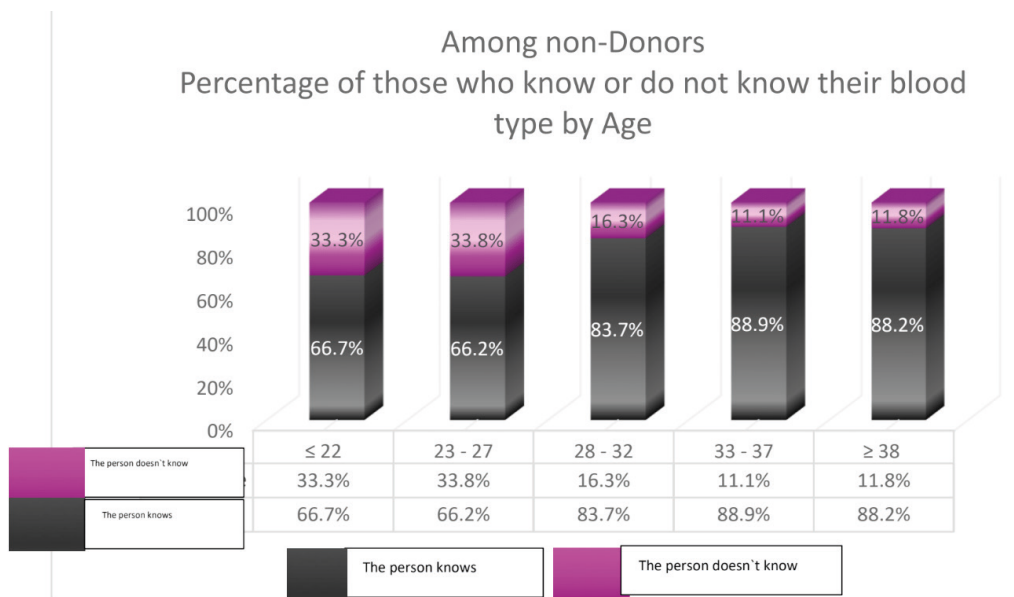
The majority of respondents are young people aged 16 to 22 with 61.8%. In this age group, 79% had never donated blood, with 66.7% knowing their blood type. According



Graphic 7: It shows that among first-year students at the Universidad Privada del Este, blood type O+ is the one with the highest frequency of 24.3%, followed by type A+ 23.9%. The blood type with the lowest frequency was AB- with only 0.6%, it also shows that 24.7% of students do not know their blood type.



Graphic 8: It shows the percentage of respondents who can donate according to their blood type.



Graphic 9: The Graphic presents the percentage of respondents by age who do not know their blood type.

to studies on the description of the profile of blood donors at a university in Federal District/Brazil, it was found that there is a greater predominance of younger students as this is an age conducive to studying⁵.

The Ministry of Health of both countries has expanded the age range for blood donors, including young people aged 16 and 17 who wish to donate blood with the authorization of their parents or legal representative.^{2,7} The inclusion of the new age group provides these individuals with the opportunity to donate blood, considering that most students enter university before turning 18.⁵

A survey carried out in the United States between 1996 and 2005 shows that the effective number of donors had decreased by more than 110% among those who donated more than once from 20 to 49 years old and donors who donated for the first time from 25 to 49 years old. Thus, demonstrating the importance of improving the recruitment and awareness of young people and adults, due to the aging of the donor population and the decrease in the donation rate among young people¹¹.

The decrease in donors may be associated with several factors: lack of motivation and/or information, myths related to the donation process, lack of a culture of regular donation, lack of knowledge about the donation process on the part of the population, or the lack of people's time and willingness. On the other hand, through investigations it was found that by intensifying the guidelines, fears and anguish are demystified and the possibility of donors increases⁵.

Nowadays we face an important issue related to the aging of the population and with it the greater number of hospitalizations and greater need for blood products in hospitals. This is a factor that leads us to develop educational strategies with younger people to form a citizen aware of their role in society

and also to raise awareness of the need for blood donation so that we can guarantee new donors and meet the needs of the population.¹⁰

The most common blood types of those interviewed were type O+ with 42.3%, A+ with 23.9% and O- with 10.8%.

And 87.7% of type O+ were non-donors. Therefore, according to basic criteria they could be. Likewise, 90.4% of type A+ were non-donors and could also be.

Type O- donors are considered universal donors, being able to donate to individuals of all blood types but only receive from donors of the type: O-¹.

This demonstrates the importance of blood donation and incentive programs for higher education students, especially as it is a group with a young majority. It is extremely important to carry out campaigns to guide and attract donors with the aim of increasing donations, keeping blood bank stocks stocked and creating a permanent culture of the need for blood donation⁵.

CONCLUSION

Efforts to attract and maintain sufficient numbers of regular volunteer donors to ensure an adequate and safe supply of blood and blood components are underway worldwide. The constant concern about creating a balance between supply and demand to respond to requests for blood and components is caused by the fact that only a small portion of the population chooses to be a donor on a regular basis. The demand for blood and its derivatives continues to increase, in part due to an increase in average life expectancy, but also due to the application of more aggressive surgical techniques and therapeutic methods that require a greater number of transfusions.

The present study found that more than 84% of respondents are potential donors and 24% are voluntary donors. With the data

collected, the ability of UPE-CDE, as well as other faculties, to contribute to the supply of blood banks in their regions is observed. In this context, we can improve the lack of donors, since there is a public and it meets the requirements required by the Ministry of Health, and thus retain an increasing number of students who are already donors.



Blood donation has become a social responsibility, as it is a commitment of all institutions to contribute strategies to encourage students to make donations, explaining the benefits of being a donor and

the importance they have for families who receive this type of donation. of help.

According to the results obtained, mainly through the questionnaire, it was possible to observe that an extremely high number of medical students did not know their blood type (24.7%), it is clear that urgent guidance actions must be carried out to guide these volunteers about the importance of this activity and then capture and retain this potential of future donors, especially young people due to the aging of the donor population and the decrease in the donation rate among them.

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  <p>UNIVERSIDAD PRIVADA DEL ESTE</p> <p>What is your nationality? What State/Department are you from? Today you reside in: () Foz do Iguaçu () CDE () _____ What room are you from? Age: Weight:</p> <p>The gender? () masculine () feminine</p> <p>What is your blood type? () O () A () B () AB () I don't know</p> <p>What is your RH factor? () positive negative</p> <p>Have you already donated blood? () yes () no</p>
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Picture 1: Questionnaire given to first-year medical students at ``Universidad Privada Del Este``, of the year 2018, in the results.