

Level of Intention on Blood Donation Among NEUST Community: A Basis for Blood Type Repository

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ABSTRACT

Blood is a fluid that travels to all areas of the body that pumped by the heart as well as oxygen, nutrients, and waste materials away from the cells. Therefore, the demand for human blood is high and, having a steady and varied blood supply is still challenging. Blood donation plays a crucial role in maintaining public health, guaranteeing sufficient resources. However, recognizing the distribution of different blood types within a community is imperative for successful donation initiatives. With the help of this study, the Nueva Ecija University of Science and Technology (NEUST) community will have a comprehensive blood type database, which will serve as a basis for future blood type repository aimed at enhancing community resilience and improving the health of those in need of transfusions. It also emphasizes the significance of awareness and intention in encouraging blood donation. By addressing misconceptions and barriers, future initiatives can effectively engage the NEUST community. The result of the study showed that approximately of NEUST Community were aware of their blood type and blood donation. Furthermore, the level of their intention and knowledge demonstrated by respondents regarding their blood type and the importance of blood donation enables the researchers to establish a comprehensive blood repository. Level of Intention on Blood Donation Among NEUST Community: A Basis for Blood Type Repository serves as a vital resource for potential donors and recipients within the NEUST community, facilitating timely and efficient blood transfusion services when needed.

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1. INTRODUCTION

Human blood is essential in maintaining everything's functionality. It serves as a delivery system, ensuring oxygen gets to every area of our body and providing our cells with the energy they require to function. Human blood is categorized into four main types based on the presence or absence of specific antigens on the surface of red blood cells. These blood types are commonly referred to as A, B, AB, and O. The classification is further expanded by considering the Rh factor, resulting in eight possible blood types. The demand for human blood is high because it is a lifesaver in surgeries, emergencies, and treatments for various conditions like cancer, anemia, and injuries. Without enough blood, these life-saving procedures would be impossible. Despite

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continuous initiatives to promote voluntary blood donation, having a steady and varied blood supply is still challenging. It used to be challenging to keep track of blood kinds. There were records all over the place. It increases the risk of blood transfusions by increasing the possibility of mix-ups and difficulties.

According to The American National Red Cross (2023), Type O is routinely in short supply and high demand by hospitals because it is the most common blood type and because Type O negative blood is the universal blood type needed for emergency transfusions and for immune deficient infants [1]. According to World Health Organization (2020) "More blood, more life" was the theme for World Blood Donor Day 2011 on the 14 of June to emphasize the critical need for more people worldwide to become lifesavers by donating blood regularly. Therefore, the availability of blood is an essential concern to society [2]. According to Chauhan et al. (2018) Blood scarcity is frequently encountered in healthcare settings. It is attributable to an imbalance between the increasing demand for safe blood and blood products on the one hand and failure to organize regular blood supply due to misconceptions, perceived harms and risks, and lack of motivation among potential donors [3].

Sandaruwan et al. (2020) investigated the fact that a blood bank is crucial in both a hospital and a country by guaranteeing safe and timely blood transfusions. Blood banks and blood donation are significant in healthcare. Blood transfusions are critical in treating illnesses such as anemia and severe bleeding, and blood banks play a critical role in enabling these life-saving treatments [4]. According to AlShamlan et al. (2021), understanding the distribution of blood groups and blood donation willingness in a population is crucial in managing blood banks and transfusion services. Furthermore, blood banks contribute significantly to medical research and the development of innovative therapies. These aid in understanding the underlying mechanisms of diseases and serve as a crucial resource for developing new and improved treatments [5].

In the context of the NEUST community, understanding the distribution of blood types and people's willingness to donate can help improve local blood donation efforts. This careful screening process is not only about meeting regulatory standards but is primarily focused on protecting the health and safety of donors and recipients, ensuring the ongoing efficacy and reliability of blood donation initiatives. This study has two primary objectives. First, it seeks to identify the respondents' level of awareness regarding blood type and blood donation. Second, it aims to understand the intention to donate blood in terms of attitude, norms, and perceived behavioral control of individuals in the NEUST community. The research aspires to lay the groundwork for a practical Blood Type Repository to support future blood donation initiatives within NEUST by achieving these goals.

2. RESEARCH METHOD

A quantitative research method is used to examine and discuss this study. According to Bhandari (2020), It collects and analyzes numerical data. It can be used to find patterns and generalize results to broader populations [6]. This study uses a descriptive quantitative research design because it enables researchers to precisely and methodically describe a population, circumstance, or phenomenon. Based on the study of Dovetail Editorial Team (2023), descriptive research describes the characteristics of the group, situation, or phenomenon being studied without manipulating variables or testing hypotheses. These can be reported using surveys, observational studies, and case studies [7]. It aimed to gather straightforward information about the types of blood in the NEUST community and who might be willing to donate. This method helps build a solid foundation of facts that can be used to plan future blood donation efforts tailored explicitly to the NEUST community. By keeping it simple and direct, this research sets the stage for practical and effective blood donation initiatives, ensuring blood availability whenever needed.

3. RESULTS AND DISCUSSIONS

This chapter presents the data gathered, the results of the statistical use of tables, and the interpretation indicated after each tabular presentation.

3.1 Demographic Profile

Based on [Table 1](#) above, the data revealed that most respondents were in the age group of 20 to 21 years, consisting of 1481 frequency with a 52.4% score. It concluded that the total number of frequencies was 2,829 in 100% of the cases. Filipino undergraduate students studying in higher education institutions in the Philippines are between 18 to 22 years old. This age range comprises the majority of undergraduate students in the country. It concluded that the total number of frequencies was 2,829 in 100% of the cases [8]. In terms of sex, it shows that 1,538 respondents are female, with a slightly higher percentage of 54.4%. According to research by Goldin C. et al. (2020), It is relatively well known that women today outnumber men; there were 1.35 females for every male

who graduated from a four-year college and 1.3 females for every male undergraduate [9]. Furthermore, in terms of department. It shows that the College of Engineering (COE) has the highest percentage of 12%, with 253 frequencies among the ten departments included in the study. In conclusion, all of the departments have a large number of frequencies. However, the College of Engineering (COE) has the most significant numbers while the College of Arts and Sciences (CAS) has the lesser one. To sum up all of the Departments, there is a total of 2,829 frequencies in 100%.

Table 1. Frequency Distribution and Percentage of the Age, Sex and, Department

<i>Demographic Profile</i>	<i>f</i>	<i>%</i>
<i>Age</i>		
18-19	1325	46.8
20-21	1481	52.4
22-23	23	0.8
<i>Sex</i>		
Male	1291	45.6
Female	1538	54.4
<i>Department</i>		
CON	233	8.9
CAS	207	7.3
CIT	282	10.0
CPADM	223	7.9
COA	291	10.3
COC	276	9.8
COED	306	10.8
COE	340	12.0
CICT	316	11.2
CMBT	335	11.8

3.2 Level of Awareness

Table 2. Mean and Verbal Interpretation of the Level of Awareness of the respondents in terms of Different Blood Types

Level of Awareness	Overall Mean	Verbal Interpretation
Different Blood Types	2.61	Aware
Blood Donation	2.56	Aware

Legend: 4.00-3.26 Fully Aware; 3.25-2.51 Aware; 2.50 - 1.76 Moderately Aware; 1.75-1.00 Not Aware

3.3. Level of Intention

Table 3. Mean and Verbal Interpretation of the Level of the Level of Intention on Donating their own Blood in terms of Attitude, Norms and, Perceived Behavioral Control

Level of Awareness	Overall Mean	Verbal Interpretation
Attitude	2.62	Intention
Norms	2.61	Intention
Perceived Behavioral Control	2.62	Intention

Legend: 4.00-3.26 Fully Intention; 3.25-2.51 Intention; 2.50 - 1.76 Moderately Intention; 1.75-1.00 No Intention

Based on **Table 2** above, the overall mean score of the level of awareness in terms of different blood types is 2.61, interpreted as "Aware," reflects a slight level of awareness and understanding within the NEUST community regarding blood type-related issues. This score suggests a baseline level of knowledge and acknowledgment regarding the importance of blood type awareness for safe blood donation practices. The need for more awareness was a problem that prevented the public from donating blood. This could be solved by advertising blood donation health benefits, disseminating adequate knowledge, and a good attitude toward prioritizing recipient safety through educated donation procedures [10]. In terms of blood donation, it shows that the overall mean is 2.56, it can be concluded that the awareness level regarding blood donation among the surveyed population is "Aware".

While there is room for improvement, the data suggests that there is a baseline awareness present. Efforts to further educate and promote blood donation could enhance participation and support in this vital aspect of healthcare. Thus, many students understood the importance of blood donation in saving lives and supporting healthcare, but fear, lack of awareness, and misconceptions hindered their willingness to donate [11].

Based on **Table 3** above, it shows the respondents' intentions in terms of attitude towards blood donation, believing that donating blood is a contribution to society, with an overall mean score of 2.62. It concluded that the respondents know that giving blood is a big help to society. They see it as a kind and helpful thing to do that can save lives. Donating blood is widely recognized as a behavior of social responsibility. Enthusiasm toward blood donation is influenced by various motivating factors, including personal values, social norms, and a desire to positively impact society [11]. In terms of Norms, the overall mean is 2.61, it concluded that respondents have an intention towards blood donation, considering it both an expectation of society and an action that enhances their social identity or reputation. They are also pressured by societal standards and affected by their community or social group while deciding to donate blood. According to the World Health Organization (2023), they weigh the perspectives of family members and peers when deciding to give. This indicates that there will be a higher number of people willing to donate blood [12].

In terms of Perceived Behavioral Control, the data suggests the respondents view the act of donating blood positively, believing it to be a contribution to society and recognizing its potential to make a difference in the lives of others with an overall mean score of 2.62, "Intention," indicates a willingness and readiness to participate in blood donation efforts to promote and sustain blood donation initiatives within the community. According to Samreen et al. (2021), the respondents displayed positive beliefs, opinions, and motivation toward blood donation. People perceive that donating blood has a positive impact on society and contributes to the well-being of others [13].

4 CONCLUSIONS AND RECOMMENDATIONS

The conclusion was drawn that NEUST engineering students were the majority among the departments with the total of 12% of the population, dominated by those aged 20 to 21 with 52.4%, and most of the respondents were females with 54.4% out of 100%. Then, findings revealed that the respondents have a level of awareness and acknowledgment regarding the importance of different blood types with 2.61 overall mean interpreted as aware and safe blood donation practices with 2.56 overall mean interpreted as aware. Furthermore, it indicates that strengthening educational initiatives and awareness campaigns could further empower students to make informed decisions about blood donation, contributing to a more knowledgeable and proactive community in healthcare practices. Regarding intention with 2.62 overall mean interpreted as intention, the study revealed that the respondents' attitude is that they believe that donating blood is a contribution to society. Norms play a role in influencing their decision with of 2.61 overall mean interpreted as intention, indicating that there will be a higher number of willing to donate blood.

Lastly, the perceived behavioral control with 2.62 overall mean interpreted as intention, they view the act of donating blood positively, believing it to be a contribution to society and recognizing its potential to make a difference in the lives of others. Therefore, it concluded the overall study that emphasized the need for a repository to aid future blood and establish a blood type repository for NEUST. It would serve as a valuable resource for research purposes. Therefore, there are several recommendations are made based on the findings and conclusions drawn from the study. First, the Red Cross Youth institution should continue to control and monitor the website and assist the person who needs the blood and the donor for the screening test. Also, the researchers suggest using a centralized resource to improve awareness and comprehension of blood donation among the NEUST community. This resource will prioritize critical themes such as emphasizing the significance of knowing one's blood type, providing guidance on dietary habits after donation, and underlining the life-saving effects of blood donation.

These improvements strengthen the community's understanding and support for blood donation, fostering ongoing engagement with the resource. The researchers recommend implementing interventions to reinforce positive attitudes towards blood donation and strengthen perceived social norms supporting donation behavior should be a priority. These interventions can be incorporated into the repository by highlighting the societal benefits of blood donation and emphasizing the role of perceived behavioral control in donation decisions. This approach can empower individuals to overcome barriers and take proactive steps toward donation. Moreover, the researchers recommend establishing a blood type repository at the NEUST Community to support future blood

donation efforts and enhance healthcare delivery. Collaboration with the NEUST clinic and the Red Cross is crucial to developing a centralized database containing student blood type information. This will facilitate efficient donor-recipient matching, ultimately improving patient outcomes.

Additionally, leveraging the repository as a research tool to investigate trends in blood types and donation behaviors can contribute to advancements in transfusion medicine and public health. This dual-purpose approach ensures that the repository serves immediate healthcare needs and contributes to broader scientific knowledge and healthcare practices. Lastly, future researchers should prioritize recruiting a much larger and more diverse respondent pool to enhance the robustness and generalizability of the study findings. This can be achieved by implementing targeted recruitment strategies across various platforms and communities within and outside the NEUST community. Collaborating with local organizations, leveraging social media platforms, and utilizing online survey tools can help reach a wider audience.

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