Factors Affecting Voluntary Blood Donations among Adults in Metro Manila, Philippines, as a Basis for Policy Improvement on Donor Recruitment

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ABSTRACT

Background. Blood donation practice in the Philippines is low despite numerous efforts to recruit potential donors and increase blood supply.

Objectives. This study aimed to explore the sociodemographic profile of potential donors and their perceived level of knowledge, motivators, and hindrances on blood donation practice to recommend improvements in policies and strategies regarding blood donation recruitment.

Methods. A descriptive study design was utilized to attain the objectives of the study. A piloted questionnaire was floated through various social media platforms to gather data. Data were analyzed using descriptive statistics and Pearson's product-moment correlation.

Results. We included 260 Metro Manila residents, 18 to 65 years old and without conditions that merited permanent deferral in blood donation. Overall, the respondents had an adequate perceived level of knowledge ($\bar{x}$ = 3.13, SD = 0.70) on blood donation but the lowest level of knowledge on the interval between successive blood donations ($\bar{x}$ = 2.71, SD = 1.04). Furthermore, respondents were considerably motivated to donate blood ($\bar{x}$ = 2.67, SD = 0.42) mainly due to relatives and friends requiring blood ($\bar{x}$ = 3.73, SD = 0.60), and have minimal discernment of being discouraged from blood donation ($\bar{x}$ = 2.09, SD = 0.48) mainly due to time constraints ($\bar{x}$ = 3.23, SD = 0.78). Moreover, there is a significant but low inverse correlation (r = -0.151, p = 0.015) between age and motivation, suggesting younger individuals have more motivation to donate blood. Thus, policies and strategies that target young donors are highly suggested.

Conclusion. Poor blood donation practices in the Philippines suggest recalibration of policies and strategies by targeting young individuals and showcasing altruism to improve donor recruitment. Moreover, it is recommended to strategically establish blood service facilities in accessible areas with flexible operating hours to accommodate potential donors with hectic schedules.

Keywords: blood donation, Philippines, donor recruitment

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INTRODUCTION

Blood is a crucial and life-giving force that saves lives. Blood products from voluntary and non-remunerated donors are considered the safest, but bridging the gap between demand and supply of blood products is still a challenge. Developed countries can meet these requirements because of their well-structured health and blood transfusion

services,[1] while most low- and middle-income countries, including the Philippines, continue to struggle in donor recruitment and retention.[2] According to the World Health Organization (WHO), the Philippines should have at least one percent of its population as donors to garner the most basic requirements for blood.[1] Despite continuous efforts in blood donor recruitment and retention, the country is still far behind in fulfilling its blood requirements in response to the increasing demands for blood.

Several studies have shown that blood donation is affected by different factors such as knowledge, sociodemographic characteristics, motivators, hindrances, and blood donation practice.[3,4] Blood donation practice refers to the frequency or extent to which individuals practice donating blood. For instance, men donate more often than women,[3,5,6] possibly due to anemia, which is common among women.[5] In terms of educational attainment, it was observed that higher educational attainment could be correlated with the frequency of blood donation,[3,6–8] yet a contrasting study in Ghana showed that the majority of repeat donors have no formal education.[9] Age could also be a factor[10] in which other studies noted less frequent blood donation among older age groups,[11] but another study stated otherwise.[12] Another factor is employment status as majority of repeat donors were observed among formal sector employees,[9] while another study in India argued that the servicing sector and unemployed people were the foundation of the blood donation program.[13] One study in Brazil said that religion could influence blood donation,[14] such as the Jehovah's Witnesses' prohibition on blood transfusion and donation.[15] However, other studies reported the contrary.[4,6,16] Furthermore, knowledge or lack thereof,[11] about the blood donation process may influence blood donation practice.[3,6] Knowledge or information and understanding about donation could be acquired by different means such as previous experiences in blood donation,[4] advocacies and discussions regarding blood donation,[10] and through the efforts of different organizations.[13] However, blood donation advocacies and discussions do not always ensure increased knowledge.[3,4] For example, two studies in India revealed that knowledge of risks associated with blood donation does not affect donors' decisions, and knowledge was inversely related to blood donation.[5,13] Despite that, blood donation practice remained low.[3,4,6,8,10]

Motivators are conditions that urge people to donate blood willingly. Altruism was one of the most influential motivators in the blood donation practice.[17–19] Often, donors were stimulated to donate if an acquaintance was in need of blood,[9] such as family members.[7] Other motivations explored were a sense of social responsibility, advertisement or blood donation drive campaign,[7] convenience of donation facilities with regards to time and availability,[19] desire to support blood banks maintain their target supply,[4] improved contact between the blood bank and the donors, increased knowledge on blood donation, and incentives and rewards.[3] Various hindrances—reasons that discourage people from donating blood, were also a common observation in numerous studies. This includes fear of needles and blood,[3,4,6,8] health reasons, fear of adverse reactions,[3,4,6,20] lack of interest,[3,10] lack of time,[17,19,20] insufficient knowledge on blood donation,[3,8] inability to meet eligibility requirements,[4] civic duty, self-realization,[10] poor attitudes of staff, inadequate level of privacy during pre-donation screening, concerns on the possibility of commercial use of their donated blood,[9] fear of discrimination, social exclusion, and distrust.[21,22] A study in Australia suggested that donors are less likely to return after a temporary deferral because they misinterpret it as a permanent deferral.[17] Lastly, studies in the Philippines showed that deferral due to existing health conditions was the most common barrier to blood donation.[23,24]

Considering the findings of these studies, they imply that factors affecting blood donation were diverse and variable. Moreover, these studies were conducted in different countries such as Saudi Arabia, Brazil, Hong Kong, and others, in which perspectives, behaviors, and cultures of each of these settings may account for the variability of the factors. Thus, it may be timely and valuable to investigate the relationship between such factors to shed light on why the blood supply in the Philippines remains insufficient despite the continuous efforts to increase blood supply and blood donor recruitment. Through this research, the respondents' depth of knowledge and self-perceptions regarding blood donation were assessed, which can aid local blood services in the recruitment of more blood donors in the Philippines. Therefore, this research aimed to determine the relationship between the level of knowledge, motivators, and hindrances to the sociodemographic profile and how these factors affect the blood donation practice of the respondents to recommend policy improvements on donor recruitment.

METHODS

Study design and subjects

The study employed a descriptive study design that described and determined the relationships among variables. Convenience sampling was utilized to recruit respondents for an online survey. The respondents were residing in Metro Manila and were 18 to 65 years old because this age group is the same age group for eligible donors. Moreover, they must not have any underlying condition that would merit permanent deferral from donating blood, such as cancer, cardiac disease, severe lung disease, Hepatitis B and C, HIV infection, acquired immunodeficiency syndrome (AIDS), sexually transmitted disease (STD), and others. Individuals with and without prior experience in blood donation were both eligible to participate. Respondents of this study were recruited via social media platforms due to the restrictions and risks brought about by the COVID-19 pandemic.

Instrumentation

To assess the perceived level of knowledge, the study utilized an adapted questionnaire with questions about sociodemographic data and knowledge referenced from the Brazilian Blood Donation Knowledge Questionnaire (BDKQ-Brazil)[25,26] released by the Brazilian Ministry of Health. Another questionnaire[4] was modified to determine the level of practice, and questions regarding motivators and hindrances were also altered from various published studies.[3,7,9,10,17–19,27] Questions lifted from the adapted questionnaires were tailored to fit the Filipino respondents of this study and were modified to be answerable using a Likert scale. Respondents answered sets of questions based on their perceived level of knowledge of the questions. The questionnaire was divided into six parts consisting of the letter of request for participation, sociodemographic profiling, frequency of blood donation, knowledge of blood donation, motivators, and hindrances to blood donation, respectively. Multiple-choice questions were used for sociodemographic characteristics, while sections for knowledge, motivators, and hindrances were constructed as Likert-type questions. The 4-point Likert scale used was interpreted as strongly agree for "4", agree for "3", disagree for "2", and strongly disagree for "1". This was done to assess the respondents' perceived level of knowledge on blood donation and how likely they were to donate blood based on the given motivators or hindrances. The test item quality was assured through reliability testing under the review of three experts in the field of blood donation. The questionnaire subjected to pilot testing was administered to 25 individuals aged 18 to 65 years old who were not included as respondents of the study. Internal consistency was deemed acceptable (Cronbach's alpha = 0.75).

Data collection and analysis

Due to the COVID-19 pandemic, data was collected online using a Google Form disseminated via a public post on personal social media platforms (e.g., Facebook, Twitter, and Instagram). The link remained open for a month. Data collected from the four-point Likert scale were encoded in a Microsoft Excel spreadsheet and were analyzed using SPSS software. The sociodemographic profile was analyzed by computing frequencies and percentages. Moreover, the level of perception of the respondents according to knowledge, motivators, and hindrances was analyzed using mean and standard deviation. Lastly, the significant relationship between sociodemographic profile and the knowledge, motivators, and hindrances was determined using Pearson product-moment correlation.

Ethical Considerations

The Research Ethics Committee of the University of Santo Tomas Faculty of Pharmacy, with the approval number FOP-ERC-2021-02-016, approved this study. In addition, participation was voluntary in which respondents were assured that all information collected shall remain confidential and would not be used for any other purposes. Compensation was not provided to the respondents, and there was no known harm involved in participating in this study.

RESULTS

A total of 263 respondents could access the online survey, but only 260 respondents consented to participate. Out of the 260 respondents, 75 were donors, and 185 were non-donors.

Sociodemographic profile

The majority of the respondents were females (64.2%), of which 40 (53.3%) were donors, and 127 (68.6%) were

Table 1. Sociodemographic profile of the respondents

	Donors (n=75)		Non-Donors (n=185)		Total (n=260)	
	f	%	f	%	f	%
Gender						
Male	34	45.3	54	29.2	88	33.8
Female	40	53.3	127	68.6	167	64.2
Others	1	1.3	4	2.2	5	1.9
***Age** (years)*						
18-27	58	77.3	167	90.3	225	86.5
28-37	8	10.7	5	2.7	13	5.0
38-47	6	8.0	6	3.2	12	4.6
48-57	2	2.7	5	2.7	7	2.7
58-65	1	1.3	2	1.1	3	1.2
Highest Educational Attainment						
Primary Level	0	0	1	0.5	1	0.4
Secondary Level	16	21.3	49	26.5	65	25.0
Tertiary Level	50	66.7	121	65.4	171	65.8
Postgraduate Level	9	12.0	13	7.0	22	8.5
Vocational	0	0	1	0.5	1	0.4
Religion						
Christian	68	90.7	176	95.1	244	93.8
Non-Christian	7	9.3	9	4.9	16	6.2
Occupation						
Self-employed	5	6.7	7	3.8	12	4.6
White-collar job	18	24.0	14	7.6	32	12.3
Blue-collar job	6	8.0	5	2.7	11	4.2
Retired	0	0	1	0.5	1	0.4
Student	45	60.0	152	82.2	197	75.8
Unemployed	1	1.3	6	3.2	7	2.7
***Monthly Income** (Php)*						
< 10,000	40	53.3	130	70.3	170	65.5
10,001 - 30,000	18	24.0	24	13.0	42	16.2
30,001 - 50,000	7	9.3	11	5.9	18	6.9
50,001 - 70,000	4	5.3	6	3.2	10	3.8
70,001 - 90,000	6	8.0	4	2.2	10	3.8
90,001 - 110,000	0	0	4	2.2	4	1.5
> 110,000	0	0	6	3.2	6	2.3

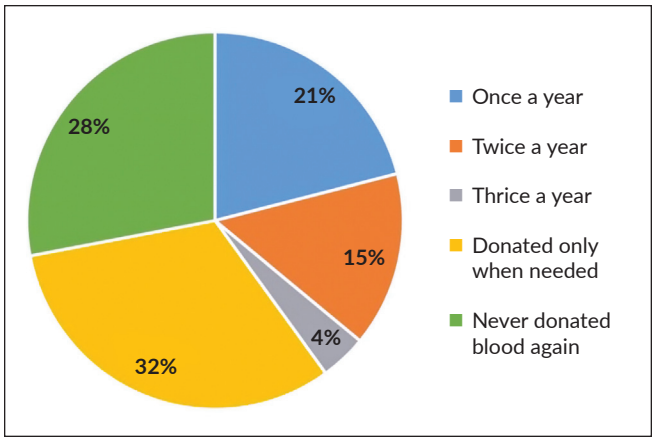

Figure 1. Frequency of blood donation of blood donor respondents.

non-donors. In terms of age, most of the respondents were 18–27 years old (86.5%), of which 58 (77.3%) were donors, and 167 (90.3%) were non-donors. Most of the respondents were students (75.8%) or graduates of tertiary level education (65.8%), with a monthly income of less than ₱10,000.00 (65.5%), and majority identified themselves as Christians (93.8%) (Table 1).

In this study, only 75 out of the 260 total respondents were blood donors (Figure 1). Majority (24 or 32%) of these blood donor respondents donated only when needed. Meanwhile, 21 (28%) blood donor respondents never donated blood again after their initial blood donation.

Perceived Level of Knowledge

Respondents possessed a fairly adequate knowledge regarding the eligibility requirements for blood donation, which included the recommended interval between two successive donations ($\bar{x}$ = 2.71, SD = 1.04), amount of blood taken per donation ($\bar{x}$ = 2.85, SD = 1.01), the prohibition against commercial blood use ($\bar{x}$ = 2.86, SD = 1.04), minimum weight ($\bar{x}$ = 2.93, SD = 1.07), time it takes to replenish blood lost from donation ($\bar{x}$ = 2.94, SD = 0.98), the fact that blood donation does not endanger the donor into contracting a disease ($\bar{x}$ = 3.13, SD = 0.99), and deferral of pregnant or breastfeeding women ($\bar{x}$ = 3.15, SD = 0.97) (Table 2). The weighted mean of all aforementioned requirements was interpreted as moderately perceived. The value of the weighted mean was measured to get the mean response of the respondents. Meanwhile, the rest of the other information about blood donation was found to be highly perceived, meaning that the respondents have highly satisfactory levels of knowledge regarding other information about donating blood, such as one's blood type, the importance of health history questionnaire, the eligible age range for donation, and deferral of patients with certain conditions and body modifications. Overall, the average weighted mean of the level of perception of the respondents with regards to knowledge ($\bar{x}$ = 3.13, SD = 0.70) was interpreted as moderately perceived, indicating that the respondents are sufficiently knowledgeable of the eligibility requirements and other information about blood donation.

Motivators

The general perception of the respondents regarding factors that motivate them to donate blood ($\bar{x}$ = 2.67, SD = 0.42) was moderate, which could mean that the respondents

Table 2. Level of perception of respondents according to knowledge

Items	Weighted Mean	Standard Deviation	Interpretation
I know my blood type.	3.33	0.99	Highly perceived
I am aware that health history questions are necessary to be asked for in every donation.	3.60	0.78	Highly perceived
I am aware that the minimum weight for blood donation is 50 kg (100 lbs).	2.93	1.07	Moderately perceived
I am aware that individuals aged 18 to 65 years old are eligible to donate blood.	3.36	0.82	Highly perceived
I am aware that the approximate amount of blood taken from a donor is 450 ml (one blood bag).	2.85	1.01	Moderately perceived
I am aware that it only takes 24-48 hours for the body to replace the amount of blood lost from a blood donation.	2.94	0.98	Moderately perceived
I am aware that a person with diabetes/hypertension/recent menstruation or surgery cannot donate blood.	3.35	0.93	Highly perceived
I am aware that the recommended interval between two successive donations is three months.	2.71	1.04	Moderately perceived
I am aware that a pregnant or breastfeeding woman cannot donate blood.	3.15	0.97	Moderately perceived
I am aware that in the Philippines, it is illegal to pay a person for blood donation.	2.86	1.04	Moderately perceived
I am aware that individuals who smoke, and those who had tattoos/piercings done within less than a year are not allowed to donate blood.	3.42	0.86	Highly perceived
I am aware that donating blood does not pose a risk in giving the donor a disease.	3.13	0.99	Moderately perceived
Average	3.13	0.70	Moderately perceived

Legend: 1.00-1.75 = No perception at all; 1.76-2.50 = Slightly perceived; 2.51-3.25 = Moderately perceived; 3.26-4.00 = Highly perceived

Table 3. Level of perception of respondents according to motivators

Items	Weighted Mean	Standard Deviation	Interpretation
Social			
I will donate blood because of peer pressure.	1.68	0.77	No perception at all
I will donate blood because everyone is doing it.	1.77	0.79	Slightly perceived
I will donate blood because I'm associated with some organization.	2.12	0.94	Slightly perceived
Accessibility/Blood Service Facility			
I will donate blood if the blood donation centers can be easily contacted for inquiries.	3.30	0.69	Highly perceived
I will donate blood if the staff of the blood donation facilities are hospitable, welcoming, and have high quality of care.	3.35	0.74	Highly perceived
I will donate blood because there are donation facilities near me.	3.15	0.85	Moderately perceived
Altruism			
I will donate blood because it is my social responsibility to help unknown people who need it.	3.23	0.73	Moderately perceived
I will donate blood because I am aware of the shortage of blood supply, so I want to support them to maintain their target supply.	3.31	0.72	Highly perceived
I will donate blood if my family, relatives or friends need it.	3.73	0.60	Highly perceived
Financial			
I will donate blood for monetary rewards.	1.70	0.86	No perception at all
I will donate blood for incentives (raffle tickets, movie passes, certificate, free food, etc.)	1.76	0.92	Slightly perceived
Advertisement			
I will donate blood after a blood donation campaign (e.g., posters, TV ads, etc.)	2.58	0.87	Moderately perceived
I will donate blood if there's an urgent call for blood posted on social media.	2.90	0.84	Moderately perceived
Beneficial			
I will donate blood because of the health benefits of donation.	3.03	0.80	Moderately perceived
I will donate blood because I am aware of the advantages of blood donation brought about by the free tests (e.g., blood tests, HIV tests, etc.)	2.93	0.83	Moderately perceived
Personal			
I will donate blood because I am curious.	2.48	0.85	Slightly perceived
I will donate blood because I have time to spare.	2.67	0.87	Moderately perceived
I will donate blood because it feels good.	2.60	0.92	Moderately perceived
I will donate blood because I have increased knowledge about blood donation.	3.05	0.82	Moderately perceived
I will donate blood because I'm guilty that I am not regularly donating blood.	2.07	0.89	Slightly perceived
Average	2.67	0.42	Moderately perceived

Legend: 1.00-1.75 = No perception at all; 1.76-2.50 = Slightly perceived; 2.51-3.25 = Moderately perceived; 3.26-4.00 = Highly perceived

are considerably motivated to donate blood (Table 3). However, looking at the data closely, the respondents highly perceived that they were more inclined to donate because of altruistic reasons, specifically when the person in need is related to or close to them ($\bar{x}$ = 3.73, SD = 0.60), and when they were aware of an existing blood supply shortage ($\bar{x}$ = 3.31, SD = 0.72). Another reason that the respondents highly perceived as a motivator is the accessibility of the blood service facility (BSF), especially if it could easily be contacted ($\bar{x}$ = 3.30, SD = 0.69), if the staff was hospitable, and if they offered high-quality service ($\bar{x}$ = 3.35, SD = 0.74).

Hindrances

Overall, the average weighted mean of the level of perception of the respondents in terms of hindrances ($\bar{x}$ = 2.09, SD = 0.48) was interpreted as slightly perceived, meaning that the respondents generally have minimal or faint discernment that said hindrances can dissuade them from donating blood (Table 4). However, hindrances relating to the BSF, such as poor behavior and treatment of BSF staff ($\bar{x}$ = 2.52, SD = 0.91), difficulty in accessing the BSF ($\bar{x}$ = 2.56, SD = 0.85), and absence of BSF within the area ($\bar{x}$ = 2.58, SD = 0.86) were all moderately perceived. Likewise, hindrances relating to personal reasons such as time limitations due to work, studies, family responsibilities, and volunteer activities ($\bar{x}$ = 3.23, SD = 0.78) were interpreted as moderately perceived. In other words, respondents have adequate discernment that hindrances relating to the BSF and personal reasons, such as time and schedule constraints, may discourage them from donating blood. Most of the respondents have not donated blood yet, despite having only minimal or faint discernment that they can be discouraged from donating blood.

Table 4. Level of perception of respondents according to hindrances

Items	Weighted Mean	Standard Deviation	Verbal Interpretation
Personal Reasons			
Time limitations due to work, studies, family responsibilities, and/or voluntary activities may hinder me from donating blood.	3.23	0.78	Moderately perceived
I will not donate blood because of fear.	1.96	0.90	Slightly perceived
I will not donate blood because I am afraid of needles.	1.77	0.85	Slightly perceived
I will not donate blood because I am afraid of blood.	1.64	0.80	No perception at all
I will not donate blood because I am afraid of pain that could be felt while donating blood.	1.83	0.90	Slightly perceived
I will not donate because I am afraid of fainting.	1.75	0.83	No perception at all
I will not donate blood because of previous painful experiences during blood donation.	1.53	0.68	No perception at all
I will not donate blood because it does not interest me for no particular reason.	1.55	0.67	No perception at all
I will not donate blood as it does not interest me because I lack some information regarding the blood donation process.	1.68	0.78	No perception at all
Health-related reasons			
I will not donate due to health-related concerns such as pregnancy, acute fever, recent alcoholic intake, ear or body piercing and tattooing, and/or surgery.	2.40	1.07	Slightly perceived
I will not donate blood because I am unaware if my health problem/s will prevent me from donating blood.	2.39	1.01	Slightly perceived
Accessibility/Blood Service Facility			
I will not donate blood because of the difficulty in accessing the blood service facility.	2.56	0.85	Moderately perceived
I will not donate blood because there is no blood service facility in the area.	2.58	0.86	Moderately perceived
I will not donate blood due to the behavior and/or poor treatment of staff towards the donors.	2.52	0.91	Moderately perceived
I will not donate blood due to the strict restrictions and numerous requirements needed of blood donors.	2.18	0.81	Slightly perceived
I will not donate blood because I often travel from one country/area to another which excludes me from donating blood.	1.87	0.75	Slightly perceived
Average	2.09	0.48	Slightly perceived

Legend: 1.00-1.75 = No perception at all; 1.76-2.50 = Slightly perceived; 2.51-3.25 = Moderately perceived; 3.26-4.00 = Highly perceived

Correlation between sociodemographic profile and knowledge, motivators, and hindrances

There was a significant but low negative correlation between age and motivation (r = -0.151, p = 0.015) (Table 5). Therefore, only age has a significant relationship with motivation among the sociodemographic factors presented.

DISCUSSION

This study found that, in general, the respondents are sufficiently knowledgeable about the eligibility requirements and other information about blood donation. They specifically have fairly adequate knowledge of the following blood donation information: the recommended interval between two successive donations, amount of blood taken per donation, the prohibition of using blood commercially, minimum weight, the time it takes to replenish blood lost from donation, blood donation does not endanger the donor into contracting a disease, and deferral of pregnant or breastfeeding women. A similar study showed that the respondents had fairly adequate knowledge about the permissible interval for blood donations and eligible age,[28] while others noted that, in general, the respondents had highly satisfactory scores about their knowledge of common blood types and their individual blood groups, the volume of blood donated, and allowable frequency of donations.[5,29,30] However, not everyone has satisfactory levels of knowledge regarding the basics of blood donation since other studies revealed that their respondents answered poorly about,

Table 5. Significant correlation between the sociodemographic profile and knowledge, motivators, and hindrances

	Knowledge		Motivation		Hindrance	
	r	p-value	r	p-value	r	p-value
Gender	0.025	0.689	0.045	0.469	-0.021	0.741
Age	-0.098	0.117	-0.151	0.015*	0.057	0.361
Religion	-0.057	0.357	0.108	0.082	-0.042	0.496
Education	-0.040	0.521	-0.079	0.206	-0.010	0.871
Occupation	0.080	0.199	0.078	0.211	0.031	0.620
Monthly Income	0.032	0.602	0.038	0.547	0.107	0.085

**p-value considered statistically significant, α = 0.05*

among others, the donation interval,[7,31] blood volume donated,[30,31] and minimum weight required.[30] Lack of knowledge may be explained by inadequate information and inaccessibility of credible sources, which can be considered major contributors to self-deferral.[32] In this study, the respondents have satisfactory levels of knowledge regarding blood donation, but it is essential to translate this existing knowledge into practice. Therefore, the results suggest a need for improvements in information dissemination to reinforce knowledge about blood donation.

Concerning hindrances, this study found out that, in general, the respondents only have minimal or faint discernment that hindrances can dissuade them from donating blood. Specifically, however, hindrances relating to BSF accessibility, BSF staff behavior, and time and schedule constraints may discourage them from donating blood. The results were similar to previous studies,[8,12,17,19] such that time limitations due to several reasons were major hindrances that discouraged blood donors from donating. Meanwhile, hindrances due to poor treatment and behavior of BSF staff were seen in other studies.[9,19] Moreover, a study explained that the length of time spent in the entire blood donation process might hinder donors from donating blood because it may not be amenable for those with tight schedules.[8] Meanwhile, another study tried to explain that staff behavior and treatment may contribute to donors having a pleasant experience and a positive attitude towards blood donation.[9] On the contrary, other studies suggested alternative reasons that can dissuade people from donating blood, such as, among others, fear of needles, blood, and fainting,[6,33] and lack of sufficient information about blood donation.[11] Other studies in the Philippines had shown that the respondents' existing health conditions were the major hindrance to blood donation.[23,24] Therefore, these results may imply developing BSF schedules permissible to potential donors with restrictive schedules and initiating training and other activities to improve BSF staff behavior to provide a better quality of treatment for blood donors.

When it comes to motivators, this study revealed the respondents' perception of personal motivation to donate blood leaned towards altruistic reasons. First, providing for a family member in need was congruent with several studies.[7,9,24,28,31] Second, a sense of responsibility to provide for the community when there is blood supply shortage was similarly seen in other studies.[4,5,19,34] Another motivator described in this study was the accessibility of BSFs attributed to inquiries and quality of service provided by the staff, which was seen similarly in another study.[19] Therefore, formulating blood donor recruitment strategies with altruistic messaging at its core and making BSFs more accessible by placing them in convenient locations and adjusting operating hours to accommodate potential donors with hectic schedules can be suggested.

Meanwhile, regarding the level of practice, this study has shown that there is an inverse relationship between age and motivation to donate. That is, younger individuals may have more motivation to donate compared to older individuals. This is in line with a study that said that age affects the practice of blood donation.[10,35] Similarly, a study had shown that blood donation was less common among older people.[11] One possible reason for this is that the younger age group are college students who might have sufficient knowledge of the blood donation process, which may translate into having a positive attitude towards blood donation.[36,37] Second, it might be because certain motivational strategies might not be universally appealing across all age groups.[19] Third, as age increases, blood pressure abnormalities might arise, which may cause temporary blood donor deferral in the aging population.[38,39] Fourth, age groups of 18 years and above may have more motivation to donate because of this age group's newly discovered capacity to donate and social pressure.[40] Conversely, a study posited that having the intention to donate and/or return for blood donation was associated with older age,[7,12,35] which may be due to older age groups having more experiences in blood donation[35] or due to them placing greater importance on family and friends who are starting to need blood products themselves.[40]

This study also aimed to recommend improvements in existing strategies or policies in blood donor recruitment in the Philippines. The Department of Health has put up policies to promote safe and quality blood collection and recruit more blood donors for the National Voluntary Blood Services (NVBS). One example is DOH administrative order 2010-0002, which organizes local blood donation drives for the general population rather than focusing on a target population. This study showed an inverse relationship between age and motivation to donate, inferring that recruitment and retention strategies focused on younger individuals are appealing since they have a stronger urge to donate. The WHO suggested that targeting specific subgroups can educate prospective donors, maximize blood donation resources, formulate suitable strategies, and minimize deferrals.[1] Studies recommended targeting younger age groups as they were more likely to donate blood,[41,42] and as they can be candidates for long-term repeated blood donation.[41] Furthermore, younger donors might need more effort in blood donor recruitment. First, while other studies noticed that blood donation practice has shifted toward the baby boomer generation,[40,43] such may pose challenges in the future because said generation will eventually be no longer able to donate blood because of deferrals[44–46] due to health reasons. Their increasing age may further decrease the blood donor pool.[43,45] In these cases, a study said that younger donors are relied upon to replenish the lost donor pool.[44] Second, younger non-blood donors lose their interest in starting donating blood as they age,[47] despite studies showing that younger individuals compose most of the first-time blood donors.[12,40] Another study expounded that there was low blood donor retention in donors aged 24 years and younger at the initial blood donation.[48]

One strategy for blood recruitment is technology, but strategies may differ among countries. Several studies suggested the use of technology, such as WhatsApp, which is the preferred platform in Saudi Arabia,[49] email,[19,50] telephone calls which show a higher success rate for donors to most likely return,[51] Facebook alerts for young donors less than 28 years of age, and SMS for respondents older than 28 years of age and for contacting inactive donors.[19,51] Meanwhile, a study suggested a non-technological method of recruitment in younger age groups involving their acquaintances and those deemed as an expert and respected figures in their schools.[52] Another suggested changing donation hours and mobile donation drives by lessening the time consumed in the process[53] or placing blood collection facilities on campuses where operational hours should be adjusted.[19] WHO guidelines state that BSF operating hours should operate 24-hour, seven (7) days a week for accommodating emergency cases, but they may operate outside of business hours to cater to more donors.[54]

A major limitation of this study was that it was limited to respondents who had access to the online questionnaire, which was deployed via personal social media accounts. As a result, the sample size was limited. Likewise, another limitation of this study was that not all age groups were sufficiently represented, which may have been due to internet connectivity and technology, which older age groups might have found difficult to navigate or access.

CONCLUSION

Although there was a good level of knowledge and awareness about blood donation, it may be necessary to improve educational campaigns about blood donation—specifically those about eligibility criteria—to increase awareness, bridge gaps in knowledge, and translate knowledge into practice. Also, recruitment strategies should be informative, emphasizing altruistic messages and making blood donation more accessible and convenient by developing efficient schedules that can cater to donors with tight schedules. Moreover, since the goal is to find a steady supply of blood donors, existing policies regarding blood donation should be improved by identifying specific target sub-groups from the population of potential donors. In this regard, it might be beneficial to target younger age groups since they can be candidates for long-term repeated blood donation. To obtain results from various frames of reference, it is recommended to conduct future studies focusing on other variables, recruiting respondents in various age groups for a more diverse age representation, and researching the short and long-term effectiveness of targeted blood donor recruitment in the Philippines.

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Statement of Authorship

All authors contributed in the conceptualization of work, acquisition and analysis of data, drafting and revising and approved the final version submitted.

Author Disclosure

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