

# Knowledge and Attitude Related to Willingness to Donate Blood Among Students Aged 17-20 Years Old in Bangkok

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## Abstract:

According to the statistics of the blood donation center, it was found that 68.49% of the blood donors donated blood only once a year, which caused the blood reserves in Thailand to be in short supply at certain times. While there were blood donors aged 17-20 years only 8.00%. This research aims to study blood donation related knowledge and attitude toward willingness to donate blood among students aged 17-20 in Bangkok. The data were collected with an online questionnaire (Google Form) during March - April 2023. The sample group was 386 students aged 17-20 years living in Bangkok. Data were analyzed with descriptive statistics including frequency, percentage, mean and standard deviation and analyzed the relationship by Pearson's Chi-Square. The results showed that most participants had knowledge and attitude towards Blood donation at a high level, 60.10% and 88.00%, respectively. 98.19% of the participants knew the importance of donating blood, and knew the purpose of using blood, and 95.34% know that abstaining from alcohol must be done before donating blood. On the other hand, most of the participants did not know about blood donation health criteria, such as body weight criteria for donating blood 33.16%, age criteria for donating blood 59.84%, and blood donation criteria for people with diabetes 71.50%. For willingness to donate blood, most participants answer "yes" 67.60%, answer "not sure" 28.50% and answer "no" 3.90%. Factors related to willingness to donate blood were gender ( $p < 0.05$ ), occupational interest in further study ( $p < 0.05$ ), and previous blood donation ( $p < 0.05$ ) with statistical significance. Donation service units should be provided to serve at points where most adolescents 17-20 years old spend most of their time in, such as educational institutions or shopping centers. This is to facilitate and increase the amount of blood donated by adolescent groups.

**Keywords** —Blood Donation, Knowledge, Attitude, Willingness to donate blood

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## Background

Currently, the situation of blood shortage in Thailand remains a significant issue that impacts public health agencies and blood service centers responsible for supplying blood to hospitals nationwide. The average daily demand for blood is 8,000 units, but only about 2,300 units are available for distribution per day, accounting for 28.00% of the need. This is used for treating various patients, including those from accidents, surgical procedures, and individuals with blood-related conditions requiring continuous transfusions. The demand for blood is increasing, reaching 90-95% of the donated blood, which is sourced from regular blood donors who can donate every 90 days. Donated blood can be stored for quality

maintenance for only 35-42 days outside the body, resulting in an inconsistent reserve of blood. There are periods and months with blood shortages.

According to the statistics from the Blood Service Center, it is reported that individuals who donate blood once a year amount to 1,034,688 people, accounting for 68.49%. Those who donate blood twice a year total 277,299 people, making up 18.36%. Donors who contribute three times a year are 131,275 people, representing 8.69%. People who donate blood four times a year are 61,710 individuals, making up 4.06%. And those who donate blood more than four times a year are 12,038 people, accounting for 0.04%. From the blood donation statistics, it is evident that the group of individuals who donate blood once a year is the largest, and this group consists of individuals who have previously donated blood. If the frequency of donation can be increased by one more time, it will have an impact on the increased reserve of blood, which will be sufficient for both regular circumstances and emergency situations. The statistics also reveal that the age group of 17-20 years old constitutes only 8.00%<sup>1</sup>.

During the COVID-19 pandemic, the reserve blood supply experienced a significant shortage. The number of blood donors from across the country in the year 2020 decreased from 23.00% to 57.00%. In response to this challenge, the National Blood Service Center adjusted its strategy for soliciting blood donations, incorporating measures to prevent the transmission of COVID-19 through blood. This was done in conjunction with public awareness campaigns about self-protection practices conducted by the National Blood Service Center and the Thai Red Cross Society<sup>2-3</sup>.

Furthermore, public awareness campaigns were conducted to encourage blood donation, particularly through online social media platforms and mobile phone messaging. These campaigns aimed to inform and raise awareness among the general public, youth, community leaders, religious leaders, teachers, lecturers, and volunteers about the importance of blood donation. They were encouraged to actively participate and take responsibility for society, promoting cooperation and expanding the capacity for receiving blood donations within various organizations. Additionally, fixed donation stations were established in central locations, such as shopping malls in urban areas, to increase convenience and reduce travel for blood donors, making it easier for them to access blood donation facilities<sup>4</sup>. The theory of Knowledge, Attitude, Practice (KAP) explains the relationship between knowledge, attitude, and behavior of individuals receiving substances, which influences their behavior towards that substance.<sup>5</sup> Changes in all three variables occur in a continuous manner. When an individual receives a substance, it leads to the acquisition of knowledge. With increased knowledge, attitudes or beliefs are formed, which in turn lead to actions. These three components are interrelated, forming a chain. It can be said that knowledge and attitudes towards blood donation are related to the willingness to donate blood willingly<sup>2, 6</sup>. From past studies, it has been found that the primary reasons for deciding to donate blood are the desire to help others and to perform acts of kindness. The most compelling motivation for donating blood is the aspiration to save human lives. Most donors have a positive attitude towards blood donation and possess a high level of knowledge regarding the process. They have trust, confidence, and faith in the quality of blood collection at the hospital.<sup>3,7-8</sup>

A study regarding factors influencing repeat blood donation reveals that donors who have a strong desire to help society and consider it a social responsibility to contribute to blood donation are more likely to return for subsequent donations. These donors possess a high level of knowledge about the blood donation process. Additionally, they express overall satisfaction with the service provided by the blood donation center staff. In summary, the factors that influence blood donation, as identified in the above study, include knowledge, attitude towards blood donation, and satisfaction with the blood donation service. On the other hand, a separate study on behavioral factors and decision-making in blood donation found that the sample group has moderate levels of knowledge and attitude towards blood donation, but no significant correlation was found between the decision to donate blood and knowledge, attitude, and motivation towards blood donation<sup>9</sup>.

Considering that the age group of 17-20 years old represents a new generation that could potentially become crucial blood donors in the future, it is concerning that, according to data from the Thai Red Cross Society, this age group constitutes only 8.00% of blood donors. This study aims to investigate the knowledge, attitudes, and factors related to the willingness of students aged 17-20 years in the Bangkok metropolitan area to donate blood. This research is essential as it will provide valuable insights into the behavior of these potential new blood donors, who could play a significant role in blood donation. The findings of this study will contribute to the development of strategies for educating about blood donation, fostering correct attitudes, promoting blood donation, and ultimately reducing blood shortages in the future.

### **Study objectives**

1. To study personal information, knowledge, and attitudes regarding blood donation among students aged 17-20 years.
2. To investigate the relationship between personal information, knowledge, and attitudes towards blood donation among students aged 17-20 years.

### **Study Methods**

This study is a cross-sectional study that gathered data through an online questionnaire using Google Forms. The data collection period was from March to April 2023. The sample group consisted of students aged 17-20 years who reside within the Bangkok metropolitan area. Volunteer participants were selected by asking them their age, specifically if they were between 17-20 years old, and their residential province. If the volunteer's response indicated that they reside in Bangkok, they were eligible to participate in this study.

### **Population and sampling**

The population for this study consists of youth aged 17-20 years who have access to the internet. Since the population size is considered infinite, the sample size was calculated using Cochran's formula<sup>10</sup>. After calculation, a sample group of 346 participants was obtained using convenient sampling. Invitations to participate in the study were sent to online social groups such as educational groups, tutoring groups, and gaming communities. When collecting data, a total of 386 volunteers willingly participated in the study. Therefore, the researchers decided to utilize all the obtained data for this study

### **Tools**

The tool utilized for data collection in this study was a questionnaire. The researchers developed this tool through a step-by-step process. This involved studying: Blood donation, blood banks, blood types, and the situation of blood donation from the Thai Red Cross Society, Ministry of Public Health. Relevant research works to examine pertinent variables and transform them into data collection instruments.

Part 1 consists of a personal information questionnaire comprising 7 questions. It includes inquiries about gender, current educational level, field of interest, occupation, family income, any existing medical conditions, history of blood donation, and history of receiving donated blood. The questions are designed in an open-ended and closed-ended format.

Part 2 consists of a knowledge assessment about blood donation, comprising 20 questions. The questions are in a true-or-false format. Correct answers are scored, resulting in a total score ranging from 0 to 20 points. The interpretation of scores is as follows: Scores above 80.00% or 16-20 points indicate a good level of knowledge about blood donation. Scores between 60.00% and 79.00% or 12-15 points

indicate a moderate level of knowledge about blood donation. Scores below 60.00% or less than 12 points indicate a low level of knowledge about blood donation.

Part 3 comprises 5 questions assessing attitudes towards blood donation. The questions are based on a Likert Scale ranging from 1 to 4. Each question is positively framed, where 4 indicates strongly agree, 3 indicates agree, 2 indicates disagree, and 1 indicates strongly disagree. The scoring range is from 5 to 20. The interpretation of scores is as follows: Scores above 80.00% or 16-20 points indicate a positive attitude towards blood donation at a high level. Scores between 60.00% and 79.00% or 12-15 points indicate a moderate level of attitude towards blood donation. Scores below 60.00% or less than 12 points indicate a low level of attitude towards blood donation.

Part 4 consists of a single question measuring willingness to donate blood. The question provides three options: "Willing," "Uncertain," and "Unwilling."<sup>11</sup>

### **Tool Verification**

The tools used for data collection in this study were evaluated by three medical experts with expertise in medical science and medical techniques. They assigned scores to each question to determine the congruence index with the objectives. It was found that each question used in the research passed the IOC criterion, scoring above 0.50 for all questions. These questions were then tested with a group of high school students to assess their understanding. No modifications were made to any of the questions<sup>12</sup>.

### **Data Analysis**

The analysis includes descriptive statistics such as frequency, percentage, mean, and standard deviation. Additionally, it involves analyzing the relationship between knowledge, attitude, and willingness to donate blood using the Chi-Square statistic.

### **Data Collection**

For this data collection, researchers sent invitation cards to participate in the study to online community groups, such as educational groups, tutoring groups, and gaming groups. In this study, researchers provided comprehensive information to the volunteers before proceeding with data collection. The information included the research objectives and emphasized that the collected data would be used solely for research purposes. The data collection was conducted anonymously using an online questionnaire form. After thoroughly reading and understanding the information, volunteers were free to independently decide whether to give their consent to participate in the research by clicking the "Willing to Participate in the Research" button to answer the online questionnaire<sup>13</sup>.

### **Study Results**

Personal information of the sample group (n=386) indicates that 57.77% are female. The majority are aged 17-18 years old, accounting for 76.68%. Those interested in a medical science career make up 39.12%. Regarding monthly income of parents or guardians, 32.64% fall in the range of 20,001-40,000 Baht. A significant portion, 83.16%, have never donated blood, and the majority of respondents or close relatives, 80.83%, have never received donated blood.

Table 1: Demographic Characteristics of the Sample Group (n=386)

Variable	Frequency (%)
Gender	
Male	163 (42.23)
Female	223 (57.77)
Age	
17-18 years	296 (76.68) Mean: 17.50, SD: 0.50
19-20 Years	90 (23.32) Mean: 19.48, SD: 0.50
Interested Occupation	
Health Science	151 (39.12)
Employee / Government officer	66 (17.10)
Teacher /Professor	20 (5.18)
Business owner	62 (16.06)
Freelance	28 (7.325)
Others	59 (15.28)
Family Monthly income (Baht)	
< 20,000	23 (5.96)
20,001-40,000	126 (32.64)
40,001-80,000	87 (22.54)
80,001-150,000	83 (21.50)
>150,000	67 (17.36)
Donated blood Experience	
Never	321 (83.16)
1-3 times	44 (11.40)
4-6 times	12 (3.11)
< 6 times	9 (2.33)
You or your close relative ever received donated blood before	
Never	312 (80.83)
Yes	74 (19.17)
Total	386 (100.00)

### **Knowledge about blood donation**

The majority of the sample group has a high level of knowledge about blood donation, accounting for 60.10%. Following that, 37.05% have a moderate level of knowledge, while only 2.85% have a low level of knowledge (Table 2). Upon analyzing the knowledge-related questions about blood donation, the three questions with the highest correct responses are as follows: Blood donated is used for patients experiencing blood loss due to accidents, surgeries, or other blood-related conditions, with 98.19% correct responses. Donated blood is screened to ensure safety for the recipient, with 98.19% correct responses. Prior to blood donation, one should abstain from alcohol consumption for at least 24 hours, with 95.34% correct responses. On the other hand, the three questions with the lowest correct responses are: Blood donors must weigh no less than 48 kilograms, with 33.16% correct responses. Blood donation is allowed for individuals between the ages of 17 to 65. In the case of being exactly 17 years old but not yet 18, donation is permitted without parental consent, with 59.84% correct responses. Individuals with diabetes

can donate blood as long as they control their blood sugar levels to not exceed 130 milligrams per deciliter, with 71.50% correct responses (Table 2).

Table 2: Number and Percentage of Sample Group Classified by Level of Knowledge about Blood Donation

Level of Knowledge (n=386)	Frequency	%
High	232	60.10
Moderate	143	37.05
Low	11	2.85

### Attitude toward blood donation

The majority of the sample group exhibit a high level of attitude towards blood donation, accounting for 88.00%. This is followed by 11.20% of respondents with a moderate attitude, while only 0.80% have a low attitude towards blood donation as shown in table 3. Based on the analysis of attitude measurement questions with the highest level of agreement, the top two statements are: Blood donation is an act of saving human lives, with 86.53% agreement. Encouraging healthy individuals to donate blood is important, with 82.12% agreement. On the other hand, the statements with the lowest level of agreement were: Going out to donate blood carries the same risk of contracting COVID-19 as going out for other activities, with 41.71% agreement. Blood donation is not intimidating, with 60.36% agreement.

Table 3: Attitude of the Majority of the Sample Group towards Blood Donation

Level of Attitude (n=386)	Frequency	%
High	340	88.08
Moderate	43	11.14
Low	3	0.78

From the study on voluntary blood donation within the sample group, it was found that: 72.65% of females are willing to donate blood, while 60.74% of males are willing. Among the sample group in their fourth year of high school, 65.74% are willing to donate blood. In the age group of 17-18, 69.26% are willing to donate blood, while in the age group of 19-22, 62.22% are willing. When comparing by profession, it was found that the majority of those interested in medical professions are willing to donate blood (77.48%), followed by teachers/educators (70.0%), and then government employees/civil servants (59.1%). Regarding income groups, it was observed that: Among families with a monthly income of 40,000 - 80,000 Baht, the majority are willing to donate blood (72.41%). The next group is those with a monthly income of 20,001 - 40,000 Baht, with 72.22% willing to donate. For those with a monthly income exceeding 150,000 Baht, 65.67% are willing to donate. In the group that reported having a pre-existing medical condition, 69.49% are willing to donate blood. In contrast, in the group that reported not having any pre-existing conditions, 67.28% are willing to donate. For the group that has donated blood more than 6 times before, the majority (88.89%) are willing to donate again. The group that has donated blood 1-3 times is also willing to donate (81.82%), while the group that has never donated before is willing at a rate of 65.42%. In the analysis of the relationship using Pearson's Chi-square, it was found that gender ( $p < 0.05$ ), profession of interest for further studies ( $p < 0.05$ ), and previous blood donation experience ( $p < 0.05$ ) are statistically significant factors related to willingness to donate blood (see Table 4).

Table 4: Pearson’s Chi-Square Analysis of the Relationship Between Personal Information and Willingness to Donate Blood in the Sample Group (n=386)

Variable	Frequency (%)	Willingness to donate blood (%)			p-value
		Willing Frequency (%)	Not sure Frequency (%)	No Frequency (%)	
Gender					0.036*
Male	163 (42.23)	99 (60.74)	55 (33.74)	9 (5.52)	
Female	223 (57.77)	162 (72.65)	55 (24.66)	6 (2.69)	
Age					0.182
17-18 years	296 (76.68) Mean: 17.50, SD: 0.50	205 (69.26)	83 (28.04)	8 (2.70)	
19-20 Years	90 (23.32) Mean: 19.48, SD: 0.50	56(62.22)	27 (30.00)	7 (7.78)	
Interested Occupation					0.017*
Health Science	151 (39.12)	117 (77.48)	33 (22.85)	1 (0.66)	
Employee / Government officer	66 (17.10)	39 (59.10)	25 (37.88)	2 (3.03)	
Teacher /Professor	20 (5.18)	14 (70.00)	4 (20.00)	2 (10.00)	
Business owner	62 (16.06)	41 (66.13)	16 (25.81)	5 (8.06)	
Freelance	28 (7.325)	16 (57.14)	11 (39.29)	1 (3.57)	
Others	59 (15.28)	34 (57.63)	21 (35.59)	4 (6.78)	
Family Monthly income (Baht)					0.131
< 20,000	23 (5.96)	14 (60.87)	8 (34.78)	1 (4.35)	
20,001-40,000	126 (32.64)	91 (72.22)	34 (26.98)	1 (0.79)	
40,001-80,000	87 (22.54)	63 (72.41)	21 (24.14)	3 (3.45)	
80,001-150,000	83 (21.50)	49 (59.04)	30 (36.14)	4 (4.82)	
>150,000	67 (17.36)	44 (65.67)	17 (25.37)	6 (8.96)	
Donated blood Experience					0.000*
Never	321 (83.16)	210 (65.42)	102 (31.78)	9 (2.80)	
1-3 times	44 (11.40)	36 (81.82)	6 (13.64)	2 (4.54)	
4-6 times	12 (3.11)	7 (58.33)	2 (16.67)	3 (25.00)	

< 6 times	9 (2.33)	8 (88.89)	0 (0.00)	1 (11.11)	
You or your close relative ever received donated blood before					0.781
Never	312 (80.83)	209(66.99)	90 (28.85)	13 (4.17)	
Yes	74 (19.17)	52 (70.270)	20 (27.03)	2 (2.70)	

### Conclusion and Discussion

From the results of this study, it was found that out of the total sample group of 386 individuals, 60.10% have a high level of knowledge about blood donation, and 88.00% have a high level of attitude towards blood donation. Regarding willingness to donate blood, 67.60% of the sample group answered "Willing to donate blood," 28.50% answered "Not sure," and 3.90% answered "Not willing." Factors that are correlated with the willingness to donate blood in the sample group include gender ( $p < 0.05$ ), interest in pursuing a medical career ( $p < 0.05$ ), and previous blood donation experience ( $p < 0.05$ ).

The majority of the sample group have a high level of knowledge about blood donation, accounting for 60.10%. Following that, there are 37.05% at a moderate level, and a small percentage of 2.85% at a low level. This could be attributed to the continuous public awareness campaigns regarding blood donation in the Bangkok metropolitan area, particularly through various online media platforms. This study collected data through an online questionnaire, allowing student participants easy access to information about blood donation through online channels. This facilitated convenient access to information about blood donation for the participants.<sup>14</sup> Furthermore, in the Bangkok metropolitan area, there are multiple blood donation centers. The sample group may have come across these centers, which could have raised their awareness. Additionally, the majority of the sample group, accounting for 39.10%, expressed interest in pursuing studies related to medical science. This interest may have contributed to their special inclination towards blood donation, as it is a way to assist fellow human beings. Moreover, relevant organizations conduct training sessions to provide knowledge about blood donation to youth groups.<sup>7</sup> In order to promote accurate knowledge and understanding among the youth, efforts have been made. This has resulted in the majority of the sample group having a high level of knowledge about blood donation, aligning with the goals set by the Thong Wankum.<sup>8</sup> The study examined factors influencing blood donation among individuals at the Blood Bank of Hua Hin Hospital. It was found that the sample group had a high level of knowledge about blood donation. This study focused on blood donors, who generally have knowledge about blood donation. The results differed from a study by Dwongnapa Intarasangkae,<sup>15</sup> which investigated blood donation decision-making in the Bangkok area. In that study, the majority of the sample group had a moderate level of knowledge about blood donation. This may be attributed to the fact that the studied sample represents the general population, which has diverse educational backgrounds, occupations, and internet access. These factors contribute to the diversity in awareness levels regarding blood donation.

The analysis of questions related to blood donation revealed that the question with the highest correct responses was about the use of donated blood for patients experiencing blood loss due to accidents, surgeries, or other blood-related conditions. It was also understood that donated blood undergoes screening before being given to recipients, and donors should abstain from consuming alcohol for at least 24 hours prior to donation. This may be attributed to the sample group being informed through public relations efforts, which provide clear information on the purpose of blood donation – specifically, that it is used to treat patients in need of blood.<sup>16</sup> On the other hand, the question with the lowest correct responses



pertained to eligibility criteria for blood donation, such as weight and age, and whether individuals with diabetes can donate blood. This may be because a significant portion of the sample group (80.83%) had never donated blood before and may not be familiar with the criteria. Additionally, different organizations involved in blood donation may have varying criteria, causing potential confusion. For instance, the Thai Red Cross Society sets a minimum weight requirement of 45 kilograms, while the Faculty of Medicine at Mahidol University specifies 48 kilograms.<sup>17-18</sup> In addition, among the sample group consisting primarily of young individuals who may not have any health issues, such as diabetes, there may be a lack of knowledge about diabetes and blood donation. This is because they may not have personal experience or familiarity with these topics. The majority of the sample group holds a positive attitude towards blood donation, with 88.00% having a high level of support, 11.20% holding a moderate level of support, and only 0.80% expressing a low level of support. This may be attributed to the prevalent belief that blood donation is an act of kindness and a way to help fellow humans. These positive attitudes towards blood donation align with the findings in the study conducted by Saitong Wongkum, affirming the positive impact of this practice.<sup>8</sup> In terms of motivations for blood donation, beliefs play a significant role. These beliefs include the idea of accruing merit, gaining entry to paradise, and experiencing a sense of goodness and accomplishment. These findings are consistent with the research conducted by Jaruwat Traitiptham<sup>19</sup>, highlighting the influential role of beliefs in encouraging blood donation. The majority of the sample group believes that blood donation is an act of helping fellow humans, aligning with the study conducted by Phanidham Kamthita<sup>3</sup>. The main motivation for blood donation, as found in this study, is the desire to assist patients and a sense of societal responsibility to contribute to blood donation efforts. However, this differs from the study by Duangnapa Intarasangkhae and et al.<sup>15</sup>, where the sample group had a higher prevalence of negative attitudes towards blood donation compared to positive attitudes<sup>8</sup>. This may be a result of the sample group having a moderate level of knowledge about blood donation. There might be some aspects of blood donation that they are not aware of, leading to misunderstandings or incorrect attitudes towards blood donation. Additionally, this study was conducted in the year 2013, and communication methods might not have been as effective as they are today. Therefore, providing accurate and widespread information remains a challenge for the relevant organizations.

The analysis of questions regarding attitudes towards blood donation revealed that the sample group largely agrees that blood donation is a way to save human lives. They believe that individuals with good health should be encouraged to donate blood because it is used for patients in need, such as accident victims, surgical patients, and those with blood disorders. The sample group's understanding on this issue has led to a positive attitude towards blood donation.

These findings align with a study by Saitong Wongkum<sup>8</sup> which also found that the sample group had a positive attitude towards blood donation, viewing it as a way to help fellow humans and to perform a charitable act. The sample group also expressed the opinion that individuals in good health should donate blood. This perspective may stem from the constant demand for blood by patients, occasional shortages, and the understanding that blood donation not only aids those in need but also stimulates bone marrow function to produce red blood cells, contributing to a healthy blood circulation system<sup>20</sup>.

Regarding the question about the risk of contracting COVID-19 when leaving home to donate blood, the sample group tends to disagree with the statement, indicating that they perceive the risk to be similar to other activities outside the home. This may be attributed to the sample group's knowledge and understanding of the transmission of COVID-19 and their awareness of proper prevention measures. They believe that with adequate precautions in place, the risk of contracting COVID-19 while donating blood is low.

However, the sample group is least inclined to agree with the statement that donating blood is not scary. This may be due to the discomfort and apprehension that some donors may feel when undergoing the needle insertion process.

The majority of the sample group is willing to donate blood, at 67.60%. This is because they are informed about blood donation and have a positive attitude towards it. They understand that donated blood is used to help fellow humans, and they are willing to donate blood to assist them. This aligns with the findings of the studies by Saitong Wongkham<sup>8</sup> and Jaruwann Triatip<sup>19</sup>Sambat. In these studies, the majority of the sample group believed that blood donation is an act of helping fellow humans and a virtuous deed.

The analysis showed significant correlations between knowledge and attitude with willingness to donate blood, specifically in terms of gender ( $p < 0.05$ ), the chosen field of study ( $p < 0.05$ ), and previous blood donation experience ( $p < 0.05$ ). This may be attributed to inherent gender differences influencing attitudes, thoughts, and beliefs. Naturally, males may exhibit less public consciousness in emotional dimensions compared to females, aligning with the findings of the study by Anchalee Pochailert.<sup>21</sup>

Furthermore, the study by Mansfield AK, Addis ME, Mahalik JR<sup>22</sup> suggests that education also plays a role. In their research, they found that males tend to have lower public self-consciousness in both affect and behavior compared to females.

In the aspect where males show less concern for healthcare compared to females, differences in interests in different career paths are correlated with the willingness to donate blood. According to AnchaleePochailert<sup>21</sup>study, an interest in the medical science field influences public consciousness in blood donation for humanitarian purposes. The results of this study indicate that having previous experience with blood donation is related to the willingness to donate blood. This may be because individuals who have not donated blood before, or those who have donated 1-3 times, may have positive beliefs or attitudes towards blood donation as it is seen as a way to help fellow humans. Hence, they are more willing to donate compared to those who have donated blood multiple times. However, some individuals who have donated blood multiple times may still have doubts or may not be as willing to donate.

This may be because individuals who have had prior experience with blood donation have learned about the criteria and restrictions for blood donation, such as the risks associated with certain behaviors like engaging in sexual activities or the potential infection risks from procedures like ear piercing or surgery. Additionally, factors such as one's health condition and readiness at that specific moment play a crucial role<sup>23-24</sup>. The sample group studied in this research consisted of students aged 17-20, which falls into the adolescent age group, and may exhibit some risky behaviors<sup>25-26</sup>. These factors can be limiting factors for blood donation that individuals may be aware of, potentially influencing their willingness to donate blood, even if they have donated multiple times before.

### **Recommendation**

Individuals who are ready to donate blood, in addition to meeting the basic criteria for donation, should be in good overall health, without experiencing any discomforts such as dizziness, lightheadedness, or shortness of breath. Experiencing such symptoms may lead the donor to feel anxious about donating blood in subsequent attempts. Therefore, it is important to promote physical well-being among students and young adults by encouraging regular exercise. This helps ensure they are physically prepared. Additionally, there should be public awareness campaigns regarding blood donation and how to prepare oneself physically for it, targeting both students and young adults. This will increase their knowledge about blood donation. Furthermore, it is advisable to establish blood donation units within educational institutions, universities, and popular shopping centers frequented by teenagers during weekends. This will enhance convenience and provide more opportunities for prepared youth to donate blood for the first time and subsequently at appropriate intervals.

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