

# Psychological Effects of Blood Donation on Chinese Donors: Pre and Post Survey Analysis and Potential Improvement Strategies

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## ABSTRACT

As globalisation encourages migration and the blending of diverse cultures, Canadian blood donation faces new opportunities and challenges. According to Statistique Canada, “there were more than 1.7 million Chinese people residing in Canada in 2021... representing 4.7% of the total population” and we can get more detailed content on Statistics Canada, the article is “Chinese New Year and quality of life among Chinese in Canada”. As the Chinese population, including Chinese international students, permanent residents, and Chinese Canadians, grows in Canada, how to attract this group of donors is crucial to sustaining Canada's blood reservoir. For this reason, a self-report psychological survey was spread near Vancouver, British Columbia, directed toward participants who identified themselves as ethnically Chinese, or Chinese Canadian. To understand the Chinese donor's psychological shifts and needs experienced by them during the process of donating blood, it was found through this psychological survey that Chinese donors generally feel psychological unease before donating blood, such as unfamiliarity with the blood donation process and worries about potential side effects after donating blood. Similarly, it is recommended to enhance communication efficiency between Chinese donors, who may not speak English fluently, and the staff members by employing more multilingual staff, along with considering the recruitment of a psychological counselling team, to strengthen the current blood donation system. Implementing improvements for raising awareness and publicising blood donation, generating a comforting experience and environment for Chinese donors, and strengthening safety measures and trust in the process are also essential. All the possible suggestions are proposed in the hope of eliminating the psychological anxiety of Chinese donors, which may enhance their willingness and motivation to donate blood and increase the blood supply for Canada's blood reserve.

## KEYWORDS

Blood donors; Psychological survey; Improvement/coping strategies

## 1. INTRODUCTION

In a culturally diverse country like Canada, the participation of Chinese donors donating blood is vital for sustaining the blood supply. In 2023, “Canadian Blood Services is making an urgent call for blood and plasma donors... The national organisation says it has 150,000 appointments to fill in order to tackle a dwindling inventory of blood and plasma” according to CBC News-“Canadian Blood Services needs thousands of donors to roll up their sleeves” posted in 2023). Thus, investigating the Chinese donor's attitude towards blood donation could encourage more blood donation. Problems like cultural differences, language barriers, and unfamiliarity with the blood donation process have been known to cause Chinese donors to face many obstacles during the blood donation process, affecting their motivation to donate. To gain a deeper understanding of these issues, this paper conducted a pre- and post-donor psychological survey. The results show that Chinese donors are

generally nervous and worried before donating blood. Based on the results of the survey, this paper proposed targeted improvements aimed at removing obstacles, enhancing the experience for Chinese donors, and creating a more welcoming environment for blood donation in Canada.

## **2. RESULT AND ANALYSIS**

### **2.1. Canadian Foreign Blood Donors Before and After Psychological Survey Analysis**

#### **2.1.1. Questionnaire Survey Design**

This paper uses a questionnaire to explore in depth the psychological changes and obstacles encountered by Chinese donors when donating blood in Canada. Through the four aspects of the survey, including basic information, psychological assessment before donating blood, experiences during donating blood, and psychological changes after donation, suggestions are provided to improve the donation experience and make it more inviting for Chinese donors. The survey distributed 200 questionnaires to 7 neighbourhoods in Vancouver, Canada, including Kitsilano, Arbutus, Point Grey, Kerrisdale, False Creek, West End, and University. 186 were validly collected, with a recovery rate of 93.00%. These results offer compelling evidence to support all proposed suggestions to promote blood donation among Chinese Canadians.

#### **2.1.2. Analysis of survey results**

##### **(1) Analysis of the basic information of blood donors**

The survey shows that Chinese donors are predominantly male in Canada, accounting for 77.96% of the total participants. 88 out of the 186 donors have an educational level of Master's degree or above, accounting for 47.31% of the total participants. Participants between age 18 to 35, accounting for 80.11% of the total population; this part of the population is in good health and has a strong sense of social responsibility. The frequency of blood donation in the last three years is mostly one to two times, accounting for 56.99%. In terms of occupation, the majority of participants were students, representing 47.85%. These students who have a high awareness of blood donation and a strong social responsibility those are important force in supporting Canadian blood donation. 45.16% of the respondents are Canadian citizens, 34.95% are Permanent residents, and 19.90% are Temporary residents who either have a work visa or a student visa.

**Table 1.** Basic Statistics of the Chinese Blood Donors

Parameter		Sample size	Percentage %
Sex	Male	145	77.96
	Female	41	22.04
Age	18-25 years old	56	30.11
	26-35 years old	93	50.00
	36-45 years old	24	12.90
	46 and above	13	6.99
Education Level	High school and below	36	19.35
	College or Bachelor's Degree	62	33.33
	Master's Degree or above	88	47.31
Frequency of blood donation in the last three years	1~2 times	106	56.99
	3~4 times	58	31.18
	5 times or more	22	11.83
Occupation	Student	89	47.85
	Management	41	22.04
	Professional and Technical	25	13.44
	Service	19	10.22
Legal Status	Freelance	12	6.45
	Canadian	84	45.16
	Permanent Resident	65	34.95
	Temporary Visa (work visa or student visa)	37	19.90

## (2) Psychological status before blood donation

The survey showed that Chinese donors had a variety of psychological states before donating blood. 39.78% of the participants felt nervous and worried, mainly due to a lack of understanding of the donation process (33.33%) and worries about language or cultural differences (33.87%). 17.20% of blood donors expressed concern about pain or discomfort, and 15.60% were worried about the safety of donating blood. Regarding the motivation for blood donation, 46.77% gave the primary reason for helping others, and 39.78% responded to the call for social welfare, showing how Chinese blood donors actively participated in public service activities. This is shown in Table 2.

**Table 2.** Statistics of Chinese Donors' Psychological States Before Donating Blood

Parameter	Sample size	Percentage %
Did you have a complete understand of the blood donation process before donating?	Completely	72 38.71
	Some	101 54.30
	Barely	13 7.00
What were your expectations or concerns about the blood donation process?	Nervous and worried	74 39.78
	Anticipation and excitement	67 36.02
	No special feelings	45 24.19
Reasons why you might feel worried or nervous before donating blood	Worried about the safety of donating blood	29 15.60
	Lack of understanding of the blood donation process	62 33.33
	Concerns about pain or discomfort	32 17.20
	Worries about language or cultural differences	63 33.87
Your reasons for donating blood	To help others	87 46.77
	Responding to the call of the community	74 39.78
	Suggested by family or friends	25 13.44

### (3) Psychological experience in blood donation

In the survey, it was found that the majority of Chinese donors felt fairly comfortable during the process of donating blood in Canada, which accounted for 31.72%, while the percentage of donors who felt normal was 25.69%. This indicates that most Chinese donors were able to maintain a good mindset and had a fairly comfortable experience with donating blood. During the blood donation process, however, Chinese donors generally faced some obstacles and difficulties. Among them, cultural differences, like levels of trust and confidence in the Canadian healthcare system or practices that might make the blood donation process different from that of China's, were the most important problems, reported by 45.16% of the participants. In addition, unfamiliarity with the blood donation process and language communication barriers were also common challenges during blood donation, accounting for 40.86% and 30.65%, respectively. These factors may lead to confusion, uneasiness, or anxiety during the blood donation process, which may affect their blood donation experience. As shown in Table 3.

**Table 3.** Statistics of Chinese Donors' Psychological Experiences during Blood Donation

Parameter	Sample size	Percentage %
How did you feel during the blood donation process?	Very comfortable	32 17.20
	Fairly comfortable	59 31.72
	Normal	47 25.69
	Tight	35 20.43
	Painful or very uncomfortable	13 6.99
Problems you had encountered during donating blood (multiple choice)	Language communication barriers	57 30.65
	Cultural differences	84 45.16
	Unfamiliarity with the blood donation process	76 40.86

#### (4) Psychological changes after blood donation

The survey showed that the majority of blood donors (70.43%) felt good and had no discomfort after donating blood. Nevertheless, 29.57% of blood donors still experienced discomfort such as dizziness and fatigue, suggesting the need to pay attention to the donors. In terms of psychological state, like did the donors' mindset change after donation, 40.86% of them felt a high sense of achievement, while 29.03% felt that there was no change in their mindset and it was the same as before. It is worth noting that 6.99% of the participant donors felt somewhat negative after blood donation, indicating that there may be some unsolved problem or misunderstanding between the donor and the staff. Close attention should be given to resolve any dissatisfaction or issues arising during the donation, and timely psychological support should be provided. Most of the respondents rated their blood donation experience satisfactory, accounting for 60.22%, while 8.06% rated it unsatisfactory. 72.04% of the respondents were willing to donate blood again. 38.17% of the participants were satisfied with the environment and services at the blood donation centre. 52.15% were quite satisfied, and 9.68% were not satisfied. This provides a valuable reference for blood donation centres to further improve their blood donation environment and service quality. As shown in Table 4.

**Table 4.** Statistics on the Psychological Changes of Chinese Donors After Donating Blood

Parameter		Sample size	Percentage %
Did you feel discomfort after donating blood?	Yes (dizziness, fatigue, arm pain)	55	29.57
	No	131	70.43
Did your mindset change after donating blood?	Yes, felt a high sense of achievement	76	40.86
	Felt more positive	43	23.12
	Felt the same as before	54	29.03
	Felt somewhat negative	13	6.99
Please rate your blood donation experience	Satisfactory	112	60.22
	Average	59	31.72
	Unsatisfactory	15	8.06
Would you like to donate blood again?	Yes	134	72.04
	No	52	27.96
How satisfied are you with the environment and service at the blood donation centre?	Very satisfied	71	38.17
	Quite satisfied	97	52.15
	Not satisfied	18	9.68

### 3. DISCUSSION

#### 3.1. Barriers and Challenges Encountered by Chinese Blood Donors During their Blood Donation

##### 3.1.1. Language barriers

Language communication barriers are a common problem for donors who identify themselves as ethnically Chinese. Some of them may not be fluent in English or French if they live in Quebec. Due to the language barriers between the donors and the staff members, there is often a deviation in the transmission of information. It may be difficult for some Chinese donors to accurately understand the donation process, precautions, and other information, which not only affects how smooth the blood donation process goes but also leads to nervousness and uneasiness among donors. The survey showed that 30.65% of Chinese donors were concerned about the inconvenience caused by languages,

which may have an effect on their later rating of their willingness to donate again and their experience with blood donation.

### 3.1.2. Cultural differences and misconceptions

Cultural differences and misconceptions are also important issues faced by Chinese donors when donating blood in Canada. There are significant differences in cultural backgrounds, values, and social norms between Chinese and Canadian. The questionnaire revealed that 45.16% of Chinese donors identified cultural differences as a major obstacle in the process of donating blood.

“Previous studies pointed out that traditional Chinese culture has a great impact on people’s attitudes toward blood donation. For instance, according to Chinese traditional concept of health preservation, blood mainly comes from the essence of food and is of vital importance for the human body. It believes that blood donation is a sudden loss of blood which will be harmful to the health” [1]. Thus, this misconception may act as a barrier for the Chinese population to donate blood. Furthermore, cultural differences may lead to different ways of thinking, which may lead to different emotional responses and behaviours during the process of blood donation [2].

### 3.1.3. Unfamiliarity with the blood donation process

Unfamiliarity with the blood donation process is a common barrier for Chinese donors when donating blood in Canada. Due to cultural differences, language communication barriers, and limited access to information, many Chinese donors have difficulty to fully and accurately understanding the blood donation process. Table 2 showed that 54.30% of the participants understood some understanding of the process before donating, while 7.00% had barely any understanding. This unfamiliarity may lead to misunderstandings and difficulties when filling out forms, undergoing examinations, and communicating with staff, which could impact the progress of blood donation [3].

### 3.1.4. Concerns about blood donation safety

Skepticism about the healthcare system is a concern among some Chinese donors. Some have an inherent fear of medical procedures, including blood donation. Thus, they may feel uncomfortable or unwilling to donate. Also, misinformation plays a crucial factor in this concern. Some Chinese donors believe that they will get weaker after donating blood. “Since there is a deeply rooted traditional belief in China that blood is associated with Qi, or life vitality; therefore, blood donation will result in irreversible loss of blood and Qi, and have a long-term negative impact on health and energy” [4]. Although the majority of the participants were satisfied with the environment and the service at the blood donation centre, 9.68% were not satisfied. There were concerns about situations such as pain or discomfort, and potential health problems such as anemia and reduced immunity after donating blood.

## **3.2. Improvement and Response Strategies Based on the Before and After Psychological Survey of Canadian Foreign Blood Donors**

### 3.2.1. Strengthening publicity and education on blood donation knowledge

First, the production of multilingual publicity materials, including Chinese to eliminate language communication barriers, which prevents misunderstanding or lack of information for Chinese people before donating blood. These materials can include the process of blood donation, precautions, the benefits of blood donation, as well as the safety of blood donation to ensure that every donor can accurately understand the knowledge related to blood donation. Second, blood donation organisations can make use of online platforms such as official websites and social media to regularly publish blood donation knowledge, activity information, and stories of blood donors to attract more Chinese donors to pay attention to and participate in blood donation. At the same time, online quizzes and interactive sessions can be set up to inform the donors about the importance of donating blood and eliminate any myths related to blood donation. Third, there should be offline promotion activities, such as lectures

at schools or community centres. Also, the outreach should receive training in cultural sensitivity, so the Chinese community feels more aligned and connected with blood donation. Local celebrities or community leaders who represent the Chinese people can be invited as guests to improve engagement.

### 3.2.2. Optimising the blood donation process and environment

To enhance Chinese donors' blood donation experience, blood donation centres can take several measures. First, provide multilingual support to ensure that donors from different language backgrounds can complete the donation process smoothly, with staff members that can speak Chinese or real-time translation tools to address language communication challenges. Second, personalised guidance should be provided to ensure that the process is safe and comfortable for Chinese donors, taking into account of their physical condition and needs. Last, to soothe Chinese donors who may feel stressed setting up comfortable rest areas with comfortable chairs, reading materials, and drinking water to create a relaxing atmosphere is necessary. In order to enhance the blood donation experience and willingness to donate again, creating a positive atmosphere by arranging warm decorations, and playing relaxing music, should be taken into consideration.

### 3.2.3. Strengthening psychological support and counselling for blood donors

In order to enhance the blood donation experience of Chinese donors, blood donation centres should have psychological support and counselling teams. Firstly, centres can hire psychological support teams consisting of experienced psychological counsellors, who have the ability to communicate in another language, like Chinese. Secondly, psychological counselling services before, during, and after blood donation, aimed at answering concerns and establishing trust between the donors and the blood donation centre is vital. For blood donors who may be paranoid after blood donation due to cultural beliefs of getting weaker, personalised counselling and treatment plans should be provided to help them adjust their state of mind. Finally, centres should establish a psychological support system, including a psychological hotline or online counselling, to provide blood donors with convenient psychological support services and collect feedback to optimise the donation process.

### 3.2.4. Strengthening the safety and trust guarantee for blood donation

First, there should be a detailed pre-donation Briefings where clear and comprehensive information about the donation process, including what to expect before, during, and after donation is provided. Also, make the Chinese donors comfortable with asking any questions. Second, any safety standards for blood donation should be strictly followed, like having a clean site for donation, and showing the donors that new, sealed needles are being used to eliminate any distrust. Last, blood donation organisations should regularly publish reports including how many blood donors that have successfully donated, blood usage, and blood test results. Through social media, websites and other channels, they should convey blood donation safety knowledge to the public in a timely manner to enhance public awareness of blood donation safety.

## 4. CONCLUSION

In 2022, the Canadian Blood Service issued a red alert, saying that the blood bank is currently facing a serious blood shortage. As a student and volunteer, I am keen on biology and life sciences; thus, as a Chinese Canadian myself, I hope that through my own efforts, I can propose some feasible plans to promote blood donation among Chinese people living in Canada. This paper is only conducted in Vancouver and had a small yet meaningful sample size of 186 participants; thus, there is a limitation of projecting this phenomenon seen in Vancouver to the rest of the area in Canada. However, the psychological survey of Chinese donors before and after donating blood has revealed some barriers and concerns that they may face during the process of donating blood. In this regard, by purposing methods to strengthen the publicity and education on blood donation, optimise the process and environment of blood donation, strengthen the psychological support and guidance for donors, and

strengthen the safety and trust among donors, this paper aimed to give insights into how to promote blood donation within Chinese communities [5].

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