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An Empirical Study on University Students' Beliefs, Behaviors, and Perceptions regarding Blood Donation in Bangladesh

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Abstract Blood donation is crucial to healthcare systems worldwide; nevertheless, voluntary participation is inadequate, especially in developing countries like Bangladesh. This study seeks to explore the attitudes, behaviors, and perceptions of university students regarding blood donation in Bangladesh. A mixed-methods approach was used to gather both quantitative and qualitative data from 40 students at a leading private university in Bangladesh through surveys, in-depth interviews (IDI), and focus group discussions (FGD). The study results reveal several factors affecting students' propensity to donate blood, including moral obligations, spiritual beliefs, and social responsibility. Misperceptions about health concerns and practical obstacles, such as needle fear and the inconvenient locations of donation centers, were identified as deterrents to participation. Although most students view blood donation as a moral obligation and a means of enhancing community welfare, hesitation often arises from apprehension over physical pain and misconceptions. In this regard, students may be classified into three behavioural categories: regular donors, reluctant non-donors, and occasional donors, reflecting the varied motives behind their behaviours. The theories of 'Symbolic Interactionism' and the 'Looking Glass Self' are pertinent here as they highlight the impact of social interactions and self-perception on students' choices to participate in blood donation. This study indicates that raising awareness, addressing misunderstandings, and improving access to donation centers could substantially boost voluntary blood donation among university students. The study findings enhance comprehension of the factors influencing blood donation behaviors and provide valuable insights for fostering a more sustainable blood donation culture in Bangladesh, and hence contribute academically to the fields of medical sociology, medical anthropology, public health and medical science.

Keywords Hematology, Blood Donation, Belief, Behavior, Perception, University Students, Bangladesh

1. Introduction

Blood donation refers to the comprehensive process that involves the collection, testing, preparation, and storage of blood and its components for medical use. This process begins with the careful collection of blood from a donor, followed by rigorous testing to ensure its safety and compatibility. Blood donation is a vital component of healthcare systems globally, facilitating essential medical procedures and emergency care [1]. The World Health Organization (WHO) reports that approximately 120 million blood donations are collected annually worldwide,

underscoring the importance of voluntary blood donation in meeting healthcare needs [2,3]. This statistic highlights the significant role of voluntary blood donation in healthcare systems worldwide, particularly in supporting medical procedures and emergency care [4]. Despite its importance, blood donation rates remain low in many developing countries, including Bangladesh, where the demand for blood often exceeds the available supply. In Bangladesh, the demand for blood transfusions is estimated to range between 200,000 and 250,000 units annually, driven by various medical requirements, such as surgeries and trauma care [5]. However, the supply often falls short due to a lack of voluntary donors and public awareness about the significance of blood donation [6-8].

The scenery of blood donation in Bangladesh is characterized by a mix of donation systems, including paid donations, party donations, voluntary unpaid donations, and donations from convicts [9,10]. Despite the critical need for blood, particularly among young people, who represent a significant potential donor demographic, participation rates remain low. While university students generally exhibit positive attitudes toward blood donation, actual participation is hindered by various socio-cultural factors, misconceptions, and fear [11]. Cultural beliefs and societal norms also play a crucial role in shaping students' perceptions and behaviors regarding blood donation [12]. For instance, some students may hold misperceptions that blood donation can lead to adverse health effects, such as anemia, which further deters them from participation [13].

While the existing literature predominantly focuses on quantitative studies, there is a notable gap in qualitative research that delves into the personal beliefs, behaviors, and attitudes of university students toward blood donation. Understanding these nuanced perspectives is essential for developing effective strategies to enhance donor recruitment and address the barriers to blood donation [14,15]. In this context, the present study aims to explore the beliefs, behaviors, and perceptions of university students regarding blood donation in Bangladesh. The overall objectives of this study are fourfold: (a) to explore the prevailing beliefs and attitudes of university students toward blood donation; (b) to assess the behavioral patterns related to blood donation among university students; (c) to identify the factors that influence blood donation within this group; and (d) to examine the challenges associated with blood donation.

2. Literature Review

Blood transfusion is a vital and often life-saving component of modern healthcare. It plays a crucial role during surgeries, accidents, obstetric emergencies, and for patients with chronic blood disorders. However, significant disparities exist globally in access to safe blood, particularly in developing countries where voluntary blood donation (VBD) remains insufficient [16]. The ongoing reliance on paid or replacement donors in many countries raises ethical concerns and increases risks for both donors and recipients.

Every year, an estimated 234 million major surgeries are performed globally, many of which require blood transfusions [17]. In trauma cases such as road accidents, immediate access to blood is essential. Studies show that without transfusion within the first 24 hours, up to 90% of critical patients may not survive [18]. With 1.2 million deaths and 30 million injuries annually from road accidents, the demand for blood is immense [19]. Despite this, only around 88 million units of blood are collected each year, far below the estimated global demand of 150 million units [20]. This shortage is especially prominent in developing countries, where 80% of the global population resides, but only 20% of the world's blood supply is collected [21]. Bangladesh, with over 165 million people [22], exemplifies this disparity. In 2009, only 29% of the country's 362,000 collected blood units were from voluntary donors. By 2016, the total collection had risen to approximately 600,000 units, although the demand was estimated at 800,000 [20]. The national transfusion system, consisting of 319 centers, receives only 31% of its supply from voluntary donors, relying heavily on family or replacement donors.

This reliance is alarming when compared to neighboring and developed nations. Voluntary donation rates in countries such as Sri Lanka, India, and Thailand exceed 90%, whereas in Bangladesh, the rates are as low as 4–5 per 1,000 people. In contrast, Switzerland and Japan report 113 and 70 donors per 1,000 people, respectively [20]. Beyond quantity, the quality and safety of donated blood also differ. A study at Dhaka Shishu Hospital found that 19.4% of thalassemia patients contracted Hepatitis C through unsafe transfusions [20]. The Bangladesh Red Crescent reported infection rates among non-voluntary donors: 22% with syphilis, 29% with Hepatitis B, and 6% with Hepatitis C, many of which could be avoided by relying solely on screened voluntary donors [21]. Several studies underscore the low levels of knowledge, awareness, and safe practices in blood donation across low- and middle-income countries. A multi-country survey across 17 developing nations emphasized persistent misinformation, fear, and a lack of institutional encouragement as major barriers to VBD [23]. In the context of Bangladesh, a study at Dhaka University found that while 82% of students had a positive attitude toward blood donation, only 16% had donated voluntarily [24]. Common reasons for non-participation included fear of physical weakness and health complications.

Demographic and socio-cultural factors further complicate the donation practice. Age, gender, education level, income, media exposure, and religious beliefs have been identified as significant determinants of knowledge, attitude, and practice (KAP) regarding blood donation [25-28]. For instance, individuals with higher education levels are generally more informed about the safety and necessity of blood donation. Gender disparities also exist, with women less likely to donate due to both biological and societal constraints.

Despite these challenges, evidence from high-performing countries indicates that improvements are possible. Sustained public awareness campaigns, youth engagement, and transparency in handling blood can significantly increase VBD. In Bangladesh, coordinated efforts among government agencies, NGOs, educational institutions, and media platforms can foster a culture of donation and reduce the shortage between demand and supply.

Overall, the literature shows that Bangladesh, like many developing nations, struggles with inadequate blood supply due to low voluntary donation rates and unsafe transfusion practices. Although public attitudes are often positive, actual practices remain low due to fear, misinformation, and structural barriers. A shift toward a fully voluntary, safe, and sustainable blood donation system will require integrated policy action, community mobilization, and continuous awareness campaigns.

3. Theoretical Framework

Many theories exist on human behaviour patterns, especially how members of a community interpret their social world through the exchange of meanings, language, and symbols. The theoretical foundation of this study is rooted in Symbolic Interactionism, a micro-level sociological perspective developed by George Herbert Mead [29] and later formalized by Herbert Blumer [30]. Additionally, Charles Horton Cooley's [31] concept of the Looking Glass Self is employed to provide a comprehensive lens to examine how social interactions, self-perceptions, and societal narratives shape students' decisions and behaviors related to blood donation. Symbolic interactionism primarily explains how a society is formed and sustained through the repeated actions and interactions of individuals [32]. According to this theory, human behavior is not a response to objective reality but rather to the social meanings that emerge from interactions [29,30]. Within the context of blood donation, such meanings are often conveyed through symbolic associations with altruism, responsibility, and community solidarity. University students interpret these symbolic meanings through their interactions with peers, family members, and societal messages conveyed via media and institutional campaigns [21,33]. For instance, societal narratives that portray blood donation as a selfless and heroic act can significantly influence students' attitudes and behaviors. These socially shared meanings evolve dynamically with each interaction, making Symbolic Interactionism especially relevant to understanding how students' perceptions and behaviors surrounding blood donation are shaped. The Looking Glass Self complements Symbolic Interactionism by focusing on the role of self-perception in shaping human behavior. Cooley proposed that individuals evaluate their behavior through a three-step process: imagining how their actions appear to others, interpreting others' reactions, and developing feelings about themselves based on these interpretations [31]. In blood donation, students may form beliefs and attitudes by imagining how their peers or society view them when they engage in or abstain from donating blood [33]. For instance, students who perceive blood donation as a socially valued act may feel encouraged to participate, reinforcing a positive self-image as responsible and compassionate individuals [34]. Conversely, those who do not donate blood might experience guilt or concern about social disapproval, leading to shifts in their future attitudes and behaviors. By applying these theoretical understandings, this study examines the nuanced mechanisms through which university students' beliefs, behaviors, and attitudes toward blood donation are formed and influenced. Furthermore, this framework sheds light on the interplay between social interactions and self-perceptions in shaping decision-making processes. Figure 1 below shows the theoretical framework of this study, indicating how societal norms, social interactions, and symbolic meanings intersect with self-perception and influence students' behaviors and decisions regarding blood donation.

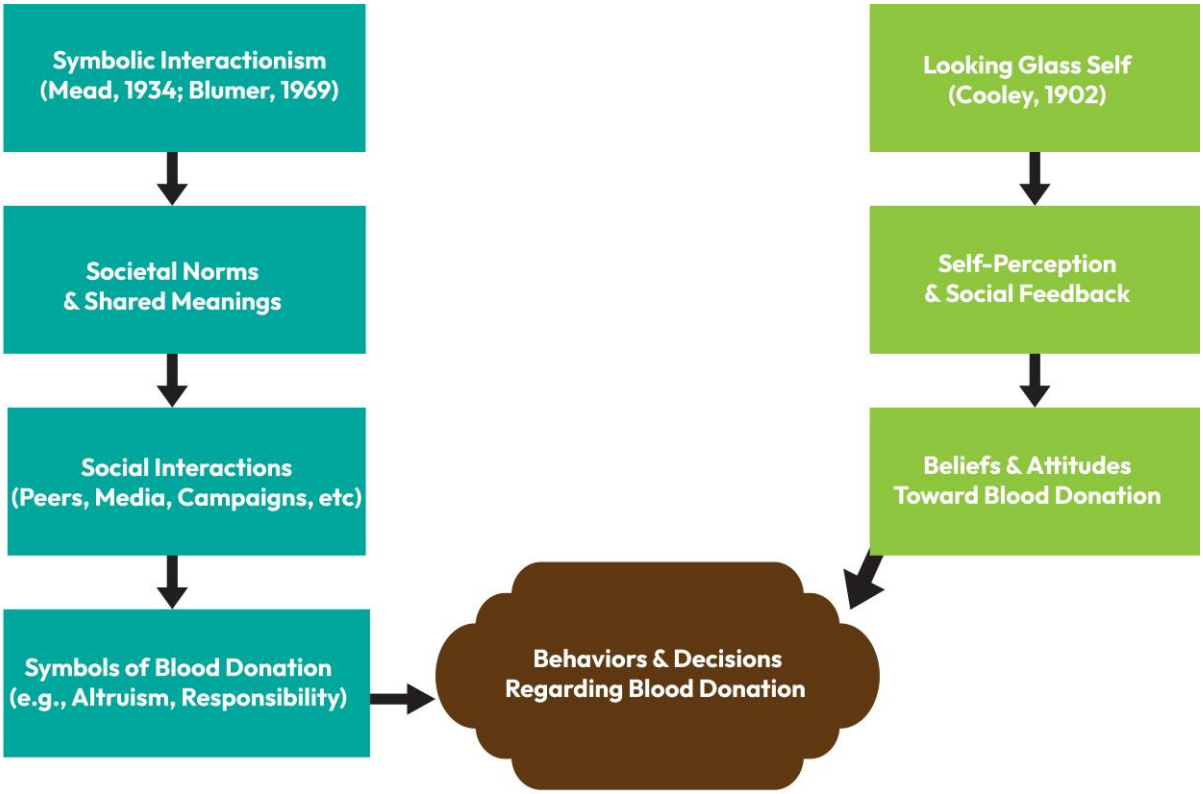

Figure 1. Behavioral framework of blood donation decision-making

4. Materials and Methods

4.1. Study Design and Participants

This study adopted a mixed-methods approach, incorporating both quantitative and qualitative methods to obtain a comprehensive understanding of students' blood donation practices. The quantitative aspect of the study was carried out through a survey questionnaire, while qualitative insights were gathered through In-Depth Interviews (IDI) and Focus Group Discussions (FGD) from a private university located in Dhaka, Bangladesh. The target population for the study consisted of current students of the university. The convenient sampling technique was used to select participants, ensuring representation across different academic years, fields of study, and gender.

4.2. Demographic Characteristics of the Study Population

A total of 40 students participated in the study, with detailed demographic data presented in Table 1. The gender distribution included 60% males (24 participants) and 40% females (16 participants). Participants' ages were grouped into three categories: 18–20 years (10%), 21–23 years (42.5%), and 24–26 years (22.5%). The majority identified as Muslim (75%), followed by Hinduism (12.5%), Christianity (7.5%), and Buddhism (5.0%), while no participants identified with other religions. Regarding academic level, 10% were first-year undergraduate students, 22.5% were in their second and third years, 20% were in the fourth year, and 25% were master's students. Participants were mostly from the Humanities and Social Sciences (45%), followed by the Sciences (30%) and Business Studies (25%). In terms of blood donation history, 57.5% of the participants reported having donated blood at least once, while 42.5% had not done so. This means more than half of the participants had donated blood previously, while others had not. Notably, 47.5% were involved in blood donation organizations, suggesting a moderate level of engagement in donation-related activities among the participants. The demographic context provides useful insights for interpreting behavioral patterns and motivations related to blood donation.

Table 1. Demographic Characteristics of the Study Participants (N = 40)

Demographic Variable	Category	Frequency (N = 40)	Percentage (%)
Gender	Male	24	60.0
	Female	16	40.0
Age Group	18–20 years	4	10.0
	21–23 years	17	42.5
	24–26 years	9	22.5
Religion	Christianity	3	7.5
	Hinduism	5	12.5
	Islam	30	75.00
	Buddhism	2	5.0
	Other	0	0.0
Year of Study	First Year	4	10.0
	Second Year	9	22.5
	Third Year	9	22.5
	Fourth Year	8	20.0
	Masters	10	25.0
Field of Study	Humanities	18	45.0
	Science	12	30.0
	Business	10	25.0
Blood Donation History	Have Donated Blood	23	57.5
	Have Not Donated Blood	17	42.5
Involvement in Blood Donation Organization	Yes	19	47.5
	No	21	52.5

4.3. Data Collection

The primary outcome variable of interest was whether a student had ever donated blood. Quantitative data were collected using a survey questionnaire. The questionnaire was designed to collect information on participants' demographic characteristics, awareness of blood donation, misconceptions, motivations, and willingness to donate. Key variables included gender, age, religion, history of blood donation, involvement in blood donation organizations, and reasons for donating or not donating blood. To complement the survey data, 40 In-Depth Interviews (IDI) and 3 Focus Group Discussions (FGD) were conducted with students. Each FGD consisted of 6-9 students, chosen because of their availability and experience with blood donation. The goal of the qualitative data collection was to delve deeper into students' beliefs, behaviors, and perceptions regarding blood donation. The narrative and storytelling approach was used in the IDIs to encourage participants to freely share their experiences with blood donation.

4.4. Data Analysis

Quantitative data were analyzed using IBM SPSS (Version 26.0), calculating descriptive statistics (frequencies, percentages, means) to summarize demographic data and blood donation practices. The qualitative data from IDIs and FGDs were analyzed using a thematic analysis approach. The interviews were transcribed, and the data were coded to identify recurring themes related to blood donation beliefs, behavioral patterns, and influencing factors. The coding process involved organizing data into code families (groups of related codes) and then identifying key themes that emerged across the interviews and focus group discussions. Triangulation was employed to ensure the validity of the findings by comparing the qualitative data with the survey results and existing literature [35]. Ethical guidelines were strictly followed throughout the study. To maintain confidentiality, pseudonyms were used for all participants in the analysis and reporting of findings.

5. Result of the Study

5.1. Perceptions of Beliefs and Attitudes toward Blood Donation

As outlined by Symbolic Interactionism, the meanings individuals assign to actions like blood donation are shaped through social interactions and the exchange of symbols. In this study, several participants viewed blood donation as a

moral obligation and a selfless act. This aligns with Mead's idea that individuals create meanings through repeated social interactions [29]. For example, Rimon Khan (22) stated, *"I consider blood donation as a moral duty through which a person's life can be saved."* Similarly, Mahfuz Miraz (24) noted,

> "…from a religious perspective, it is our moral duty to donate blood, as it is an act of compassion and support, particularly when a fellow believer faces life-threatening situations. Our religion encourages coming forward to help others in their time of need."

These views reflect the symbolic meanings of community support and solidarity, which are reinforced through social interactions within families, peers, and both traditional and digital media, such as television, and social networking platforms. This aligns with the findings of Gomes et al. [6], who emphasize the role of social responsibility in blood donation. Additionally, altruism and the desire to help others are significant motivators for university students to donate blood [6]. In a similar vein, the Looking Glass Self is demonstrated here, in which pupils base their perceptions of themselves on how they think others view their behaviour [31]. As Selim Reza (23) described, *"Knowing that my blood has helped save a life provides me an incredible sense of pride,"* indicating how blood donation reinforces positive self-image. Additionally, the majority of participants demonstrate a general understanding of the life-saving potential associated with blood donation. The beliefs and perceptions of donors about blood donation, as outlined in Table 2, reflect a range of views. The findings indicate that there are mixed perceptions regarding blood donation. Many individuals view it as a moral duty that emphasizes mutual support within society. Others emphasize both its moral significance and its potential physical benefits.

5.2. Behavioral Patterns Related to Blood Donation

Our study identified three types of blood donors - Regular Donors, Reluctant Non-Donors, and Occasional Donors - each exhibiting distinct behavioral patterns. Table 3 provides an overview of these patterns. Among Regular Donors, personal satisfaction plays a significant role in their consistent donation behavior. In this regard, Amir Hamza (24) shared,

> "My mother has been suffering from anemia for a long time. Both my brother and me have matching blood groups with her. There is no greater joy in the world than donating blood to help my mother."

This connection between personal satisfaction and altruism supports that individuals engage in socially meaningful acts to gain personal fulfillment and recognition. Conversely, the Reluctant Non-Donors were deterred by misconceptions and fear of physical harm. A respondent named Habibur Rahman (22) stated, *"I want to donate, but I'm scared of needles and the whole process."* This fear is rooted in societal narratives about the discomfort or health risks of blood donation, which often get amplified through misinformation within social circles. Consistent with prior research [36], it is found that misconceptions about the risks of blood donation contribute to reluctance. The influence of social narratives and peer perceptions is evident, highlighting the social construction of meaning as described by Blumer [30]. The Occasional Donors, driven by event-based motivations or peer influence, reflect how social interactions serve as triggers for blood donation. This is akin to Symbolic Interactionism theory that behaviors are influenced by ongoing social interactions that create dynamic, evolving meanings [30]. Rakib Hasan (23) shared, *"I donate whenever there's an emergency appeal or special drive...,"* indicating that social and emotional triggers can drive behavior in the absence of consistent motivation.

Table 2. Beliefs and Attitudes Regarding Blood Donation

Theme	Codes	Key Quotes
Emotional and Psychological Fulfillment	Sense of Pride and Accomplishment, Empathy and Compassion.	"...Knowing that my blood has helped save a life gives me an incredible sense of pride..." (Remon Haque, 23) "...I don't think there is any greater feeling of happiness the fact that a human life can be lived in my blood..." (Selim Reza, 22; FGD participant).
Perceived social responsibility	Saving Lives, Community Support, Helping the Vulnerable.	...Donating blood is a noble and meaningful act, reflecting human solidarity and compassion (Singkong Murong, 24). "Donation is an ethical duty that reflects our collective humanity." (Afia Anjum Heyaa, 23). "It's not just a noble act but also a meaningful way to build stronger connections within our community." (Asif Sarker, 25). "Blood donation fosters social responsibility and community spirit..." (Pranto Kumar Das, 22).
Spiritual Acts	Personal Virtue, Moral Obligation	"My beliefs encourage helping others, and blood donation aligns with that..." (Ashiqur Rahman, 24). "I think it a moral duty to support people in need..." (Namrata, 22).

Table 3. Thematic Analysis of Behavioral Patterns Related to Blood Donation

Theme	Codes	Key Quotes
Regular Donors	Routine Habit, Personal Satisfaction	"I feel healthier and more energized after donating blood regularly. (FGD Participant, Abir, 22)."
		"...It makes me proud to give blood. (IDI, Arafat, 23)".
Reluctant Non-Donors	Fear of Side Effects, Personal Barriers	"...I've heard donating can make you weak, so I'm hesitant." (IDI, Tasnim, 24).
		"I'm not sure if it's safe; there's so much conflicting information. (IDI, Sabrina, 22)"
Occasional Donors	Event-Driven Motivation, Emotional Triggers, Social Influence	"It's usually a friend or relative who convinces me to go and donate..." (FGD Participant, Rakib hasan, 23).
		"I've donated a few times when I felt it was really needed..." (IDI, Arafat, 22).

5.3. Factors Influencing Perceptions to Donate Blood

Several factors influence students' perceptions, including wellness benefits, peer influence, and religious motivations to blood donation [34]. According to Mead's theory of social symbols, beliefs and behaviors are shaped by how individuals interpret symbols within their social context [29]. For instance, Robin Hossain (24) comments, *"Regular blood donation not only saves lives but also contributes to better heart health."* This highlights how wellness benefits serve as an important motivator, reinforcing the symbolic meaning of blood donation as a way to contribute to personal health and the community's well-being.

Peer and family influence also have a major impact on students' attitudes. Several students mentioned that family members or friends had motivated them to donate. For example, Hasan Ali (22) noted, *"My younger brother donated blood, so I felt like it was something I should do as well..."* This supports the *Looking Glass Self*, in which individuals form their self-image based on how they believe others perceive them. Cooley argues that individuals develop a sense of self through social interactions, which is evident in how students evaluate their blood donation behavior based on peer approval and family encouragement [31]. Additionally, 75% respondents perceive blood donation as a moral duty or an act of compassion. Personal satisfaction derived from helping others, religious beliefs, and a sense of social responsibility often serve as powerful motivation. As previously presented in Table 1 under Theme 1, moral considerations and social responsibilities play a significant role in blood donation. In addition to these moral aspects, the physical health and emotional well-being of blood donors are also key factors influencing their decision to donate, as discussed earlier. Our study revealed that encouragement from friends, the influence of family role models, and awareness campaigns organized by various groups play a significant role in motivating individuals to donate blood, as illustrated in Table 4.

5.4. Challenges Associated with Blood Donation

This study identifies several barriers to blood donation, including fear of pain, misinformation, and logistical issues. As Symbolic Interactionism suggests, these barriers are socially constructed through interactions and the meanings attached to blood donation. For example, fear of needles and misconceptions about health risks emerged as salient barriers that discouraged individuals from donating blood. This observation aligns with the findings of Chell et al. [14], who identified fear and anxiety as critical impediments to the promotion of voluntary blood donation. Additionally, logistical issues, such as the inconvenience of donation centers decrease participation, reflecting how structural factors and social accessibility influence individual behavior. This study highlights a complex set of factors that discourage individuals from donating blood or maintaining regular donation habits. These challenges range from practical concerns and personal barriers to psychological fears and misinformation. Understanding and addressing these obstacles are essential for developing effective strategies to increase donor participation and ensure sustained engagement. As shown in Table 5, key challenges include fear of needles or potential side effects, lack of accurate information, social or cultural stigmas, and logistical issues such as the accessibility of donation centers. In this context, Rimon Haque (24) stated,

> "In 2022, I faced severe health complications after donating blood in a Foundation due to the repeated use of the same syringe....I struggled to walk, eat, or manage daily tasks and required about six months to recover fully".

Table 4. Thematic Analysis of Factors Influencing Perceptions to Donate Blood

Theme	Codes	Key Quotes
Wellness Advantages	Health Benefits	"Donating blood every three months is very good for our body.... is also a moral responsibility of society as an educated youth" (IDI, Robin Hossain, 24) "...Regular blood donation not only saves live but also contributes to better heart health...this understanding motivates me to donate blood consistently" (FGD Participant, Rakib, 24).
Peer and Family Influence	Encouragement from Friends, Family Members	"My friend donated blood, and he encouraged me to do the same..."(IDI, Hamza Islam, 23) "My Younger brother donated blood, it motivated me..." (IDI, Hasan Ali, 22).
Social Norms and Cultural Influences	Cultural Beliefs, Community Support	"...donating blood is considered a noble and selfless act. I feel proud when I donate blood..." (Abony, 22). "It feels like giving "*sadaqah"* (charity) to others...you're doing something good for someone in need. I think it's a way of helping others, and the word 'donation' itself reflects a positive act" (Roma sarker, 22).
Emotional Rewards and Satisfaction	Positive Emotional Impact	"I feel a sense of fulfillment after donating blood. Knowing that I could help someone in need is a great emotional reward" (Bidhan Roy, 21). "My blood can save a person's life motivates me to donate. This thought brings me a deep sense of inner peace and satisfaction" (Belal Hossain, 22).
Blood Donation Campaigns	Advocacy and Campaign Initiatives	"...blood donation organization frequently arranges campaigns on campus. These initiatives not only raise awareness but also make it easier for students to get involved in voluntary donation activities. (Sumoon Talukdar, 23, FGD participant). "I was hesitant before, but when the campaign team came to our department, explained everything, and even arranged the donation process on the spot, I felt confident enough to do it..." (Mukta, 22).

Table 5. Thematic Analysis of Challenges Associated with Blood Donation

Theme	**Codes**	**Key Quotes**
Fear of Needles	Needle Phobia, Anxiety about Pain	"...Just thinking about the needle makes me nervous about donating blood..." (IDI, Slama Begum, 24). "I'm anxious when imagine the needle goes in my hand..." (Dipa Kunda, 22, IDI)
Time Constraints	Busy Schedules, Inconvenient Locations	"...the process can be time-consuming, which makes it challenging" (IDI, Robin Islam, 22). "...Often, even if someone is interested in donating blood, it is not effectively possible due to locational inconvenience" (FGD Participant, Jubayer Hossain, 23).
Misinformation	Conflicting Information, Inaccurate Advice	"...I've heard so many different things about how often you can donate..."(FGD Participant, Jubayer Hossain, 23). "I am little bit confused because some people told... donating blood makes you very week." (IDI, Shahidul Islam, 21)

6. Discussion

The findings of this study provide valuable insights about the beliefs, attitudes, behavioral patterns, and challenges associated with blood donation among university students. The analysis reveals the multifaceted nature of perceptions toward blood donation and focuses on key factors influencing donor behavior, as well as barriers that need to be addressed to promote regular blood donation. Consistent with prior research [6,37–39], altruism emerged as a primary driver, with the majority of students perceiving blood donation as a moral duty and an expression of compassion. Spiritual and ethical values reinforce this perspective, aligning with studies linking pro-social behavior to cultural and belief systems [40,41]. Beyond moral and spiritual considerations, participants also acknowledge the physical and emotional benefits of donating blood [34]. However, these study findings are consistent with previous research that highlights common barriers to donation, such as fear of pain, concerns over medical ineligibility, and misconceptions about the health effects of donating [3,42]. The earlier findings indicate a collective recognition of the life-saving potential and social responsibility associated with blood donation [34,43]. We identified three distinct groups of donors: regular donors, reluctant non-donors, and occasional donors. Regular donors are primarily motivated by personal satisfaction, while reluctant non-donors are deterred by fears of discomfort and misconceptions. Also, needle phobia is a major deterrent. Additionally, socio demographic factors, such as age, academic year, and field of study, significantly influence blood donation practices,

a finding supported by the existing literature [36,41]. Our study also revealed that factors such as the wellness benefits of blood donation, peer and family influence, and awareness campaigns play an important role in shaping students' perceptions. Despite the generally positive attitudes toward blood donation, several obstacles were reported by participants. Fear of needles, misinformation, and logistical issues, such as time constraints and the inconvenience of donation center locations, were the most common barriers. These findings reflect the *Looking Glass Self* [19] theory, which suggests that individuals' willingness to engage in behaviors like blood donation is shaped by social approval and their perception of themselves as responsible citizens. Symbolic Interactionism [29-31] provides a valuable lens for interpreting behavioral patterns. Social symbols (e.g., altruism, community responsibility) and interactions (e.g., peer discussions, campaigns) critically influenced donation decisions. Notably, self-perception played a pivotal role: donors reported heightened self-esteem, reinforcing repeat behavior. The study highlights how social symbols, such as selflessness and a sense of community responsibility, significantly shape students' perceptions and behaviors. Social interactions with family, peers, and society, through campaigns and discussions, play an important role in influencing students' decisions to donate blood.

7. Conclusions

This study demonstrates that university students' beliefs, behaviors, and perceptions regarding blood donation are deeply influenced by social interactions and self-perception. The symbolic meanings attached to blood donation, such as altruism, responsibility, and community support are reinforced through social interactions, shaping students' attitudes and actions. Furthermore, the study highlights the importance of self-concept, as students' perceptions of how they are viewed by others influence their willingness to donate. Overall, it highlights the central role of moral, spiritual, and social motivations in shaping donor behavior, as well as the significant impact of physical and emotional benefits. As discussed earlier, 75% of participants view blood donation as a moral duty and a life-saving act; however, fears, misconceptions, and logistical barriers remain prominent deterrents. However, insights from three distinct blood donor groups provide helpful viewpoints regarding the varied motivations and challenges individuals face. This study suggests that addressing the diverse factors influencing blood donation is crucial to encouraging regular participation. By leveraging a comprehensive understanding of these motivations and barriers, stakeholders can promote a sustainable culture of blood donation. To promote regular blood donation, it is crucial to address misconceptions, reduce fears, and engage students socially. Awareness campaigns should emphasize the health benefits of blood donation and leverage peer influence to encourage participation. Additionally, improving the convenience and accessibility of donation centers, along with culturally sensitive approaches, will help mitigate barriers and foster a sustainable culture of voluntary blood donation in Bangladesh. Policymakers and healthcare organizations should collaborate to implement these strategies. By doing so, they can foster a supportive environment that encourages regular blood donation and ultimately contributes to improved public health outcomes. While this study offers valuable insights into university students' blood donation behaviors, several areas require further exploration. Future research should involve students from multiple universities across different regions of Bangladesh to validate and expand upon these findings. Such comparative studies can provide a more comprehensive understanding of the diverse factors influencing blood donation behavior, thereby helping to formulate more inclusive and effective blood donation strategies at the national level.

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