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A survey examining the awareness and biases regarding voluntary blood donations among the general population of Noida through a questionnaire

Neema Tiwari[1], Anshu Gupta Devra[2], Devyani Pendharkar[3]

INTRODUCTION

Blood donation is an extremely important part of hospital work. One unit of blood donated can save a life hence hospitals lay stress on holding blood donation camps and encourage voluntary blood donation. Blood donation societies worldwide are encouraging 100% non-remunerated, voluntary blood donation to low-risk populations to fight the lack of blood components and prevent transfusion-transmitted diseases. The authors devised a survey with the intention of investigating awareness.

MATERIALS AND METHODS

A prospective study utilizing a questionnaire format was conducted by distributing Google Forms through WhatsApp to the residents of Greater Noida and Noida over a span of 2 months. The aim of the student group was to circulate the questionnaire to as many individuals as possible, and the collected responses were recorded and subjected to analysis. A total of 200 questionnaires were received and analysed during the 2-month duration. Ethical approval for the study was obtained from the institutional ethical committee of School of Medical Science and Research, Sharda University.

RESULTS

In our research, participants' ages spanned from 18 to 60 years, with 56.5% being male and 43.5% being female. Analysis of the respondents' blood groups revealed that 44% belonged to blood group B. Upon assessing the knowledge of the population regarding blood donations, the authors observed that 47-50% of the study population lacked comprehensive knowledge about the dos and don'ts of blood donation. This deficiency in knowledge may contribute to the low rate of blood donations within the National Capital Region, Uttar Pradesh population.

CONCLUSION

Our study reflects a need for educational and motivational activities to encourage voluntary blood donation. Large-scale awareness camps and counselling sessions should be organized by the government to alleviate the fear that people have regarding the concept of blood donation.

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Conflict of Interest—none | Ethical Clearance - Approved

INTRODUCTION

Blood donation is an extremely important part of hospital work. One unit of blood donated can save a life hence hospitals lay stress on holding blood donation camps and encourage voluntary blood donation.According to the recent directives from the Drug Controller General of India office and blood transfusion committees in India, there is a shift in the approach to encourage patient attendants to opt for replacement donations rather than purchasing blood packs with money, as was previously allowed. In India, voluntary donors contribute only one-third of the total blood requirement, which is approximately 8 million units. Replacement donors constitute 45% of blood donations in India [1]. When analysing Indian data, it was observed that females exhibit a lower rate of voluntary blood donation compared to males [2].

Lack of blood and its components is a commonly encountered problem in healthcare setups in India. Lack of motivation for donation, presumed misconceptions and fear are some causes of reduced voluntary blood donations. The World Health Organization (WHO) states that at least 1% of any nation's population should donate blood voluntarily to meet the basic needs for blood and blood products [1]. Blood donation societies worldwide are encouraging 100% nonremunerated, voluntary blood donation to low-risk populations to fight the lack of blood components and prevent transfusion-transmitted diseases [2].

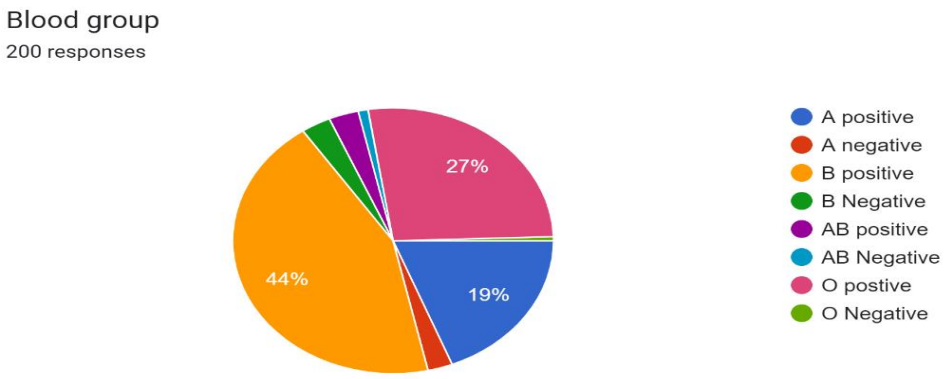
Materials and Methods

A prospective study, employing a questionnaire-based approach, involved the distribution of Google Forms through WhatsApp to residents of Greater Noida and Noida over a 2-month duration. The questionnaire was disseminated to as many individuals as possible by the student group, and the gathered responses were recorded and subjected to analysis. Over the course of 2 months, a total of 200 questionnaires were received and analysed. Ethical approval for the study was granted by the ethics committee.

Results

In our investigation, participants' ages spanned from 18 to 60 years, with male participants comprising 56.5% and females making up 43.5%. Figure 1 shows the distribution of blood groups among our respondents revealed that 44% of cases belonged to blood group B.

Figure 1:The distribution of blood groups amongst participants



In response to the questions outlined in the questionnaire, it was found that 96% of the population was aware of blood donation, with 91.5% having knowledge of different blood components. Regarding the ways of donating blood, 76% of participants were informed, while 12% responded with a maybe. Surprisingly, despite 96% of the population being aware of blood donation, a significant 57.5% indicated that they had never donated blood.In the specific NCR region under study, only 40.5% had donated blood previously. Of this group, 31.5% had donated blood fewer than 5 times in their lifetimes, while only 10% had donated blood, even though 94% believed that blood donation was a good practice. This discrepancy in the number of people donating may

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be attributed to a lack of awareness about the risks and benefits associated with blood donation.The authors subsequently evaluated the knowledge of the surveyed population concerning the dos and don'ts of blood donation. It was observed that 91% of the population was aware of the correct age for donation. However, their understanding of certain aspects, such as whether an alcoholic or smoker can donate, was incomplete, indicating a need for increased awareness in these specific areas.

Figure 2: 88% of participants in the study belonged to the age group 18-65 years

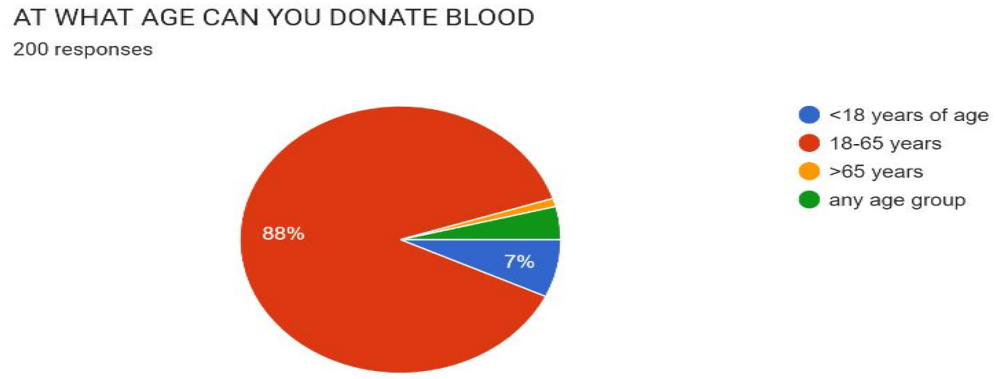

Figure 3: 51% of participants were aware that chronic alcoholics are deferred from donations

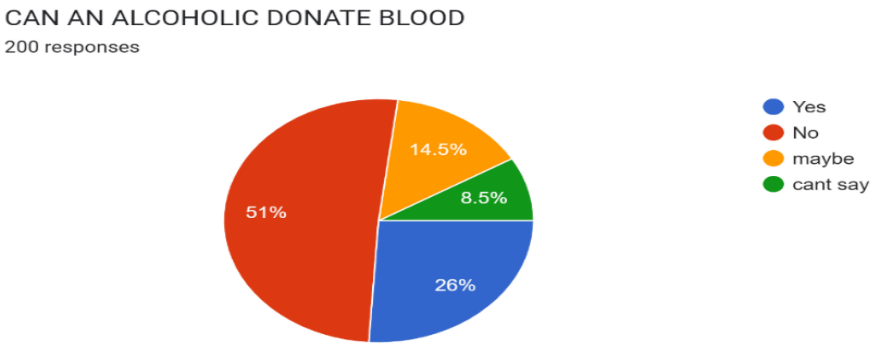

Figure 4: 38% participants were aware that fresh tattoo(within 3 months) is a contraindication for donation however an equal number voted that one can donate blood even with tattoo.

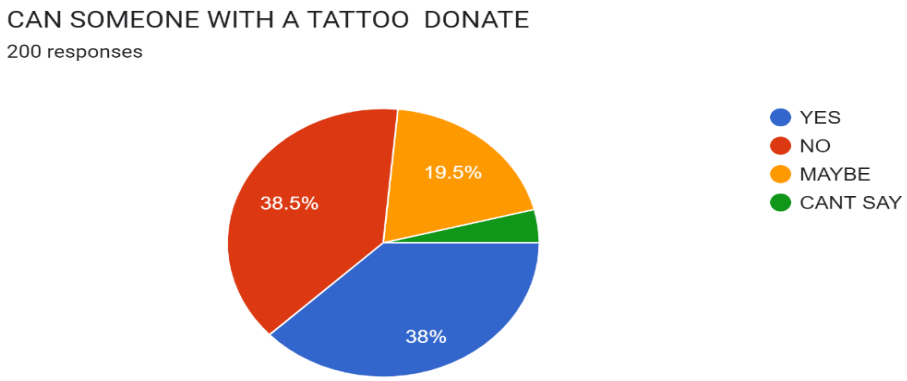

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Figure 5: 41% mentioned that smokers cannot donate blood

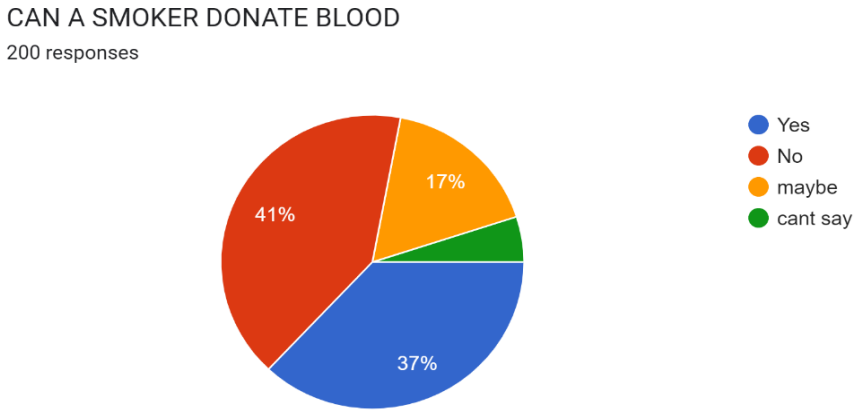

Figure 6:96% participants were aware that Hepatitis B and C infections are contraindications for donation

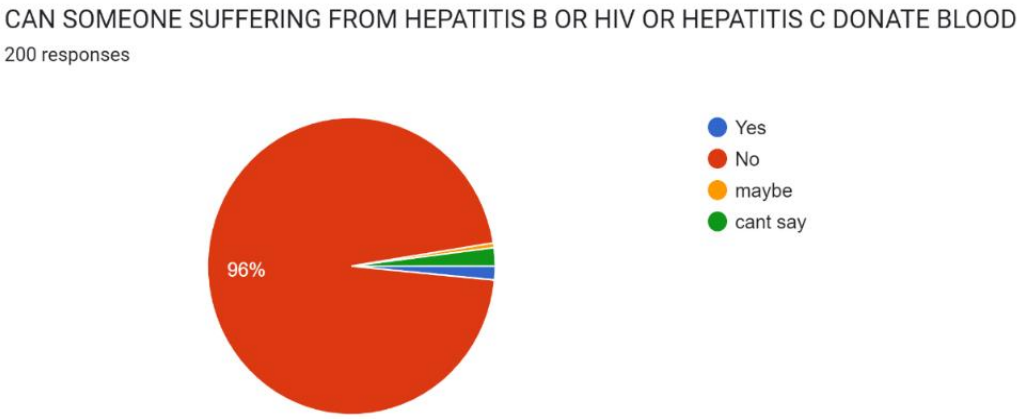

Figure 7:73% population believed that people on chronic drug therapy like thyroid or diabetes cannot donate

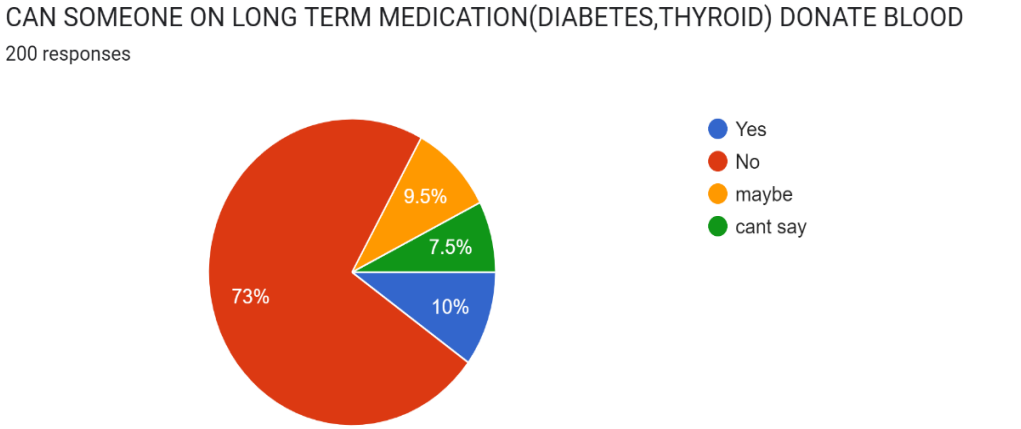

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Figure 8: Only 77% participants were aware that blood thinners are contraindication for donation

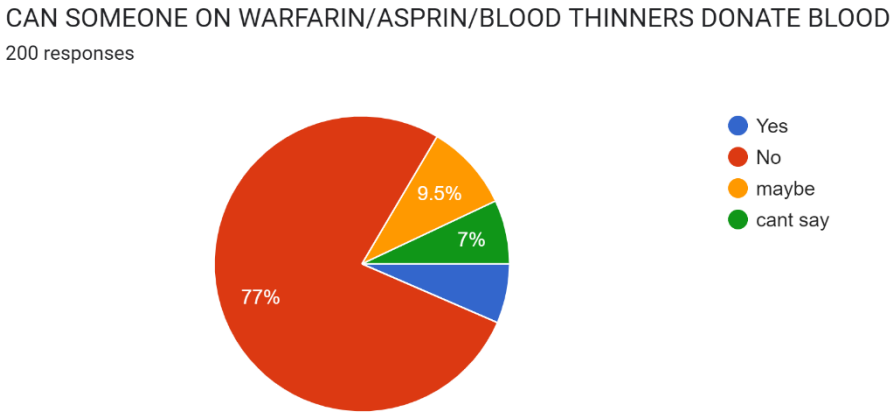

Figure 9: 80% participants thought that all type of cancer patients are unsuitable donors

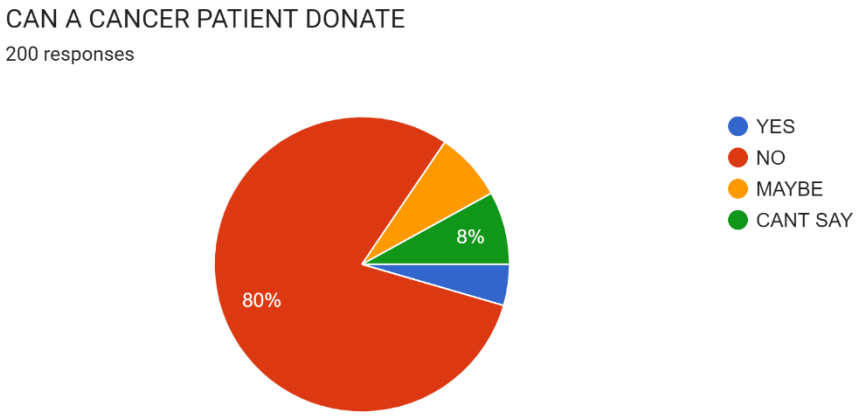

Figure 10:68.5% participants were aware that someone with a tattoo can donate blood after 3 months

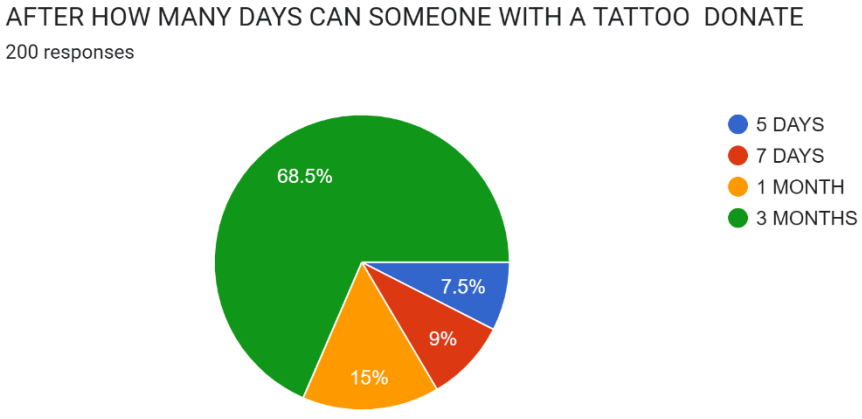

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Figure 11: 75.5% participants were aware that pregnant women cannot donate but 7.5% thought they can

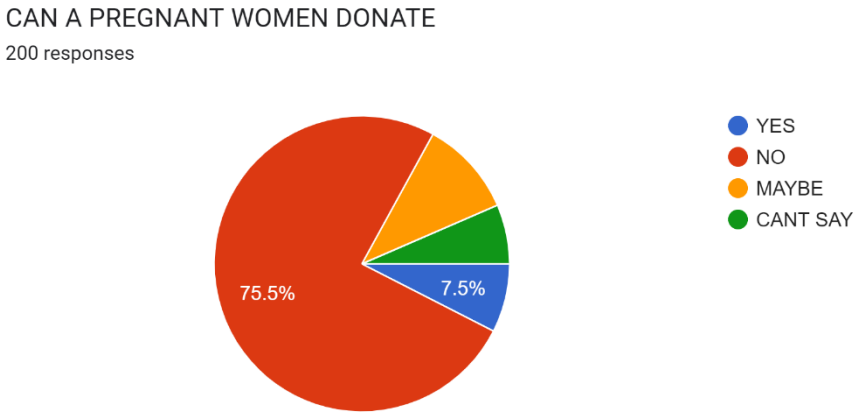

Figure 12: 18.5% participants believed that they can donate blood as many times as they want in a year.

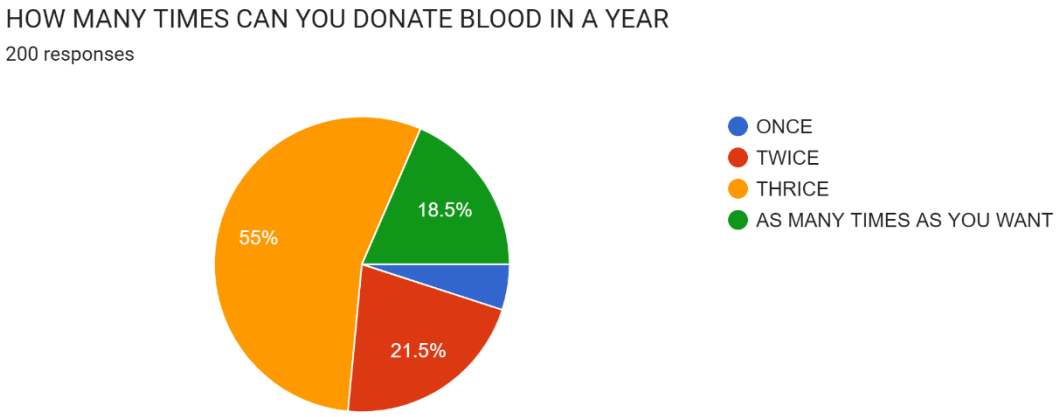

Figure 13: 65.5% participants believed that heart patients cannot donate blood

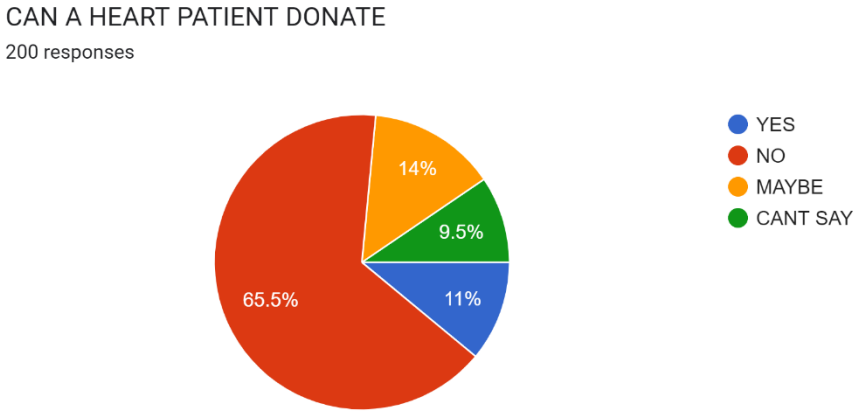

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Figure 14: 66.5% participants believed that diabetics cannot donate blood

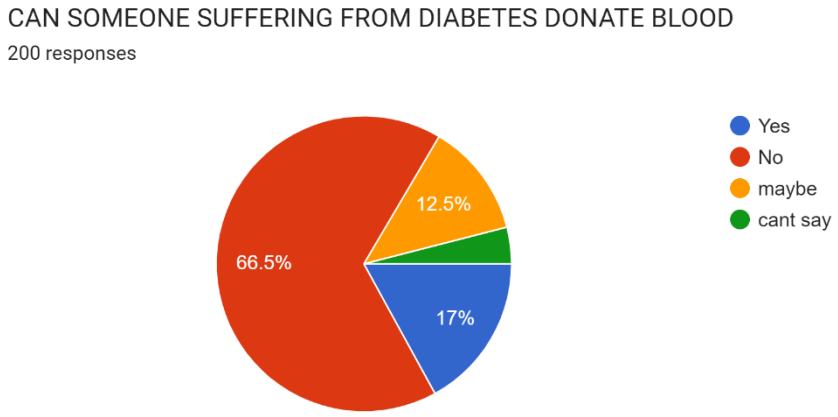
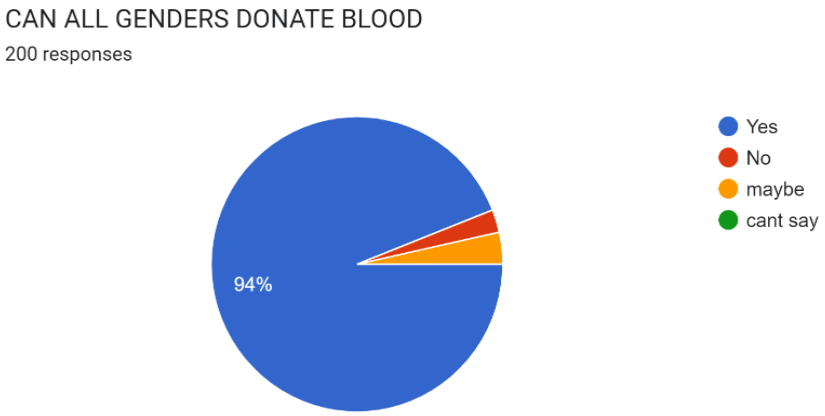


Figure 15: 94% participants were aware that all genders can donate blood



Hence many misconceptions exist in Indian population regarding blood donation practices as is evident by above figures.In India, numerous hospitals struggle with an insufficient supply of blood units, stemming from an imbalance between the demand and supply. The demand for blood components in hospitals far exceeds the number of individuals willing to either voluntarily donate blood or serve as replacement donors for their patients. Despite the government's implementation of multiple awareness and motivational programs aimed at promoting blood donation, only a limited number of people actively participate in donation camps—a challenge also encountered by the Blood Centre at Sharda Hospital.[3] Several studies conducted to assess the knowledge and blood donation practices in various populations have identified medical college students as the most reliable source for voluntary blood donations.

Research focused on awareness of blood donation in medical students has underscored a lack of awareness and suboptimal voluntary blood donation practices among this group. Other studies indicate that when proper awareness is generated among students, voluntary donation rates exhibit an increase [4].

It's crucial to acknowledge that students, if not adequately motivated, might donate blood under duress, influenced by peer pressure or fear of seniors and faculty. While this may address the shortage of blood components temporarily, unmotivated donors may not contribute to the societal benefit over an extended period. Consequently, the authors advocate for the adoption of a more comprehensive counselling approach to encourage genuine voluntary donations [5].

In our study, we devised straightforward questions concerning knowledge and the significance of blood donations. The responses to our questionnaire revealed that 96% of the population was aware of blood donation, and 91.5% understood the different blood components. Additionally, 76% of participants were familiar with the various methods of donating blood, while 12% responded with a 'maybe'. Surprisingly, despite the high awareness (96%), a significant 57.5% stated that they had never donated blood.In the specific population of Noida and Greater Noida that we investigated, only 40.5% had donated blood previously. Among these, 31.5% had donated blood fewer than 5 times in their lifetimes, and a mere 10% had donated blood, even though 94% believed that blood donation was a commendable practice. This discrepancy in actual donation rates may stem from a lack of awareness regarding the risks and benefits associated with blood donation [6,7,8].

A study done on medical students to assess their Knowledge, Attitude and Practice (KAP) regarding blood donation found that 33.1% of the students had adequate knowledge on blood donation and 89.8% of these medical students expressed favourable intent in donating blood [5]. Another study assessing knowledge on blood donation amongst undergraduate medical students showed that they had incomplete knowledge about blood donation, however, 85% of the participants were willing to donate blood in the future. [9,10]

In a study conducted to assess the willingness to donate versus donating showed that although, 62.6% of the participants had a positive attitude towards blood donating, only 13.2% of the participants donated blood. Hence as mentioned before routine blood donation camps, awareness camps and use of social media to propagate the benefits of donation are useful practices to promote voluntary blood donations. [11,12]

Active field visits apart from camps help motivate the general population to voluntarily donate blood [9]. A study lists common reasons cited by potential donors for not contributing, such as fear of needles, intolerance to the sight or smell of blood, concerns about adverse effects of donation, disapproval from family, and lack of prior knowledge about the donation process [10]. Comparable apprehensions have been voiced by participants in several other investigations [2,5,6]. In a study done on 250 students regarding awareness of blood donation practices 74.4% showed a good understanding of blood donation practices. Similar findings were observed in a study conducted in Jammu, where 81.5% of the analysed students exhibited comparable results [10].

Studies conducted on both students and the general population reveal that both groups possess substantial knowledge of blood donation practices and transfusion-transmitted diseases. However, there exists a gap in the comprehensive dissemination of this knowledge. In our study involving the general population, it was observed that 65%-75% of participants answered negatively to all disease-related donor questions, such as whether a diabetic or a person with a tattoo can donate. Consequently, it can be inferred that they possess partial knowledge about who can or cannot donate but lack complete awareness on the topic of blood donations [11].

Various studies have examined the primary sources contributing to awareness about blood donations, revealing that educational institutions, including schools and colleges, constitute the predominant information-disseminating source at 74%, followed by television at 36%. Several studies have consistently highlighted a lack of awareness within the population as a significant obstacle to voluntary blood donation practices [12].

CONCLUSION

Our study reflects a need for educational and motivational activities to encourage voluntary blood donation. Large-scale awareness camps and counselling sessions should be organized by the government to address the apprehension that individuals harbour regarding the notion of blood donation.

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