Research Paper

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Blood donation among Adolescents – Motivation, Obstacles and Encouragement Strategies

Statistics

KEYWORDS : Blood donation, Motivation, Obstacles and Encouragement Strategies

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ABSTRACT

Blood the fluid of life is RED regardless of the race or belief or colour. The ready availability of Blood of all kinds during emergency can save lives. Adolescents are a potential source of great interest, not only for the blood they could supply, but also because information on the subject "giving blood" could promote the spread of healthy lifestyles, acquisition of greater awareness about one's own health, and contribute to the development of a mature, responsible civic attitude. This paper aims at not only finding motivational factors among blood donors and common obstacles they experience while blood donation despite their great intention to donate blood but also in suggesting the encouragement strategies to promote new donors among adolescents. A survey on 300 adolescents evident that their representations highlighted altruistic aspects at the expense of egoistic ones and self-affirmation, but seemed to be drawn more from the imagination than from a real knowledge of donors. Interestingly, the students reported being afraid of needles or being unwell or fainting after the blood donation process whereas only 16% of the students did not perceive any practical obstacle to donate blood. The data concerning factors facilitating donation confirm the idea that the students need to have simple, concrete information, perhaps obtained by going to see how a Transfusion Centre works, before deciding; a fairly clear encouragement seemed to be the possibility of giving blood with someone who has already done so (42%). Students while talking on the characteristics of a good promotional campaign, the suggestions were in favour of two key elements: a thought-provoking message that is simple and clear; all the other visual elements play a secondary role.

Introduction

Blood the fluid of life is RED regardless of the race or belief or colour. The ready availability of Blood of all kinds during emergency can save lives. Our experience shows that there is enough number of volunteers who are willing to donate blood during camps or on call.

But for years research has been conducted on the factors that can influence choices of notable value such as giving blood, with the aim of converting the data collected into ever more effective methods for recruiting new donors, improving communication, and adapting the processes of collection/management/use of blood to meet the needs of the donors and, thereby, encourage repeat donations.

Adolescents are a potential source of great interest, not only for the blood they could supply, but also because information on the subject "giving blood" could promote the spread of healthy lifestyles, acquisition of greater awareness about one's own health, and contribute to the development of a mature, responsible civic attitude. For this reason, the research was combined with efforts to increase awareness about blood donation, consisting of *ad hoc* education, managed and organized by experts.

As briefly outlined in the introduction, published reports of research on the reasons for donating blood among adolescents are scarce.

Objectives

1. To observe motivational factors of blood donation among adolescents
2. To identify significant obstacles in donating the blood among adolescents
3. To know the difference between male and female with regard to motivational factors
4. To know the difference between male and female with regard to obstacles faced in blood donation.
5. To suggest appropriate measures to encourage the new donors among youngsters.

Review of Literature

The large body of scientific literature on blood donation is rich and diversified with regards to theoretical and methodological aspects. There are many demographic studies aimed, for example, at delineating the typical profile of donors [14,23] or associating them with specific motivations[4,10]. Quantitative research has explored the world of donation through essentially three broad areas: the first concerns use and efficacy of motivational incentives[5,10,11,14,16,18-22]; the second is focused on the reasons for and deterrents to giving blood[3,10,20,22], which can be divided into intrinsic (or personal values and responsibility) and extrinsic (related to social pressure); the third and last area concentrates on the specific experience of the "first donation" and on the aspects that influence the transformation of a first-time donor into a "repeat" blood donor, with the predominant purpose of understanding how to recruit donors and encourage the start of their "career" [11,12,21]. This theme has been examined particularly thoroughly through the application of models based on the *Theory of Planned Behavior*[8], derived from the trans theoretical model of stages of change, which has been demonstrated to be capable of explaining the pro-social aspects of the decision to give blood.

A small number of studies have been performed using qualitative methods, inspired by *Grounded Theory*, in which focus groups, interviews and conversation analysis are used; these have led to a broadening of the view of the act of "donation" considering professional roles, elements and aspects involved in the process and indeed opening up new avenues of investigation[1,9,17].

The almost total absence of adolescents in the studies mentioned above would seem to be justified by the fact that the donor, or candidate donor, is considered such only when he or she has reached 'adult' age and, in fact, the few studies that have investigated young targets started from the age of 18 years [2,5-8,13-15,18,24].

Materials and Methods

This section deals with the methodology adopted for the study. It includes the research approach, design for the study, the setting, sample and sampling technique, data collection procedure and data analysis.

Research approach

Survey method has been adopted to study the motivational factor, obstacles faced and appropriate measures to recruit new donors of adolescents at College level and also to find the impact of gender on Motivational factors, obstacles and suggestive measures to encourage new donors among adolescents.

Population

The population for the present study consists of both male and female adolescent aged between 18 to 24 years from Government and Private colleges of Tirupati, Chittoor district of Andhra Pradesh.

Sample and Sampling Technique

Two stage random sampling techniques have been adopted to

collect required data for the present study. The survey was conducted at Government and Private Colleges located atTirupati, Chittoor district. In the first stage, three government and three private colleges are selected at random and from each college 50 students in which 25 male and 25 females are selected who donated blood at least one time, as such the total sample will be 300.

Tool of data collection

The questionnaire comprised a total of 14 items which investigated three specific areas: (i) motivations and obstacles to blood donation among adolescents and strategies for recruiting these individuals, (ii) questions concerning knowledge about blood donation (for example: *"How much have you heard about giving blood?"* and *"Do you know anybody who gives blood?"*), and (iii) a series of structural items (age, gender, place of residence, type of school attended, etc.).

For some questions it was possible to give only one answer on a 5-point scale (1=*Not at all,* 2=*Not much,* 3=*Fairly,* 4=*Quite a lot,* 5=*A lot* and 1=*Disagree strongly*, 2=*Disagree somewhat*, 3=*Neither agree nor disagree,* 4=*Agree somewhat*, 5=*Agree strongly*) while for others it was possible to select more than one response (multiple choice questions).

Statistical Analysis

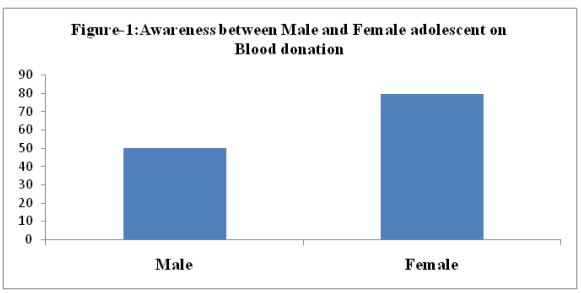
Descriptive statistics (frequencies, means and standard deviations) were used to analyse the responses given by the participants. In order to compare the replies given by males and females, a chi-square test (χ^2) was used for categorical responses and the *t*-test (t) for independent samples for continuous variables. The analyses were conducted using SPSS software, version 20.0.

Results and Discussion

After analyzing the first two questions at the start of the research, the data collected are presented separately for males and females for the three areas of research (motivation, obstacles and recruitment strategies).

1. Comparison of the average responses given by males and females about how much they knew about "Giving blood".

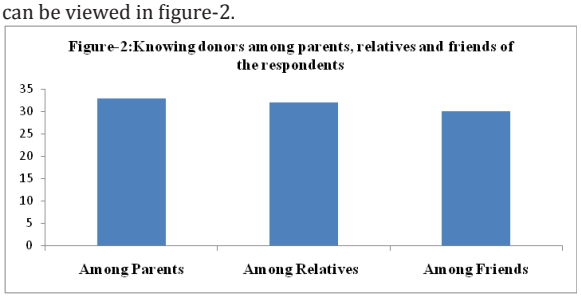
One of the preliminary aspects that was investigated was how much the participants had heard about giving blood. The mean of the response to this question on the 5-point scale was 3.22 (SD=0.613, range 1–5). There was, however, a statistically significant difference between the sexes, in those females had heard more about the subject than males of the same age which can be showed in figure-1



2. Comparison of the average responses given by males and females about knowing donors among parents, relatives and friends

A second aspect that we felt it was worth investigating was whether the participants knew someone who gives blood. Again, there were statistically significant differences between the two sexes: compared to the males, females seemed to have more friends who were donors (χ^2=4.804, p<0.046), and, likewise, more acquaintances who were donors (χ^2=12.059, p<0.001). Males, on the other hand, statistically significantly more frequently replied that they did not know anyone who was a blood donor (χ^2=11.711,p<0.002), although this was the response chosen most frequently by both groups (males=38.10%, females=33.40%).

No statistically significant differences emerged with regards to knowing donors among parents, relatives and Friends which can be viewed in figure-2.



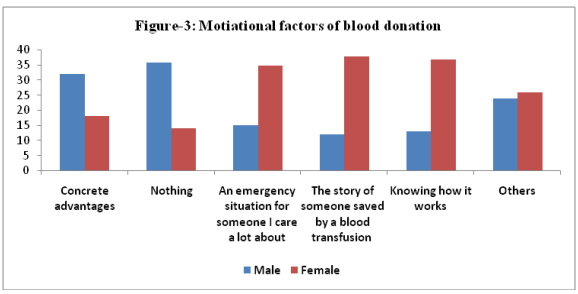
Motivations

This section grouped together the questions concerning reasons which, according to the adolescents, would convince them to give blood.

With regards to the question *"What could make you decide to give blood?"*, the answers given most frequently by both the males and females were *An emergency situation for someone I care a lot about*(males=54.60%, females=63.50%) and *The story of someone saved by a blood transfusion*.

3. Comparison of the responses given by males and females concerning the reasons for becoming a blood donor.

There was not a statistically significant difference between the genders with regards to the answer *Being able to do it with friends*, whereas males more frequently gave the responses *Knowing that I will obtain concrete advantages* [educational credits, blood tests, free meal] and *Nothing* (χ^2=78.173,p<0.000 and χ^2=178.856, p<0.001, respectively). In contrast, females statistically significantly more frequently responded *An emergency situation for someone I care a lot about* (χ^2=22.807, p<0.001), *The story of someone saved by a blood transfusion* (χ^2=92.879, p<0.000) and *Knowing how it works*(χ^2=9.127, p<0.004) which can be viewed in figure-3.



4. Comparison of the frequency of responses given by males and females with regards to how the respondents thought a blood donor would feel emotionally about giving blood.

With regards to the question *"How do you imagine a blood donor feels emotionally?"*, which was aimed at encouraging the adolescents to identify with the potential act of giving blood, only the answer *Feels appreciated by society, relatives and friends* was not statistically significantly different between the genders. The females statistically significantly more frequently than males chose the responses *Feels useful because it is life-saving* (χ^2=10.043, p=0.010), *Feels good and satisfied because it is a good deed*(χ^2=22.305, p<0.000), although these were also the responses preferred by the males. The males significantly more frequently chose the responses *Feels special, different from other people* (χ^2=10.746,p<0.002), and *I don't know* (χ^2=18.73, p<0.005) which is exhibited in figure-4.

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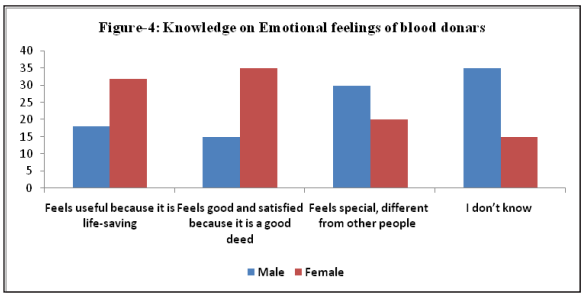
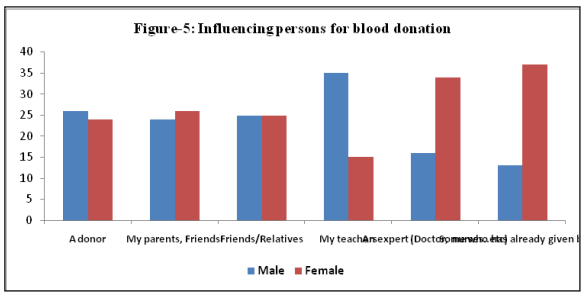


5. Comparison of the frequencies of responses of males and females with regard to reference figures who could influence their choice to give blood

In response to the question *"Who could influence your choice to give blood?"* the person nominated most frequently by both genders was *A donor* (males=32.70%, females=44.30%). There were no statistically significant differences between the genders with regards to the responses *My parents* and *Friends/ classmates,* whereas the males statistically significantly more frequently gave the response *My teachers* (χ^2=18.308, p<0.000).

In contrast, the females statistically significantly more frequently responded *An expert* (doctor, nurse, etc.) (χ^2=12.726, p<0.003) and *Someone who has already given blood* (χ^2=51.945, p<0.000) which can be viewed in figure-5.

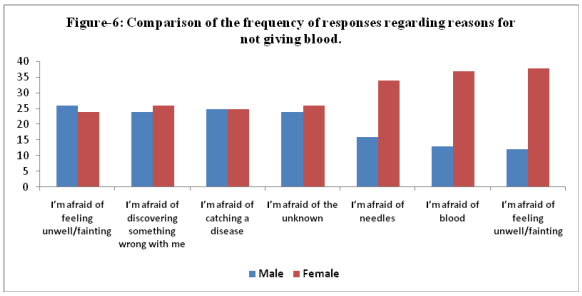


Obstacles

The second area that we were interested in analyzing was the potential hurdles to giving blood, as perceived by the adolescents.

6. Comparison of the frequency of responses regarding reasons for not giving blood.

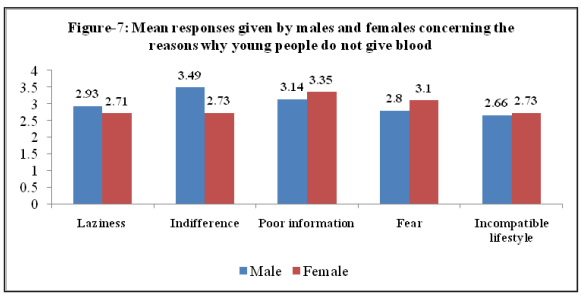
Half of the respondents stated that they afraid of not feeling well, while more than 30% responded that they were afraid of needles. For both sexes, the most frequent responses to the question *"Why would you personally not give blood?"*were: *I'm afraid of feeling unwell/fainting* (males=46.00%, females=54.40%) and *I'm afraid of needles*(males=32.90%, females=31.10%). There were statistically significant differences with respect to the replies *I'm afraid of discovering something wrong with me*, *I'm afraid of catching a disease, I'm afraid of the unknown.* As far as concerns the responses *I'm afraid of needles, I'm afraid of blood,* and *I'm afraid of feeling unwell/fainting* the females gave positive responses statistically significantly more frequently than the males (χ^2=72.539, p<0.001; χ^2=42.459, p<0.000; and χ^2=60.030, p<0.000, respectively) which is shown in figure-6.



7. Comparison of the mean responses given by males and females concerning the reasons why young people do not give blood.

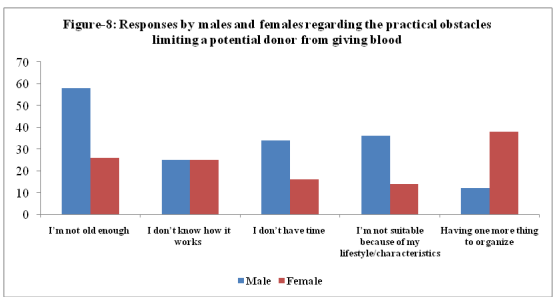
With regards to the question *"These are reasons why young people do not give blood. How much do you think they affect people's decision not to give blood?"* (Range, 1–5), there were statistically significant differences between the sexes for all the reasons. *Laziness* was the main reason stated by males for not giving blood and the difference between the frequency of this reason in males and females was statistically significant (t=−3.24, p<0.001; males=3.93, females=3.71), as was that for *Indifference* (t=6.173, p<0.000; males=3.29, females=2.05).

In contrast, *Poor information* was stated to be a reason for not giving blood more frequently by females than by males (t=−5.164 p<0.000; males=3.24, females=3.85); the same was true for *Fear* (t=−8.011,p<0.000; males=2.80, females=3.30) and *Incompatible lifestyle* (t=−3.075 p<0.002; males=2.16, females=2.83) which is presented in figure-7.



8. Comparison of the frequency of responses by males and females regarding the practical obstacles limiting a potential donor from giving blood.

The most frequent responses by both males and females to the question *"Imagine that you want to give blood: what practical problems would you have?"* were *I'm not old enough* (males=44%, females=56.40%) and *I don't know how it works* (males=32.90%, females=34.10%). With regards to gender, there were statistically significant differences in replies only for *I don't have time* and *I'm not suitable because of my lifestyle/characteristics*: in fact, females declared that a hurdle to giving blood would be precisely *Having one more thing to organize* (χ^2=48.355 p<0.000) while males more frequently responded *I'm not suitable because of my lifestyle/characteristics* (χ^2=15.844 p<0.000) which can be viewed in figure-8.



Encouragement strategies

The last aspect that has been planned to investigate concerned possible ways of encouraging adolescents to donate.

9. Comparison of the frequency of responses by males and females regarding effective advertising to encourage blood donation.

For both sexes, the most frequent responses to the question *"What features should an advertising campaign for blood donors have?"* were a *Message that makes you think* (males=44.30%, females=59.30%) and a *Simple, clear message* (males=34.30%, females=52.50%); there were no statistically significant differences between the frequency of responses by males and females for the items *Photos of blood donors, A congenial slogan, A famous person who is a donor, Pleasant pictures (landscapes, parties, etc.)* and *Cartoon characters*. In contrast, males more frequently responded *Famous footballer or singer* (χ^2=63.008, p<0.000)

than did females; the same pattern was found for *Photograph of a very attractive person* (χ^2=73.531 p<0.000). Females on the other hand preferred the responses *A message which makes you think* (χ^2=61.970 p<0.000), *Strong colours* (χ^2=11.386,p<0.000), and a *Simple, clear message* (χ^2=60.291, p<0.000). These differences were statistically significant.

10. Comparison of the mean responses given by males and females with regards to methods of informing people about giving blood.

In response to the question *"How effective are the following methods for informing people about giving blood?"* (range, 1–5), there were statistically significant differences in the frequencies of replies between the genders. Generally speaking, all the means of communication suggested were considered more effective by females than by males (*Meetings / lessons with an expert at school* t= 3.344, p<0.001; males=3.42, females=3.73, *Information stands in the street* t= 3.85, p<0.003; males=2.41, females=2.27, *Television/radio programmes* t=−3.55, p<0.001; males=2.71, females=2.84, *Posters / leaflets / newspapers* t= 4.904, p<0.000; males=2.87, females=2.99, *Internet* t=−2.845, p<0.005; males=2.96, females=2.82, *Talking with someone who has already given blood* t= 8.29,p<0.000; males=4.33, females=3.83).

11. Comparison of the mean responses by males and females with regards to personal advantages from giving blood.

The participants were asked to assess five items as part of the question *"Giving blood has advantages. Which of these interest you?"*. As for other questions, there were statistically significant differences between the genders. While females gave a statistically significant higher mean score for *Being a volunteer without sacrificing much time* (t=7.260, p<0.000; males=2.76, females=3.14), for all the other issues, the means of the males were significantly higher (*Free refreshment after the donation* t=14.920, p<0.000, *Free blood tests at every donation* t=3.324, p<0.001, *Educational credits* t=5.952,p<0.000; males=3.36 females=2.99, *Justified absence from school* t=13.030, p<0.000; males=3.14, females=2.74).

12. Comparison of the frequencies of responses by males and females with regards to the type of information about giving blood that young people would like to have.

With regards to the question *"What type of information would you find most important concerning giving blood?"*, both sexes most frequently responded *Practical* (males 40.40% fem ales=46.50%),*Physical* (males=30.90%, females=39.40%) and *Technical* (males=29.10%, females=42.70%). All the frequencies of responses were statistically significantly different between the two genders. Only to the choices *Concrete advantages: gifts* (χ^2=84.441, p<0.000), and *None: I'm not interested in the subject* (χ^2=11.151, p<0.001) did the males give positive responses significantly more frequently, while for the remaining responses it was the females who were statistically significantly more in favour (*Practical: where, how and how often* χ^2=12.148, p<0.001, *Experiences: emotions, descriptions by other donors* χ^2=14.727, p<0.000, *Physical: what you feel, how you are* χ^2=33.774, p<0.000, *Technical: how much blood is taken, the tests, storage* χ^2=38.363, p<0.000).

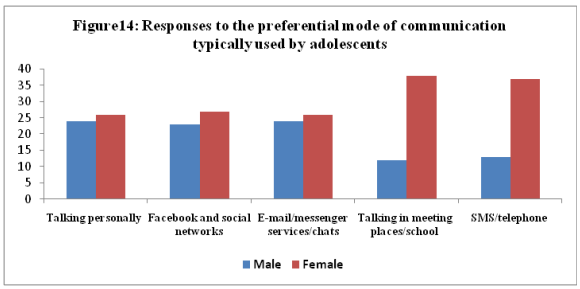
13. Comparison of the frequencies of responses by males and females concerning the factors that would most facilitate blood donation.

About 50% of the respondents agreed on the importance of information for facilitating the donation. In both sexes the most frequent responses to the question *"What could help you most to decide to give blood?"* were *Having information* (males=49.40%, females=54.90%) and *Being accompanied*(males=33.79%, females=45.10%); no statistically significant differences emerged between the sexes with regards to the items *Going to see the place and then deciding* and *Nothing, because there are other reasons why I do not give blood*.

However, females statistically significantly more frequently responded Having all the information clearly presented (χ^2=32.827, p<0.000), Having a convenient donor site (χ^2=4.574, p<0.33), Being able to make an appointment to give blood (χ^2=4.73, p<0.35) and Being accompanied and donating with another person (χ^2=47.907, p<0.000).

14. Comparison of the frequencies of responses by males and females with regards to the preferential mode of communication typically used by adolescents.

The last question was "How do you prefer to communicate with your friends?" Both males and females declared that they preferred *Talking personally* (51.70% and 64%, respectively). As far as concerns frequencies of responses between genders, there were no statistically significant differences in the preferences for Facebook and social networks, E-mail/messenger services/chats, while Talking in meeting places/school (χ^2=63.491, p<0.000) and SMS/telephone (χ^2=57.805, p<0.000) were preferred by females more than by males which is graphically presented in figure-14.



Conclusion

This study, while highlighting some crucial aspects of the target population investigated, has raised new research issues that will be considered in more detail in the future. Nevertheless, beyond its mere research interest, this study has provided readily applicable working indications, some of which open up new possibilities for use while others have already been introduced.

With regards to the practice of encouraging new donors among youngsters our results suggest that the involvement should be direct, exploiting an individual's peer group or expert reference figures in the college setting. Again in line with the data collected, more emphasis is given to technical information and clear descriptions of the routine procedures and experiences, also using the technique of role-playing, leaving plenty of opportunity for questions and expression of doubts through more interactive methods than the canonical frontal lessons. Particular attention is dedicated to examining fears and negative feelings about donation and considering the possible solutions, sometimes proposing behavioral strategies; the contents are always presented in factual, non-moralistic terms in order to emphasize the freedom and responsibility of personal choices.

Personal, direct involvement is the fundamental basis on which to develop new recruitment strategies for this target population. The hypotheses include: information through the testimony of a donor of the same age who recounts his or her own experience; encouraging the youngster at the time he or she becomes 18 years old, by sending an SMS, letter or e-mail; and activating a network project involving young "group-leaders" who promote the donation of blood among their peers.

The large body of data clearly shows that the target investigated has its own characteristics differentiating it from the adult population. The implications is that if Transfusion Centers and Associations that deal with recruitment want to target young people, they should first rethink and adapt their organization and logistics to the particularities of the target population. It should become a habit for both the staff and the donation center to interact with colleges, receiving groups of students or classes, providing support and information for individuals and the group throughout the process, and making the youngsters an active part of the process.

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