

Study of factors affecting ‘Willingness to Donate Blood’ among donors in India

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Abstract— Shortage of blood is a global problem and bridging the gap between demand and supply of blood is a challenge. India needs 12 million blood units per year with a population of 1.23 billion. However, India is able to find only 6.8 million blood units through blood banks (NACO, 2016). So there might be prevalent deterrents to negatively impacts ‘Willingness to Donate Blood’ (WtDB) among the eligible population. This study aims to find those dominant factors. Survey was taken across 190 respondents to find the dominant motivators and deterrents and they were studied based on their frequency on donation. From the 41 factors used for study different factors of motivators and deterrents were predominant in groups of different frequency of donation. Paper concludes how the dominant deterrents can be addressed and what needs to be done increase WtDB. Paper also gives scope for future research that need to be done.

Keywords— *Blood Donation; Blood Donation Motivators; Blood Donation Deterrents; Blood Donation in India; Blood Banking; Blood Donation Attitudes; Blood Donors*

INTRODUCTION

Blood is a vital component of human body. An adult on an average contains 4.5 to 5.5 litres' of blood in human body which is nearly 7% of total weight. Sufficient amount of blood is needed in human body for its proper functioning. There is a fluctuating demand of blood for transfusion purposes. If demand for blood is not met at needed time, it could lead to medical complexities and even life losses. There is no substitute for human blood. Demand for blood must be met to save lives, but there is also wastage of blood because of perishable nature of blood. Blood transfusion are needed for treatment of severe accidents, pregnancy related

complications, major surgeries and various types of cancer. (Al-Drees, 2008)

Countries across the world are now facing the problem of blood scarcity. To meet the increasing demand for blood, all countries have prioritized the efforts to increase supply of blood. India needs 12 million units of blood each year (NACO, 2016). With a population of more than 1.25 billion people India is not able to find its required demand for blood.

Study was done to find the factors prevailing among donor and non-donor population towards blood donation. Section 1 is a detailed literature review and factors which can act as motivators and deterrents for blood donation were found out. This section also discusses about blood donation needs of India. Section 2 discusses about the gap found from literature review, need for the study and where the paper fits in. Section 3 discusses about the methodology used for the study. Section 4 provide details of an expert interview done for the study. Section 5 discusses about the findings from the study, section 6 deals with conclusion and discusses about what need to be done to address the factors that could increase WtDB. Section 7 discusses about limitations of the study and future scope of study.

I. LITERATURE REVIEW

Donating blood is an action which can be considered as a prosocial activity (Andreoni, 1989). Different perspectives to classify the existing manuscripts on inventory and supply chain management of blood products were done through a detailed literature review paper (Jeroen Beliën, 2012). An efficient blood banking system will help to ensure safe, cheap and timed availability of blood (Hess, 2009). To increase the frequency of donation incentives can be used as an effective strategy. Incentives can encourage individuals with prosocial or altruistic behaviour to donate blood (Deci, 1975). Different individuals have different motivators to participate in social causes, some incentives like money may backfire for few.

Non-cash incentives might increase the possibility to increase participation in social causes (D Ariely, 2008). Incentives like recognitions or awards which can help to increase the social-status, social recognition or self-esteem of individuals can work as a motivator to donate blood (Bruno S Frey, 2008). Giving non-monetary incentives than monetary incentives will help to increase the prosocial behaviour (Willard & Tirole, 2006). Incentives given as rewards for prosocial activity should be in intrinsic of nature else the reward might destroy the motivator for that activity. (Nicola Lacetera, 2010). People are reluctant to involve in social cause if incentives are monetary but non-monetary incentives can help to increase involvement in social cause (Heyman, 2004). Symbolic rewards, non-monetary incentives or a chance to get a paid leave of absence from work can have a positive impact on blood donation (Nicola Lacetera, Motivating Altruism: A Field Study, 2008). First time donors are largely influenced by friend and media appeal. Altruism, Social responsibility and influence from friends are general motivators for blood donation. Laziness and fear of needles are factors which deter people from donating blood. To retain blood donors, they should be informed well and the sense of being a blood donor should also be strengthened (B. Nilsson Sojka, 2007). Donor retention can have a direct negative effect due to fear of blood being drawn but the efforts needs to be taken to reduce this fear and it will help to increase the donor loyalty (Christopher R. France, 2013). Communicating the information and providing support from the blood donation organization is needed to make youth more involved in blood donation activities (Elena Zito, 2012). A study conducted in Lithuania among paid and non-paid donors after Lithuania committed to move towards voluntary donation bring out an interesting inference. Most of the paid donors wanted a monetary incentive for donating blood whereas non-paid donors wanted only appreciation of their act (Ilona Buciuniene, 2006). Difficulty to access blood donation centre, lack of time and thought of donation not crossing mind negatively affects WtDB. Whereas access to donation site through mobile caravans, a day off from work and gifts acts as motivating factors. (Alfouzan, 2014). Many studies based of few set of variables affecting blood donations were done. A meta-analysis on the past studies were done and unified taxonomy of blood donation motivators and deterrents was found. Study found out that convenience of collection site, prosocial motivation, personal values, reputation of collection agency, perceived need for donation, indirect reciprocity, intrinsic motivation, marketing communications, incentives and social norms acts as blood donation motivators. Study found low self-efficacy, low involvement, inconvenience, lack of marketing, communications, ineffective incentives, lack of knowledge, negative service experience, fear, negative attitude and personal values as demotivating factors (Timothy Colin Bednall, 2011). This paper has further classified the motivators into 35 different factors and deterrents into 31 different factors.

India's need for blood is around 12 million. Blood donation by 1% of population can meet India's need for blood. "Statistics show that there are 234 million major operations in India, 63 million trauma-induced surgeries, 31 million cancer-related procedures and 10 million pregnancy related complications which require blood transfusions" (TOI, 2014). Percentage of voluntary blood donors in India is 80.5%. India has a supply of 6.82million. (NACO, 2016). Blood mobile can be useful to find a stable supply of blood products and blood. Availability of such blood mobiles can help in better and quick response. It can be used to reach donors who have issues in accessing convenient blood donation site and have time constraints. Efficiency of bloodmobiles can be increased by using shuttle vehicles. (Feyza Gülliz S, ahinyazana, 2015) Third phase of NACO (National AIDS Control Programme) funds mobile blood collection centre in India. (Suchet Sachdev, 2016). Due to voluntary blood donation programmes, number of voluntary blood donors has been increasing in India but there is a need to look into other options like apheresis donors and rare blood group donors. (Marwaha, 2014).

II. RESEARCH GAP

From the literature review it is evident that India is running short of its need for blood. With a population of 1.25 billion India isn't able to bridge the gap between the demand and supply. So it is essential to find the motivating factors among the current donors and the deterrents towards blood donation among non-donors. There is also a need to retain and increase the frequency of existing donors. Addressing the concerns related to blood donation might help to bridge the gap between supply and demand. No study was done among Indian population covering all factors found by Timothy Colin Bednall, 2011. This study tries to find those dominant factors which negatively impacts or positively impacts the WtDB among blood donors.

III. RESEARCH METHODOLOGY

Data essential for study were primary. Primary data was collected through an online questionnaire. Data was collected among active blood donors, in-frequent blood donors and non-donors. Data have been collected from a total of 190 respondents. Questionnaire contained 41 factors that affects WtDB and respondents were asked to mark to how many degrees that factor affects their WtDB. Stratified data sampling approach was used to collect data. Strata was divided on the basis of frequency of donation. i.e.

- People who donate blood 3 or 4 times a year:
- People who donate blood 1 or 2 times a year
- People who donate blood once in few years
- Non Donors: people who have never donated

The survey was done to identify:

- The blood donation patterns of respondents

- To find the factors that negatively impacts WtDB (deter people from participating in blood donation programs)
- To find the factors that positively impacts WtDB (motivate people in participating in blood donation programs)

MOTIVATORS

- Convenience of collection site
- Prosocial motivation
- Personal values
- Reputation of collection agency
- Perceived need for donation
- Indirect reciprocity
- Intrinsic motivation
- Marketing communications
- Incentives

DETERRENTS

- Low self-efficacy
- Low involvement
- Inconvenience
- Lack of marketing
- Communications
- Ineffective incentives
- Lack of knowledge
- Negative service experience
- Fear
- Negative attitude
- Personal values

Willingness
to Donate
Blood

college students actively participating in blood donation. Campaigns or awareness on National blood donation day or World blood donation day is not enough. Continuous awareness needs to be done by use of media like radio, TV and Ads in theatres. People are not aware of health benefits. Organization expert is associated has done a research with a medical institute and have found that donating blood can reduce the chance of heart attack and diabetics. Donating blood will also help to reduce the iron content in the body. People are not aware that they can avail paid leave on that day in offices, duty leave in colleges and 5-day leave in police force if they donate blood, so time constrain shouldn't be a major concern. Benefit schemes like voluntary blood cards are introduced for people who does voluntary blood donations, they can use this card for availing blood for relatives later. Expert gave example of how blood donation awareness is done among school children. In Kerala State blood donation awareness chapter is included class 8 faculty training module. Faculty will teach students about need for donating blood in class. Awareness can thus be increased among school students who can become active donors in future. It should be extended to other schools and states.

V. FINDINGS

A descriptive study is done based on the result of survey. The following paragraph provides details of the survey. Deterrents weren't predominant on people who donate blood 4 or 3 times a year. But one deterrent was dominant among them. 79% of them responded they lack knowledge about need and process of blood donation. Multiple deterrents were prominent among the people who donate once or twice a year. 47% of them responded that commitments like work, family or colleges reduces WtDB, 52% responded that promotions and communication wasn't effective, 54% of them responded that incentives are unwanted or not motivating them and 50% responded that they lack knowledge about the process and need of blood donation.

Among the people who are having frequency of donation once in a few years 56% responded that they have inconvenience in accessing blood donation centre, 59% responded that promotions and marketing weren't effective, 50% responded that incentives are unwanted and aren't motivating for them to donate blood and 63% responded they lack knowledge about the need and process of blood donation.

Among the people who are haven't donated blood yet 44% of them responded that commitments like work, family or colleges negatively impacts their WtDB, 48% responded that they have inconvenience in accessing blood donation centre, 42% responded that promotions and marketing weren't effective, 51% responded that incentives are unwanted and aren't motivating for them to donate blood, 46% responded that they have fear of needles, 40% responded that they fear they might have reduced health and 50% responded that they have fear of sight of blood.

Expert interview was also done as part of the research to identify the problems faced in retaining blood donors and recruiting new donors.

IV. EXPERT INTERVIEW

An interview was conducted with an expert in this field. The following paragraph provides details of the expert interview.

The National Blood Transfusion Council (2014) has classified replacement donors as voluntary donors. If India's additional 2-3% of eligible population for blood donation does blood donation it will be able to meet the demands. People does have time constrains in donation, but fear of needle is a major hurdle. Needles used are painless and there is a need for awareness generation for it. People don't know the importance of blood donation unless their friends or family members need help. Change has been seen in past few years with lot of

VI. CONCLUSION

Among the people who have frequency of donation 4 or 3 times a year 71% responded that convenience of collection site increases WtDB, 79% responded that they donate blood to increase welfare of others, 71% responded they donate blood to increase welfare of a group or community, 74% responded that they donate blood for friend, family member or a person they know, 76% responded their personal beliefs encourage them to donate blood and 74% responded that direct marketing through calls or messages increases WtDB.

Among the people who have frequency of donation twice or once a year 60% responded that convenience of collection site increases WtDB, 64% responded that they donate blood to increase welfare of others, 66% responded they donate blood to increase welfare of a group or community, 60% responded that they donate blood for friend, family member or a person they know, 58% responded their personal beliefs has positive impact on their WtDB, 64% responded that reputation and efficiency of blood organization in helping the needy increases WtDB among donors, 52% responded that having awareness on need for blood at times of events like disaster motivates them to donate blood, 43% responded that having awareness on need for daily need of blood increase WtDB, 45% responded that friends and family members motivation increases WtDB, 47% responded that they donate due to belief that if they donate blood now, they have higher chance of getting the favour back in future, 64% responded that they donate blood to increase their self-esteem and 58% responded that giving free health-check as an incentive motivates them to donate blood.

Among the people who donate blood once in few years 52% responded that they donate blood to increase welfare of others, 61% responded they donate blood to increase welfare of a group or community, 70% responded that they donate blood for friend, 56% responded that direct marketing through calls or messages motivates them to donate blood, 52% responded that advertisements in TV, newspaper or radio motivates them to donate blood, 54% responded that if organizations where they work or study collaborates with any blood agency for blood drive they will be motivated to donate blood and 52% responded that giving free health-check as an incentive motivates them to donate blood.

Among the people who haven't donated blood yet 62% responded that they donate blood for friend, family member or a person they know, 52% responded that advertisements in TV, newspaper or radio motivates them to donate blood, 54% responded that if organizations where they work or study collaborates with any blood agency for blood drive they will be motivated to donate blood and 52% responded that giving free health-check as an incentive motivates them to donate blood.

From Literature review it was evident that India's demand for blood is not met by its current supply of blood. Supply should be increased by finding new donors and retaining existing donors. From the survey it was evident that not just the non-donors but even the donors with high and low frequency of donation didn't have knowledge about the need and process of blood donation. There is a need to communicate the exact demand and shortage of blood in India with the people in India. This will help to increase the awareness about the need to donate blood. Respondents with zero or lesser frequency of donations had life style barriers like commitments of work, family and colleges to participate in process of donating blood. This group also had problems in accessing a convenient blood donation centre. But they responded that collaboration of their organization with blood banks can motivate them to donate blood. So use of blood drives and blood mobiles can be actively promoted in such cases to bring in new supply. Lack of marketing communication was evident from the study. So advertisements should be done through mass media, print media and social media. Direct marketing was a motivating factor among active donors. So reaching them personally using calls or messages will increase their WtDB. Many reported that existing incentives were unwanted or aren't motivating. But donors with lesser frequency and non-donors responded positively to have a free medical check-up as incentives. Users can also be enrolled into benefit schemes like the expert suggested. So such non-monetary incentives can be used to find new supply and the donors can still be maintained as voluntary donors. Fear of needles, fear of having reduced health or reduced disease resistance and fear of sight of blood was present among non-donors. But non-donors were showing WtDB for a friend, family or acquaintance. Donor recruitment strategies like motivation by friends and family, accompanied by an active blood donor friend or family can be used to overcome such fear. Increasing awareness as already discussed above can also help to overcome such fears. Awareness campaigns will be useful in increasing the prosocial motivation and collectivism in non-donors and less frequent donors which were the dominant motivators among active donors.

VII. LIMITATIONS AND DIRECTION FOR FURTHER RESEARCH

In literature review it was found out that WHO in 2010 reported that India needs 12 million blood units each year. It was last official report on India's blood donation need. In 7 years, the scenario would have changed completely. So India's exact blood donation need has to be studied. From the 65 factors identified by Timothy Colin Bednall, 2011 for the study 41 factors were used and predominant factors among groups based on frequency of blood donation was found out. Further study can be done on these predominant factors and concentrating on the each group.

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