



(RESEARCH ARTICLE)



Exploring the determinants of blood donation: A study of motivating and deterring factors

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Abstract

The supply of voluntary non-remunerated blood has remained insufficient in most developing countries, thereby posing a considerable public health challenge to patients in need of blood transfusions in hospitals. In this study, factors influencing blood donation practices, focusing on deterrents and motivators were x-rayed. Questionnaires were administered to 430 respondents, sampled from the Enugu State Civil servants, Traders, and students' populations, all residing within Enugu metropolis. The questionnaire comprised of 21 questions, grouped into three, addressing the sociodemographic factors of participants, obstacles and motivations towards blood donation. The results generated were analysed and expressed by frequencies and percentages, using SPSS version 20. Reports were based on 384 respondents who answered the questionnaire. The results show that students consisted the largest number of respondents (58.6%), with number of males (51.8%) slightly higher than females (48.2%). The main obstacles towards blood donation were fears of various kinds, with fear of death topping the chart (53.3%), whereas the highest motivation towards blood donation was identified as enlightenment campaign (56.8%). Intensifying public enlightenment campaign across the metropolis, was recommended as the best approach to addressing the challenge of blood shortage.

Keywords: Blood donation; Motivation; Obstacles; Respondents; Questionnaire

1. Introduction

Human blood is valuable and in high demand but its scarcity in most developing countries poses a serious challenge of public health concern. Despite significant advancement in medicine, science, and technology, the synthesis of artificial blood remains unachievable. The concept of artificial blood is a misnomer, as it cannot replicate the diverse functions of natural blood. Thus, human blood can only be transfused to humans, and blood donations from humans will continue to be the fundamental source of blood and blood components.

The World Health Organization (WHO) asserts that if 1% of a country's population donates blood voluntarily, and on a regular basis, it will be enough to cater for the basic blood needs for that country [1]. However, in Nigeria, less than 0.3% of individuals donates blood voluntarily [2], unlike in Austria and central Europe, whereby up to 60% of their populations are regular voluntary blood donors [3]. This wide variation is unacceptable, and thus the need for this study.

This work which is aimed at identifying the deterring and motivational factors towards blood donation will generate information that will influence public health decisions and interventions necessary to effectively, improve blood donations among Nigerians.

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1.1. Study Area

This study was conducted in Enugu metropolis, which is the capital city of Enugu State, Nigeria. Enugu State is one of the 36 states of the Federal Republic of Nigeria. It shares boundaries with Ebonyi State, Abia State, Imo State, Anambra State, and Benue State. Enugu State has a population of about 3,257,298, with a land mass of 12,44000km [4]. The choice of Enugu metropolis for this research work is influenced by its diverse cultural, demographic and socio-economic representations, which are major factors that influence blood donations [5]

1.2. Study Population

The population of this study consists of students from tertiary institutions, civil servants from Enugu State Civil Service, and traders from selected markets, all within Enugu metropolis. The students included those from the Enugu State University of Science and Technology, Enugu State College of Education and Technical (ESCET). The civil servants included those from Ministries of Education and Lands, whereas the traders were selected from Ogbete and Timber shade markets.

1.3. Inclusion Criteria

Students from Enugu State University of Science and Technology (ESUT) and Enugu State College of Education Technical (ESCET), civil servants from Enugu State Ministers of Lands and Education, and Traders from Ogbete Main Market and Timber Shade Market, who are within the ages of 18-54 years, and who are studying, working and or trading respectively, within Enugu metropolis.

1.4. Exclusion Criteria

Individuals excluded from this study were those who do not qualify for inclusion, or those who qualified for inclusion, but were so incapacitated health-wise that they cannot talk, read, and or write, in addition to those who did not give their consent for participation.

The sample size for this study was 384. This was determined using the fisher's formula [6].

1.5. Sample Size Determination

$$S = Z\alpha^2 \times P \times (1-P) / D^2$$

Where

S = Sample size

Z α = significant level usually set at 95% confidence level, Z α is 1.96

P = Prevalence of the attribute under study. P is 65% (0.65) from literature [3]

D = Margin of error tolerated. D is 5% (0.05)

Substituting in the formula,

$$\begin{aligned} S &= Z\alpha^2 \times P \times (1-P) / D^2 \\ &= 1.96 \times 1.96 \times 0.65 (1-0.65) / 0.05 \times 0.05 \end{aligned}$$

$$S = 349 \text{ approximately}$$

Allowing 10% non-responses, which is $S \times 10 / 100$

$$349 \times 10 / 100$$

$$= 34.9$$

= 35 approximately.

Final sample size $S = S + 35$

= 349 + 35

S = 384.

2. Materials and methods

2.1. Study Instrument

A well-structured questionnaire was used as the instrument for data collection as self or interviewer administered for the literate or illiterate respondents respectively. The questionnaire comprised of 21 questions to investigate 3 specific areas;

- Socio- demographic factors
- Obstacles towards voluntary blood donation
- Motivational factors to encourage voluntary blood donations

2.2. Measurement of Variables

Dependent Variables were measured using nominal scale and rates, whereas independent variables were measured using ordinary scale and rates.

- Independent Variables. They include, socio-demographic factors like; age, sex, institution/department/work place, tribe, religion, marital status, level of education, occupations, staff category and year of study.
- Dependent Variables. They are, obstacles and motivational factors towards blood donation.

2.3. Statistical Analysis

Data were collected and analysed using statistical package for Social Sciences (SPSS) version 20 [7]. Frequency and contingency table were used to show the distribution of data. The level of significance was at $p = 0.05$.

2.4. Ethical Considerations

Ethical clearance for this study was obtained from Enugu State University of Science and Technology Teaching Hospital Ethical Committee.

Informed consent; Research details was made known to the respondents and their informed consent in the form of signature or thumb prints were obtained.

Confidentiality: Participants data were handled with utmost confidentiality.

Politeness: Members of my team were polite and respectful.

3. Results

Result was on 384 people that responded to the questionnaire though 432 respondents were studied. This gives a response rate of 88.9%.

Table 1 Characteristics of Respondents

Variable	Frequency (N=384)	Per cent (%)
Age		
<25	188	49.0
25-39	156	40.6
40+	40	10.4

Sex		
Female	185	48.2
Male	199	51.8
Marital Status		
Single	300	78.1
Married	84	21.9
Tribe		
Igbo	378	98.4
Hausa	1	0.3
Yoruba	4	1.0
Others	1	0.3
Level of education		
Primary	8	2.1
Secondary	80	20.8
Post-secondary	242	63
Masters	28	7.3
PhD.	16	
None	10	2.6
Level of Education (regrouped)		
Less than post-secondary	98	25.5
Post-secondary & above	286	74.5
Occupation		
Student	225	58.6
Civil servant	94	24.5
Trader	65	16.9
Religion		
Christianity	382	99.5
Islam	2	0.5

Table 2.0 shows that the respondents were aged 18-54 years with mean age of 27.21 and standard deviation of 7.58. Age range of 18-25years constitutes the highest number of respondents (49%) whereas 40-54 years constitutes the least (10.4%). Males were slightly higher (51.8%) than females (48.2%). 78.1% of the respondents are single whereas 21.96% are married. 98.4% are Igbos, 0.3% are Hausas, and Yoruba is 1% .Up to 63% of them attended (or were attending) higher institution (post-secondary). 74.5% of them attended below post-secondary, 2.6% did not go to school at all. Students constitute the highest percentage in terms of occupation of respondents (58.6%) whereas traders constitute the least (16.9%). Most of the respondents are Christians (99.5%); only small fractions are Moslems (0.5%)

Table 2 Obstacles towards blood donation

Variables	Frequency	N=375	Per cent	(yes)
What are the reasons why people do not like BD?				
They are afraid of fainting and death)		200		53.3
They don't have enough blood		96		25.6
They don't have time		20		5.3
They are afraid of contacting disease		107		28.5
They are afraid that their blood might be used for rituals		91		24.3
They feel that their blood might be sold		56		14.9
Their religion does not support it		41		10.9
They have never thought of it		45		12
They have not been contacted to do so		43		11.5

Table 6 shows that the highest obstacle towards blood donation among the respondents was the fear of fainting and death (53.3%), followed by the fear of contacting disease (32.8%). The least obstacle identified was not having time (5.3%).

Table 3 Motivations towards Blood Donation

Variables	Frequency	per cent (yes)
	N=375	
How can people be encouraged to be donating blood?	107	28.5
People should be paid money after donating	128	34.1
People should be given a token of recognition after donating blood	63	16.8
Blood donors should be given a day off duty after donating blood	95	25.3
People should be given national/state honorary award for donating blood	213	56.8
The government should intensify blood donation enlightenment campaign		
Who could influence your decision to donate blood?		
Family members	145	38.7
Friends	14	3.7
Master or priest	14	3.7
	202	53.9

Table 7 shows that the highest motivation towards blood donation is enlightenment campaign (56.8%), the use of token of recognition was found to be the least (16.8%). Also, the decision to donate blood could be best influence by oneself (since they said nobody could influence them (53.9%)), followed by family members (38.7%). The least motivator towards blood donation was found to be religious leaders and friends (3.7%) each.

4. Discussion

4.1. Obstacles towards blood donation

The study identified fear of different types, including fainting, not having enough blood, afraid of contracting disease, and afraid of their being used for rituals, as the obstacles towards blood donation, with the fear of fainting and death topping the list (53.3%), followed by the fear of contracting disease during blood donation process (28.5%), and then the fear of not having enough blood, which may predispose them to hypovolemic shock and then death.

The research findings are also in concordant with report [8], where it was identified that feeling of weakness, nervousness and fear, were the main obstacles towards blood donation, more especially for the first time donors.

The findings of this study are also in tandem with the outcome of a review of 35 studies done in Sub-Saharan African (SSA), which revealed that the main deterrent to blood donation was fear due to lack of knowledge and discouraging spiritual, religious and cultural perceptions of blood donation [9]. The findings support the need for targeted, culturally sensitive education, recruitment and retention strategies to improve the blood supply in SSA.

In this study, the least obstacle towards blood donation was not having time (5.3%). This finding is consistent with another finding, where time constraint (donation time, or feeling that one may be delayed during history taking and the actual blood donation processes) have been reported as a discouraging factor to donating blood [10].

4.2. Motivations towards blood donation.

It was identified that the highest motivation towards blood donation was enlightenment campaign (56.8%). The use of token of recognition was found to be 16.8%. This may explain the sudden reduction in the number of voluntary blood donors, particularly in Enugu State, as reported by the data manager, NBTS Enugu Centre. According to a chart with him, the withdrawal of gift or token of recognition, basically T-shirt resulted to a remarkable drop in the number of donors visiting the Centre [11]. As identified by this research, this experience is in agreement with the finding of researchers [12], where it was observed that extrinsic motivations (incentives) are less influential than the intrinsic (charity), and also that the withdrawal of incentives results to the withdrawal of the behaviour.

5. Conclusion

The major motivations towards voluntary donation as identified were the zeal to save life, and in that, the best motivational factor was the use of enlightenment campaign, and not incentives as most people think, though incentive has its own level of motivation.

Recommendation

To ensure the availability of safe and adequate supply of blood for transfusion interventions, it is suggested that enlightenment campaign on blood donation should be intensified. In such campaign, issues bordering on fear and misconceptions should be critically addressed.

Compliance with ethical standards

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Disclosure of conflict of interest

The author recorded no conflict of interest in this work.

Statement of ethical approval

Ethical clearance for this study was obtained from Enugu State University of Science and Technology Teaching Hospital Ethical Committee.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study, in the form of signature or thumb print.

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