PREVALENCE AND DETERMINANTS OF BLOOD DONATION AMONG STUDENTS OF TERTIARY INSTITUTIONS IN IMO STATE, NIGERIA.

Abstract

Introduction: Safe and adequate blood donation is critical in saving millions of lives annually. In many developing including Nigeria, there is paucity of blood donors.

Aim: To assess the prevalence and determinants of blood donation among students in tertiary institutions in Imo State, South East Nigeria.

Methodology: Stratified sampling technique was used to divide the students into class strata, then systematic random sampling was used to select different respondents from each class and self-administered questionnaires were given to the respondents. Data was collated and results were analysed.

Results: Six hundred (600) undergraduates participated in the study. The mean age of the respondents was 21.3 ± 5.0 years. The one year prevalence of blood donation in this study was 13.8% and 63.1% of the non-donors were willing to donate. Respondents aged 15 – 29 years more willing to donate blood compared to those aged 30 – 44 years (OR = 3.03, p = 0.0003), those that were single were 4 times more willing to donate in comparison to those that were married/divorced (OR = 4.02, p < 0.0001). Respondents that were of Catholic faith were also more willing to donate compared to those that were of Pentecostal/Orthodox denomination (OR = 2.72, p = <0.0001). Class distribution and residence were not independent predictors of willingness to donate blood.

Conclusion: The prevalence of blood donation is well below willingness to donate in this study. There is need to continue to reach out to those willing to donate but do not know to go about it.

Keywords: Perception, Determinants, Blood donation, Students, Tertiary Institutions, Nigeria.

Introduction

Blood is a specialized body fluid in humans that delivers important substances such as nutrients and oxygen to the cells and transport metabolic waste products away from same cells[1]. Despite extensive promising research, a true substitute for blood and blood components may not be available for many years[2]. Therefore, blood donation is presently the major source for blood and blood components. The ancient Egyptians recognised the important properties of blood and it

was used to resuscitate the sick, energize the old and infirm by bathing them with it as well as being used as a tonic for the treatment of various disorders[3].

Doctor Karl Landsteiner distinguished the main blood groups in 1901 and identified with Dr Alexander Wiener, the Rhesus factor in 1937 thus enabling blood to be transfused without endangering the patient's life[4]. The use of stored blood began during World War I (1914 – 1918) but the first large scale blood bank became operational in 1937 at Chicago[5]. A Canadian surgeon (Major L.B Robertson) serving in Canadian Army Medical Corps during the first world war was responsible for introducing transfusion in the management of war casualties to the British army. Blood transfusion was generally accepted as the treatment of choice for severe blood loss by the end of the war[6]. The importance of safe blood in improving health and in preventing the spread of infectious diseases cannot be underestimated. The WHO recommended that donated blood should be tested for hepatitis B surface antigen, antibody of hepatitis, antibody of HIV, usually subtype 1 and 2 as well as serologic test for syphilis[7].

Generally, donors are classified into the following categories: voluntary donors, family replacement donors, remunerated or paid donors and autologous donors. The safest donors are found among people who donate their blood voluntarily, purely out of altruism and are self-aware of their unsuitability to serve as blood donors where there might be a slightest risk of endangering the recipients' life[8,9]. The risk of transfusion transmissible diseases is highest with the use of blood gotten from remunerated donors. A person in need of money is more likely to conceal his/her true state of health[10,11].

In developing countries like Nigeria, there is dependency on family replacement and remunerated donors[10,12,13]. Voluntary blood donation accounts for less than 5% of blood procured in most of Nigeria blood banks[10]. The WHO advocates that member states should establish national blood transfusion services that will operate on the basis of voluntary, non-remunerable blood donation[14]. Despite the establishment of National Blood Transfusion Service (NBTS) in 2006, Nigeria has made little progress in the direction of providing sufficient blood for her teaming populace.

A cross-sectional study conducted to assess the knowledge and behaviour towards voluntary blood donation among students of tertiary institutions in Nigeria by Salaudeen and Odeh

revealed that 61% of the respondents had good knowledge of blood donation while only 15% had ever donated. Of these 15%, only 3% donated voluntarily. Males constitute 57% of those that ever donated. Many of the donors donated for friends (57%). Majority of the study participants (75%) were compelled to donate due to emergency situation. The reasons given by some respondents for not donating were lack of opportunity (45%), tight lecture schedule (24%) and inadequate knowledge (24%)[15]. Offiong et al in their study in Cross River State, Nigeria found that 60% of respondents had fears and misconceptions about blood donation. These included fear of fainting during donation (12%), fear of contracting HIV in the process of blood donation (65%), witchcraft initiation (10%) and religious constraints (7%)[16]. A study by Jacobs and Berege in Tanzania showed that of the 1141 respondents involved in the study, 26.4% had already donated blood but only 3.8% had donated voluntarily, within the previous 10 years[17]. A study among students of University of Dhaka, Bangladesh revealed that 82% of the participants showed a positive attitude towards blood donation. However, only 60% of the respondents in the study had actually donated voluntarily, while 93% had a negative attitude towards paid blood donation[18]. In Lithuania, former Soviet Union, Bucieniene et al reported that paid donors comprised 89.9%, while non-paid ones made up a paltry 10.1% of the respondents. The researchers found that 93% of the paid donors donated blood on a regular basis while only 20.6% of the non-remunerated donors donate on regular basis. The idea of remuneration necessity is supported by 78.3% of the paid donors unlike 35.3% of non-remunerated donors. An absolute majority of the paid donors (92%) think they should be offered a monetary compensation for blood donation while more than half of the non-remunerated donors (55.9%) said they would be satisfied with mere appreciation. The study also found that 28.4% of the respondents would carry on donating blood, 29.6% would do it only in emergency, another 29.6% would donate merely for their family member or friend and 12.3% would quit it completely[19].

Among undergraduates in Greece, only 16.6% had ever donated blood. This relatively low proportion of donors is apparently due to poor knowledge about blood donation as 83.4% do not know the condition and criteria applying to blood donation in general. Also, majority of the students (63.1%) were ignorant of the social benefits from blood donation[20]. In the study at the Blood Centre of Umee University Hospital, Sweden, no statistically significant difference was found between male and female blood donors with respect to the general reasons and motives related to donating blood. The most common reasons for donating blood the first time were

influence from a friend (47.2%) and media request (23.5%). The study also reported that the most commonly reported motives for donating blood was general altruism (40.3%), social responsibility/obligation (19.7%) and influence from friends (17.9%). General altruism (68.4%) and social responsibility/obligation (16.0%) were also the most frequent reasons for continuing to donate blood. The most commonly reported obstacle to becoming a regular blood donor was laziness (19.1%) followed by fear of needles (10.5%)[21]. A study conducted by Wanitkit among students of Chula Long Kom University in Thailand showed that 80% of participants knew about blood donation while only 11% had ever donated blood voluntarily. Fear of getting infection was the commonest inhibiting factor among non- donors[22]. A study by Sampath et al in Trinidad and Tobago reported that 81.2% of the respondents had never donated blood and of the 18.8% who had previously donated, replacement for a family member or friend was the overwhelming reason (86.9%)[23]. A Nigerian study by Nwabueze et al reported that the commonest motivating factors towards blood donation by medical and pharmaceutical students of a south eastern institution was to save a friend or family member while fear of infections was cited as the commonest reason for refusing to donate blood[24].

Nigeria has a very young population with median age of 18.4 years in 2017[25]. Therefore, motivating healthy young population toward voluntary blood donation is of utmost importance and may substantially narrow the gap between demand and supply of blood. In this study, we explored those factors that motivate and inhibit young and educated sector of our society from donating blood and assess the level of willingness to donate blood among them so as to help concerned agencies, both private and government, to plan accordingly and increase the proportion of voluntary donation in our blood supplies.

Methodology

Imo state is one of the 36 states in Nigeria located in the South Eastern part of the country. It has 27 local government areas with 5 being urban and 22 being rural. The State covers an area of 5100 square kilometre with a population density varying from 230 to 1400 persons per square kilometre.[26] There are several government owned institutions of higher learning in the state which includes: Imo State University, Owerri; Federal University of Technology, Owerri;

Federal Polytechnic, Nekede; Eastern Palm University, Ogboko; Imo State Polytechnic, Umuagwo; Alvan Ikoku College of Education, Owerri; Imo State Technological Skills Acquisition Institute, Orlu; College of Health Science and Technology, Amaigbo, Nwangele; School of Nursing, Amaimo and Imo State College of Nursing and Health Sciences, Orlu.

A cross – sectional descriptive study was carried out among full time undergraduates of Imo State University Owerri and Alvan Ikoku Federal College of Education, Owerri.

Sample size was calculated using the Cochran formula for single proportion in study populations greater than 10,000;[15].

$$n = Z^2 P (1 - P) / d^2,$$

Where n is the minimum sample size, Z is the standard normal deviate at 95% confidence interval (1.96), P is the proportion of undergraduates that had ever donated blood from a previous study (0.60)[24] and d is the level of precision required, set at 0.05. The calculated minimum sample size was 369. Considering a potential non-response rate of 10%, the minimum sample size required for this study was 406; however, 600 students were enrolled in this study.

A multi-stage sampling technique was employed in selecting the participants for this study. The first stage involved stratification of schools into universities and non-universities higher institutions using list of higher institutions in Imo State as sampling frame. The second involved the selection of Imo State University from the university institutions and Alvan Ikoku College of Education from the non-university higher institutions using simple random sampling by balloting. In the third stage, study participants were proportionately allocated to the two institutions using the information obtained from their student affairs departments. The number of respondents in each institution was proportionately allocated to the departments and to the study levels of the students using the sampling frame obtained from Heads of departments. Systematic sampling technique was then used to select respondents. The respondents that were not available during the survey were replaced by the next person in the sampling frame.

A pretested, self-administered structured questionnaire was used to collect data from study participants between first week of August and last week of October 2017. The questionnaire comprised 4 sections containing the demographic characteristics, awareness and knowledge

regarding blood donation; attitude towards blood donation and factors affecting willingness to donate blood.

Ethical approval for this study was obtained from Imo State University Teaching Hospital (IMSUTH) Ethical Committee. The study was done in line with ethical procedures as outlined in Helsinki declaration of 1964.

Results

Sociodemographic characteristics of respondents

Six hundred (600) questionnaires were distributed for this study and all were duly filled and returned. Female respondents were 416 (69.3%). The mean age of the respondents was 21.3 ± 5.0 years with 318(53.0%) being within 20 – 24 years age bracket.

Majority of the study participants 538(89.1%) were single and a higher proportion 231(38.5%) were in their second year of study. Social sciences, humanities and education contributed 421(70.2%) respondents and Catholics 359(59.8%) and Pentecostals 131(21.8%) were the dominant religious denomination. Majority of the study participants 336(56.0%) live off campus and belong to a religious organisation 395(65.8%).

Table 1: Sociodemographic characteristics of respondents

Variable	Frequency (n = 600)	Percent
Gender		
Female	416	69.3
Male	184	30.7
Age group (years)		
15 – 19	108	18.0
20 – 24	318	53.0

174	25 – 29	114	19.0
175	30 – 34	37	6.1
176	35 – 39	15	2.5
177	40 – 44	8	1.3
178	**Mean ± SD**	21.3 ± 5.0	
179	**Marital status**		
180	Single	538	89.7
181	Married	60	10.0
182	Divorced	2	0.3
183	**Level of study**		
184	100 level	51	8.5
185	200 level	231	38.5
186	300 level	133	22.2
187	≥400 level	185	30.8
188	**Faculty**		
189	Social sciences	156	26.0
190	Humanities	138	23.0
191	Education	127	21.2
192	Medical science	97	16.1
193	Pure science	82	13.7
194	**Religious denomination**		

Catholic	359	59.8
Pentecostal	131	21.8
Orthodox	94	15.7
Jehovah witness	10	1.7
Traditionalist	5	0.8
Islam	1	0.2
Tribe		
Igbo	556	92.7
Yoruba	29	4.8
Hausa	5	0.8
Others*	10	1.7
Residence		
Hostel	183	30.5
Off campus	336	56.0
Living with family	81	13.5
Membership of religious organisation		
Yes	395	65.8
No	205	34.2

*****Ikwerre, Urhobo, Efiks, Ijaw.

Awareness of respondents about blood donation

Most of the respondents 549(91.5%) were aware of blood donation and of these, 517(94.2%) knew about voluntary blood donation. Major sources of information on blood donation were electronic media 404(73.6%), school colleagues and lecturers 395(71.9%), health workers 348(63.4%) and the print media 337(61.4%).

Almost all the respondents knew about their blood group 558(93.0%) and the commonest blood group was O+ve 298(42.3%), closely followed by A+ve 217(38.9%).

Table 2: Awareness of respondents about blood donation

Variable	Frequency	Percent
Aware of blood donation (n = 600)		
Yes	549	91.5
No	51	8.5
Types of blood donor known (n = 549)**		
Voluntary donors	517	94.2
Non-voluntary/paid donors	150	27.3
Family replacement donors	33	6.0
Source of information (n = 549)**		
Electronic media	404	73.6
School mates/lecturers	395	71.9
Health workers	348	63.4
Print media	337	61.4
Parents/relatives	154	28.1
Internet	106	19.3

Blood group awareness (n = 600)		
Yes	558	93.0
No	42	7.0
Blood group of respondents (n = 558)		
A^+	217	38.9
B^+	51	9.1
AB	15	2.7
O^+	298	42.3
O^-	35	6.3
Others (A^- , B^-)	4	0.7

** Multiple responses applicable.

Prevalence and reasons for blood donation among respondents

Only 83(13.8%) respondents donated blood in the one year period preceding the study with 40 of them (48.2%) donating to a family member. The main reason given by respondents for donating blood was to save live in an emergency situation (62.7%) while lack of opportunity to donate (35.4%) was the commonest reason given by those who have not donated in the past one year. However, 326(63.1%) of these set of respondents are positively inclined to blood donation.

Table 3: Prevalence and reasons for blood donation among respondents

Variable	**Frequency**	**Percent**
Donated blood in the last one year (n=600)		
Yes	83	13.8

No	517	86.2
Recipient of blood (n = 83)		
Family member	40	48.2
Unknown persons	23	27.7
Friends	20	24.1
Main reason for donating blood (n = 83)		
Emergency situation to save live	52	62.7
Free will donation	23	27.7
Organizational activity	6	7.2
Due to incentive given	2	2.4
Main reason for not donating (n = 517)		
Lack of opportunity to donate blood	183	35.4
No reason	138	26.7
Anxiety	64	12.4
Ignorance	45	8.7
Fear of contacting infection	38	7.4
Fear of needle	27	5.2
Religious/Cultural beliefs	22	4.3
Willingness to donate blood (n = 517)		
Yes	326	63.1
No	120	23.2

Not sure	71	13.7

Association between sociodemographic variables of respondents and having donated blood in the last one year.

No sociodemographic variable was found to be significantly associated with blood donation in the last one year. However, slightly higher proportion of males (16.8%) donated compared to the females (12.5%). Also, respondents within the age group 25 – 29 years had the highest proportion of blood donation (18.4%) in comparison to the other age groups.

Table 4: Association between sociodemographic variables of respondents and having donated blood in the last one year.

Variable	**Donated blood in the last one year**		χ^2	**p-value**
	Yes (%)	**No (%)**		
	n = 83	**n = 517**		
Gender				
Female	52 (12.5)	364 (87.5)	2.02	0.155
Male	31 (16.8)	153 (83.2)		
Age group (years)				
15 – 19	14 (13.0)	94 (87.0)	3.13	0.680
20 – 24	42 (13.3)	276 (86.8)		
25 – 29	21 (18.4)	93 (81.6)		
30 – 34	4 (10.8)	33 (89.2)		
35 – 39	1 (6.7)	14 (93.3)		
40 – 44	1 (12.5)	7 (87.5)		

Marital status					
Single	79 (14.7)	459 (85.3)	4.05	0.256
Married	4 (6.7)	56 (93.3)		
Divorced	0 (0.0)	2 (100.0)		
Class distribution				
100 level	9 (17.6)	42 (82.4)	1.30	0.728
200 level	28 (12.1)	203 (87.9)		
300 level	19 (14.3)	114 (88.7)		
≥ 400 level	27 (14.6)	158 (85.4)		
Faculty				
Social science	17 (10.9)	139 (89.1)	8.62	0.071
Humanities	13 (9.4)	125 (90.6)		
Education	23 (18.1)	104 (81.9)		
Medical sciences	13 (13.4)	84 (86.6)		
Pure science	17 (20.7)	65 (79.3)		
Religious denomination				
Catholic	53 (14.8)	306 (85.2)	4.72	0.451
Pentecostal	14 (10.7)	117 (89.3)		
Orthodox	16 (17.0)	78 (83.0)		
Jehovah witness	0 (0.0)	10 (100.0)		
Traditionalist	0 (0.0)	5 (100.0)		

Islam	0 (0.0)	1 (100.0)			
Tribe					
Igbo	73 (13.1)	483 (86.9)	5.24	0.155	
Yoruba	8 (27.6)	21 (72.4)			
Hausa	1 (20.0)	4 (80.0)			
Others	2 (20.0)	8 (80.0)			
Residence					
Hostel	22 (12.0)	161 (88.0)	4.14	0.126	
Off campus	44 (13.1)	292 (86.9)			
Living with family	17 (21.0)	64 (79.0)			
Membership of religious organizations					
Yes	61 (15.4)	334 (84.6)	2.51	0.113	
No	22 (10.7)	183 (89.3)	\		

Association between sociodemographic characteristics and willingness to donate blood

Age group ($\chi^2 = 23.4$, $p = 0.009$), marital status ($\chi^2 = 25.7$, $p = 0.000$), class distribution ($\chi^2 = 30.6$, $p = 0.000$), religious denomination ($\chi^2 = 65.5$, $p = 0.000$), and residence ($\chi^2 = 33.6$, $p = 0.000$) were significantly associated with willingness to donate blood.

Respondents aged 25 – 29 years were the most willing (72.8%) to donate blood followed by those in the age group 20 – 24 years. Likewise, those that were single (66.9%) were more willing to donate compared to the others. Study participants in 100 level (22.9%) were less willing to donate blood compared to those in 200 level and above. Also, those living within the campus were more willing to donate blood (70.6%) compared to those staying off campus (65.2%).

Table 5: Association between sociodemographic characteristics and willingness to donate blood

Variable	Willingness to donate blood			χ^2	p-value
	Yes (%)	No (%)	Unsure (%)		
	n = 326	n = 120	n = 71		
Gender					
Female	238 (65.7)	76 (21.0)	48 (13.3)	4.14	0.126
Male	88 (56.8)	44 (28.4)	23 (14.8)		
Age group (years)					
15 – 19	56 (60.2)	25 (26.9)	12 (12.9)	23.4	0.009
20 – 24	169 (64.5)	50 (19.1)	43 (16.4)		
25 – 29	75 (72.8)	20 (19.4)	8 (7.8)		
30 – 34	17 (50.0)	13 (38.2)	4 (11.8)		
35 – 39	6 (37.5)	8 (50.0)	2 (12.5)		
40 – 44	3 (33.3)	4 (44.4)	2 (22.2)		
Marital status					
Single	301(66.9)	92 (20.4)	57 (12.7)	25.7	0.000
Married	24(37.5)	27 (42.2)	13(20.3)		
Divorced	1(33.3)	1(33.3)	1(33.3)		
Class distribution					
100 level	12 (27.9)	22 (51.2)	9 (20.9)	30.6	0.000

200 level	150 (70.1)	42 (19.6)	22 (10.3)		
300 level	66 (60.6)	25 (22.9)	18 (16.5)		
≥ 400 level	98 (64.9)	31(20.5)	22 (14.6)		
Faculty					
Social sciences	96 (67.1)	30 (21.0)	17 (11.9)	5.39	0.715
Humanities	75 (62.5)	29 (24.2)	16 (13.3)		
Education	63 (61.2)	23 (22.3)	17 (16.5)		
Medical sciences	47 (55.3)	23 (27.1)	15 (17.4)		
Natural sciences	45 (68.2)	15 (22.7)	6 (9.1)		
Religious denomination					
Catholic	237 (71.4)	53 (16.0)	42 (12.7)	65.5	0.000
Pentecostal	51(58.0)	20 (22.7)	17 (19.3)		
Orthodox	37 (46.8)	34 (43.0)	8 (10.1)		
Jehovah witness	0 (0.0)	9 (81.8)	2 (18.2)		
Traditionalist	0 (0.0)	4 (66.7)	2 (33.3)		
Islam	1(100.0)	0 (0.0)	0 (0.0)		
Residence					
Hostel	125 (70.6)	43 (24.3)	9 (5.1)	33.6	0.000
Off campus	161(65.2)	50 (20.2)	36 (14.6)		
Living with family	40 (43.0)	27 (29.0)	26 (28.0)		
Membership of religious organizations					

Yes	213 (61.9)	77 (22.4)	54 (15.7)	3.40	0.182
No	113 (65.3)	43 (24.9)	17 (9.8)		

Predictors of willingness to donate blood among the respondents

On bivariate analysis, respondents aged 15 – 29 years where about 3 times more willing to donate blood compared to those aged 30 – 44 years (OR = 3.03, p = 0.0003). With respect to marital status, single respondents were 4 times more willing to donate blood in comparison to married/divorced respondents (OR = 4.02, p < 0.0001). The study also revealed that undergraduates that were of the Catholic faith were more willing to donate blood when compared to their counterparts that were of Pentecostal/Orthodox denomination (OR = 2.72, p < 0.0001). Level of study and nature of residence were not independent predictors of willingness to donate blood. Table 6.

Table 6: Predictors of willingness to donate blood among the respondents

Variable	OR (estimate)	95% (CI)	p-value
Age group			
15 – 29	3.03	1.67 – 5.51	0.0003
30 – 44	1.00		
Marital status			
Single	4.02	2.18 – 7.39	<0.0001
Married/Divorced	1.00		
Class distribution			
≤ 200 level	1.00		
≥ 300 level	1.16	0.76 – 1.76	0.496

Religious denomination				
Catholic	2.72		1.75 – 4.31	<0.0001
Pentecostal/Orthodox	1.00			
Residence				
Hostel	1.00			
Off campus	0.90		0.58 – 1.39	0.628

Respondents that were unsure of their willingness to donate blood were excluded from this analysis.

Discussion

The mean age of undergraduates in this study was 21.3 ± 5 years. This is similar to that observed by Duru et al (22.5 years) and Onofa et al (23.9 years) in their publications on psychoactive substance use among students of tertiary institutions[27,28]. According to the World Health Organisation (WHO), the age profile of blood donors shows that proportionally more young people donate blood in low and middle income countries such as Nigeria than in high income countries[29]. Though, there are more female respondents in this study (69.3%) in keeping with the trend in many institutions of higher learning in Nigeria[30], data about the gender profile of blood donors show that globally, 70% of blood donation are given by men[29]. Demographic information of blood donors is important for formulating and monitoring recruitment strategies.

On the awareness and knowledge about blood donation, most of the respondents (91.5%) knew about blood donation. This is in consonance with 95.6% and 93.2% reported among medical and pharmacy students respectively in a study by Nwabueze et al at Nnamdi Azikiwe University, Awka in Anambra state, South Eastern Nigeria[24]. The observation that electronic media is the most prominent way people gather information about blood donation was consistent with results from a study conducted in India on knowledge, attitude and practices of people towards voluntary blood donation in Uttarakhand, India[31]. Using the social media to disseminate information on the importance and benefit of blood donation may yield better dividends given its popularity among young people.

In the index study, 93.0% of the respondents knew their blood group. This is similar to the 93.9% reported among health workers in Benin, Edo State[32] and 95.2% observed among pharmacy students in Awka, Anambra State[24]. A lower figure of 69.5% was reported by Amatya in Nepal[33]. The commonest blood group of respondents in this study is O+ve (42.3%) followed by A+ve (38.9%). This is similar to what was reported by Nwagoh et al, in Benin city, Nigeria. The proportion of O+ve and A+ve in Nwogoh's study was 45.4% and 15.3% respectively, though they reported a high non response rate of 21.5%[32]. The public health importance of this finding is that majority of the populace are universal donors and this fact should be made known to the general public.

The knowledge and attitude of respondents towards blood donation in this study was satisfactory. However, this contradicts the actual practice of blood donation as only 13.8% of the respondents had donated blood in the last one year and most times, the donation is for a family member in an emergency situation. Other workers have reported that good knowledge and attitude do not usually translate to the actual practice of blood donation[24,32].

Surprisingly, majority of respondents (35.4%) in the index study gave lack of opportunity to donate blood as their main reason for not donating. Likewise, a study in Benin city, Nigeria reported that the commonest reason given by respondents for not donating blood was because no one had ever approached them to donate[32]. Other studies reported fear of infection as the commonest reason for refusing to donate blood[16,24]. Among non-donors in this study, 63.1% were willing to donate. This buttressed the fact stated earlier that attitude towards blood donation is positive.

No sociodemographic variable was significantly associated with blood donation by the respondents in the last one year. However, predictors of willingness to donate include age of the respondents, their marital status and their religious inclination. Researchers in Benin City, Edo State in their study on health care workers reported a statistically significant difference between male and female donors. However, they found no association between the workers level of education and their staff category (junior and senior staff)[32]. Workers at the blood centre of Umee University, Sweden also found no statistically significance difference between male and female donors[21].

Conclusion and Recommendation

This study has demonstrated that more young people are willing to donate blood if only they have the opportunity. In the light of these findings, we recommend that: Relevant government agencies and religious organizations should intensify effort at educating the populace on the importance and benefits of voluntary blood donation. Given that the media and health workers are major sources of information on blood donation, those who work in these establishments should make deliberate effort to promote voluntary blood donation as part of their corporate social responsibility. The student union governments and other organizations in tertiary institutions should include voluntary blood donation campaign as part of their activities.

Authors' Contribution: All authors participated in the conduct of this study.

Conflicting Interest: The authors hereby declare no conflict of interest

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