

Knowledge and attitude of undergraduates towards blood donation: A cross sectional study of the University of Benin, Benin City

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Abstract

Background: Blood is an essential but scarce therapeutic element. The youth constitute an important age group that can contribute significantly to donor blood availability in health institutions. Their knowledge and attitude towards blood donation may influence their disposition to blood donation practices.

Objective: The study seeks to determine the knowledge, attitude and blood donation practices among undergraduate students of the University of Benin.

Methodology: This is a cross sectional study, conducted at the University of Benin, Benin City. Two hundred pretested questionnaires on knowledge, attitude and practice of blood donation were distributed among consenting undergraduate students across different faculties of the university. Data was analyzed with the statistical package for social science (SPSS IBM) version 20.

Result: A total of 155 (79.5%) males and 40 (20.5%) females (M:F of approximately 3.8:1) completed the questionnaires.

Their modal age group was 16 – 20 years. Sixty eight (34.9%) had good knowledge of blood donation process, 43 (22.1%) had average knowledge and 84 (43.0%) had poor knowledge. Repeat donation rate was 11.3% among the respondent. The practice of blood donation was significantly associated with good knowledge of blood donation process ($p = 0.001$). Blood donation was higher in those between the age groups of 21 – 25 years.

Conclusion: Good knowledge of blood transfusion is below average. Blood donation practices is low among undergraduate students of the University of Benin and there is high disposition to family replacement donation.

Keywords: Knowledge, attitude, practice, blood donation, University of Benin

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Introduction

Blood is an essential element in medical therapy. It is used principally as replacement therapy for persons who have insufficiency in any or all of the components of blood and may be processed pharmaceutically into derivatives used for therapeutics. The commodity is scarce; the supply is hardly sufficient to meet its demand. Shortage of active blood donors has been a major contributor to blood insufficiency.¹ The education, mobilization and recruitment of potential donors is an essential approach to addressing shortage of blood supply to health institutions.

There are several myths about blood donation in our environment. These myths instill fear into potential donors as they associate blood donation with risk of being diseased and shortage of life span.^{2, 3} This tend to discourage potential donors. Therefore reeducation of the people is important for a change of attitude and

behaviour. The extent to which knowledge of the blood donation process influences donation behaviour has also been investigated by several researchers.⁴⁻⁸ The outcomes of these studies were mixed; a good number concluded that the greater knowledge of the process and of the need for blood, the more likely the respondent is to donate blood.⁴

This study was aimed to determine the knowledge and the attitude of university undergraduates on the process of blood donation, and to test the association between knowledge and donation practices.

Methodology

This is a cross sectional descriptive study conducted at the University of Benin, Benin City. Undergraduate students across several discipline were recruited by simple random sampling to participate in the study. The study instrument was a structured interview administered 20 item questionnaire. The questionnaire was divided into two sections. The first section (A) has 6 items used to obtain responders demographic details. The second section (B) contain 14 items. The first 9 evaluates knowledge and the last 5 attitude and practice of blood donation. The responses were structured after the Likert scale (Strongly agree, agree, I do not know, disagree and strongly disagree). With respect to

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knowledge, where strongly agree and agree or disagree and strongly disagree were appropriate, they were reclassified as correct knowledge. A scoring system was used to grade correct responses into good (score above 60%), average (40 – 60%) and poor (below 40%). For questions relating to attitude, strongly agree and agree were merged as agree while strongly disagree and disagree were merged as disagree. Informed consent was obtained from the respondents. The study was approved by the University of Benin Teaching Hospital Ethical Review Committee.

A total of 200 questionnaires were administered but 5 of them were incompletely filled and were excluded.

The data was analyzed using the statistical package for social sciences (SPSS version 20). The results was presented using simple frequencies. Chi-square (corrected Chi-square as was when frequency is less than 5) was used to test the association between knowledge, demographic variables with attitude and practice of blood donation. P value was set at less than 0.05.

Results

The response rate was 97.5% (195 out of 200 subjects responded). They comprise 155 (79.5%) males and 40 (20.5%) females giving a male female ratio of approximately 3.8:1. The modal age group was 16 – 20 years and the least were those >30 years. Majority (99.0%) were singles and of Christian Faith (96.4%). Details of their demographics are shown in Table 1.

One hundred and forty eight (75.9%) of them knew their blood groups. Sixty eight (34.9%) had good knowledge of the blood donation process, 43 (22.1%) had average knowledge and 84 (43.0%) had poor knowledge

One hundred and fifty six (80.0%) responders disagreed that patient relatives should not be asked to donate blood; 95 (48.7%) agreed that potential donors will donate when they are certain of remuneration and 139 (71.3%) agreed that most persons who donated did so because the blood was required by their friends or relatives. Twenty two (11.3%) had donated at least on two occasions in their life time. Forty nine persons (25.1%) agreed that fear of needle was a hinderance to their donating. Details of respondents attitude and donation practice are shown in Table 1.

As shown in Table 2, good knowledge of blood donation process was strongly associated the practice of donating blood ($p = 0.001$). There was an association

between age group and blood donation. Respondents between 21 – 25 years reported a significantly higher blood donation practice ($p=0.035$); there was no association between gender, marital status and religion with blood donation practice as shown in Table 3.

Table 1: Demographics, Knowledge, Attitude and Practice of Blood Donation among Respondents

Demographics	n (%)	Attitude and Practice of Blood Donation	n (%)
Age group		Patients relatives should not be asked to donate blood	
16 - 20	102 (52.3)	Agree	17 (8.7)
21 - 25	63 (32.3)	Don't know	15 (7.7)
26 - 30	23 (11.8)	Disagree	156 (80.0)
>30	7 (3.6)	No response	7 (3.6)
Gender		Most people donate blood when they are sure of remuneration	
Female	40 (20.5)	Agree	95 (48.7)
Male	155 (79.5)	Don't know	60 (30.8)
Marital Status		Disagree	38 (19.5)
Single	193 (99.0)	No response	2 (1.0)
Married	2 (1.0)		
Religion		People donate to help friends/relatives	
Christians	188 (96.4)	Agree	139 (71.3)
Islam	3 (1.5)	Don't know	13 (6.7)
Others	2 (1.0)	Disagree	43 (22.1)
No Response	2 (1.0)		
		I have donated blood at least twice	
		Agree	22 (11.3)
		Don't know	10 (5.1)
		Disagree	163 (83.6)
Knowledge		Fear of needles is the reason I do not donate blood	
Knowledge of personal blood group			
Yes	148 (75.9)	Agree	49 (25.1)
No	47 (24.1)	Don't know	15 (7.7)
		Disagree	131 (67.2)
Knowledge of common blood group, donation criteria, process and associated risk			
Good	68 (34.9)		
Average	43 (22.1)		
Poor	84 (43.0)		

Table 2: Association between Knowledge, Attitude and Practice of Blood Donation

Attitude and Practice of Blood Donation	Knowledge of Blood Donation			P value
	Poor	Average	Good	
Patients relatives should not be asked to donate blood				
Agree	9 (11.0)	1 (2.4)	7 (10.8)	0.425
Don't know	5 (6.1)	5 (12.2)	5 (7.7)	
Disagree	68 (82.9)	35 (85.4)	53 (81.5)	
Most people donate blood when they are sure of remuneration				
Agree	35 (42.7)	24 (55.8)	36 (52.9)	0.423
Don't know	31 (37.8)	12 (27.9)	17 (25.0)	
Disagree	16 (19.5)	7 (16.3)	15 (22.1)	
People donate to help friends and relatives				
Agree	57 (67.9)	33 (76.7)	49 (72.1)	0.145
Don't know	10 (11.9)	1 (2.3)	2 (2.9)	
Disagree	17 (20.2)	9 (20.9)	17 (25.0)	
I have donated blood at least twice				
Agree	4 (4.8)	2 (4.7)	16 (23.5)	0.001
Don't know	4 (4.8)	1 (2.3)	5 (7.4)	
Disagree	76 (90.5)	40 (93.0)	47 (69.1)	
Fear of needles is the reason I do not donate blood				
Agree	17 (20.2)	16 (37.2)	16(23.5)	0.247
Don't know	6 (7.1)	2 (4.7)	7(10.3)	
Disagree	61(72.6)	25 (58.1)	45(66.2)	

Table 3: Association between Blood Donation (Repeat donation) and Respondents General Characteristics

	Blood Donation Practice			P value
	Yes	No	Total	
Age group				
16 - 20	6 (27.3)	96 (55.5)	102 (52.3)	0.0345
21 - 25	10 (45.5)	53 (30.6)	63(32.3)	
26 - 30	4 (18.2)	19 (11.0)	23 (11.8)	
>30	2 (9.1)	5 (2.9)	7(3.6)	
Gender				
Female	4 (18.2)	36 (20.8)	40 (20.5)	1.000
Male	18 (81.8)	137 (79.2)	155 (79.5)	
Marital Status				
Married	1 (4.5)	1 (0.6)	2 (1.0)	0.213
Single	21 (95.5)	172 (99.4)	193 (99.0)	
Religion				
Christians	22 (100.0)	166 (97.1)	188 (97.4)	1.000
Islam	0 (0.0)	3 (1.8)	3 (1.6)	
Others	0 (0.0)	2 (1.1)	2 (1.0)	

Discussion

Donor blood insufficiency is a serious issue in medical

practice. The youth is the hope and future of providing adequate and safe blood for the world.⁹ The level of knowledge of blood donation may influence donation practice of the youth and by extension determine the rate of attaining donor blood sufficiency in the health sector. In this study, we found that 34.9%, 22.1% and 43% of the undergraduates have good, average and poor knowledge of blood donation processes respectively. Different studies have reported varying levels of knowledge of blood donation among undergraduates depending on the geographical location and the discipline of study of the student. Salaudeen and Odeh⁴ reported a higher level of knowledge amongst undergraduates in University of Ilorin (64.8%). Relatively similar to our findings, Nigatu and Demissie⁵ in Ethiopia reported adequate knowledge in 40.4%, while studies in India and South India, reported 37.5% and 42.7%.^{6,7} Thakur et al⁸ reported far lower level of good knowledge (2.2%) amongst students in Pradesh, India. Studies comprising students in medical and health institutions had higher level of knowledge than those involving the general student populace.^{10,11}

Knowledge of personal blood group is also high among the respondents 75.9%. This is expected with medical screening becoming a pre admission requirement into primary, secondary and tertiary institutions. The knowledge of individual blood group recorded in this study is higher than those of Nigatu⁶ and Thakur⁸ in Ethiopia and India.

Majority (71.3%) of the respondents are of the opinion that people donate blood mainly to friends and family members and 83% feel that patients relatives should not be discouraged to donate blood. Less than average (49.2%) opined that people will donate blood when they are certain of remuneration. The implication is that the respondents seem to favour family donation in their attitude. Family replacement donation should be explored in our region if donor blood sufficiency is to be actualized. Altruistic donation, though adjudged safest source of donor blood, dependence on it may retard significant progress in improving donation rate in the short term. Through the process of continuous donor education, it is possible to convert family replacement donors to voluntary donors over time.

Repeat donation rate was quite low in the study population (11.3%). The level of knowledge of blood donation process was significantly associated with the practice of blood donation. Similarly Salaudeen and Odeh⁴ in Ilorin recorded low rate of blood donation (15.3%) in their study. The disposition of the respondent to family replacement donation may account for the low rate recorded in the index study. Blood donation was significantly higher in those between the ages of 21 – 25 years. The advent of blood donation clubs such as Club 25 in Benin City which comprise youths whose objective

it is to save life by regular blood donation activities aiming to donate up to 25 units of blood by the age of 25 years may contribute to the observation in this study.¹² Gender, sex and religious background did not significantly affect blood donation practices of our respondents. These were in tandem with the report by Thakur et al.⁸

During the process of blood donation, a large bore needle (16G) is used for collection. This study evaluated the role of the needle size in scaring potential donors. Fear of the needle was reported as a deterrent for blood donation by 20.2% of respondents. This is higher than the 10.3% reported by Salaudeen et al in their study as reason for non donation.

This study has some limitations. The strength of evidence provided by the study is limited to the scope of a cross sectional study, the study sample size is small and the academic discipline of the respondents may have influenced the responses to the questions evaluating knowledge.

In conclusion, good level of knowledge of blood donation process was below average (34.2%) among the study respondent; 11.3% of the respondents have had a repeat donation and majority of them seem to be disposed towards family replacement donations.

Based on the findings of this study, we recommend that voluntary blood donation is desirable however hospital management should not be in a haste to ban family replacement donors otherwise scarcity of blood and blood products may intensify in our clime. Complete voluntary blood donation should be pursued as a long term project through continuous education of the general populace including family replacement donors. It is hoped that in the future they may become altruistic donors.

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