KNOWLEDGE, ATTITUDE AND PRACTICE OF VOLUNTARY BLOOD DONATION AMONG AMBROSE ALLI UNIVERSITY STUDENTS

BY

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SUBMITTED TO

THE DEPARTMENT OF COMMUNITY MEDICINE, FACULTY OF CLINICAL SCIENCES, AMBROSE ALLI UNIVERSITY, EKPOMA, IN PARTIAL FULFILLMENT FOR THE AWARD OF BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (MBBS) DEGREE.

SUPERVISOR

DR. TOBIN EKAETE

CERTIFICATION

This is to certify that this project titled “KNOWLEDGE, ATTITUDE AND PRACTICE OF AMBROSE ALLI UNIVERSITY STUDENTS TOWARDS BLOOD DONATION” was carried out by SAKA SULYMONAYOBAMI.

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DEDICATION

I dedicate this project to the almighty God who saw me through and sustained me throughout the period of this research. Also, to my parents for their all-round supports.

Lastly to my supervisor, lecturers and registrars for their immense assistance

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ABSTRACT

Background: Adequate and safe blood supply has remained a challenge in developing countries including Nigeria. Young students can play a fundamental role in blood donation to save lives of many people hence studying knowledge, attitude and practice of blood donation among them is very essential

Objective: The objectives of this study were to assess the knowledge, attitude, and practice of
voluntary blood donation among Ambrose Alli University students and the factors associated with prevalence of blood donation.

Methodology: This was a cross-sectional descriptive study carried out at the Ambrose Alli University. A total of 250 students were recruited. Pretested questionnaires were used to assess their knowledge, attitude, and practice of voluntary blood donation.

Statistical Analysis: The responses were collated and analyzed with the Statistical Package for Social Sciences (SPSS)v20. The association between blood donation practice and gender of respondents, age, year of study, department and employment status of parents were tested using Chi-square where appropriate. < 0.05 were considered statistically significant.

Result: The mean age of the respondents was 22.3 (±9.049) years with females accounting for 51.6%.Eighty-five (34.0%) have good knowledge and the respondents have positive attitude (0.71±0.45) towards donation; however, only 13.6% have donated blood with a male to female ratio of 2:1. There was significant association between blood donation and faculty of respondents ($p = 0.002$), level of study of respondents ($p = 0.037$) as well as the employment status of father or male guardian ($p < 0.001$).

Conclusion: Despite having a fair level of knowledge regarding blood donation as well as positive attitude towards it, the respondents portray a poor practice culture as regard blood donation.

KEYWORDS: voluntary, practice, university students,

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Blood is vital and important to all living organisms. Its importance is more felt in the hospitals for the treatment of sick people. Till now, there is no substitute for blood and artificial blood is still in research laboratories. Blood transfusion is important medically as it plays life-saving role in thousands of patient daily.[1]Blood transfusion is a vital therapeutic approach in the modern health care that saves millions of lives but there is a great challenge to overcome insufficient voluntary blood donations in developing countries like Nigeria where there is increased pregnancy and child related health conditions, road accidents and malaria related deaths.

According to World Health Organization, blood donation rate in a high-income country is 33.1 donations per 1000people, 11.7 donations per 1000 people in middle-income countries and as low as 4.6 donations per 1000 people in low-income countries.[3] This simply means Nigeria as one of the middle-income countries has limited numbers of donations each year and many more blood donors are still needed to ensure availability of blood in Nigeria. The reasons behind this limited numbers of donations are difficulty to recruit new blood donors, decrease of eligible donors due to the strict policies about blood donation and lack of altruism factor in the society.[4]

Despite WHO recommendation of 100% voluntary non-remunerated donation of blood and blood components to every patient as need should be available in each facility.[3]In Nigeria, family members are often pressured to donate or find a replacement donor in

emergency cases. This causes emotional and financial stress and significant delay in obtaining suitable blood needed.

The myths about blood donation also impede voluntary blood donation in Nigeria and other countries in Africa. As many believe that they can contract HIV and other infections from blood donation, there is limited blood in the body and see no reason to donate, other myth is that one's health deteriorates as one donates blood. All these myths coupled with cultural and religious beliefs have greatly affected blood donation in our society.

University students are expected to be more aware than general population towards voluntary blood donation. They are the potential pool of eligibility voluntary donors and motivators. The aim of this study is to assess the level of knowledge, attitude and practice of Ambrose Alli University (AAU) Students towards blood donation. It is essential to find out why students are not motivated, their misconceptions and myths towards blood donation. As this knowledge is required to eliminate the myths and barriers and increase public awareness campaigns so as to promote the culture of ensuring the adequate supply of blood and its components for proper health care.

RESEARCH QUESTIONS

1. What is the level of awareness of voluntary blood donation among Ambrose Alli University students?
1. What is the prevalence of voluntary blood donation among Ambrose Alli University students?
2. What are the factors associated with practice of voluntary blood donation among Ambrose Alli University Students?

1.2 OBJECTIVES

1.2.1 General Objective

To find out the knowledge, attitude and practice of Ambrose Alli University (AAU) Students towards blood donation.

1.2.2 Specific Objectives

1. To assess the level of knowledge of students towards voluntary blood donation
2. To investigate the attitude of students towards voluntary blood donation
3. To determine the prevalence of voluntary blood donation among students
4. To investigate the factors associated with the practice of voluntary blood donation among students

1.3 PROBLEM STATEMENT

World Health Organization (W.H.O) has set a target of achieving 100% voluntary non-remunerated donation by 2020. Nigeria as a member of W.H.O has made little progress with voluntary donor recruitment. Only 5% of donors in Nigeria are voluntary donors; family replacement and paid donors are still the major sources of donor blood procurement.[3]Blood transfusion saves lives and improves health, but many patients requiring transfusion do not have timely access to safe blood. WHO recommends that countries should aim at securing 100% blood donation from young people and on non-remunerated voluntary basis.[5,6] Young people are the most probable blood donors in every society and students compose a large portion of them. Increase in the level of awareness and positive attitude towards blood donation is the highest priority of

national blood transfusion services in any country. The initial step for achieving this goal is to understand the current situation of awareness, knowledge, beliefs, and attitude towards blood donation.[5]Young, healthy and physically fit young students are potential sources for safe and high quality blood. In order to target this population, it is important to evaluate their knowledge and attitude towards blood donation. There is no published study about the level of knowledge and factors affecting knowledge and attitude towards blood donation among university students in Edo State. Little is known about the factors influencing voluntary blood donation among young people such as university students in Edo state.

The Nigerian federal ministry of health indicates that demands for blood far outweighs the supply hence this study will be conducted to identify the knowledge, attitude and factors associated with practice of blood donation in Ambrose Alli University (AAU), Ekpoma.

1.4 JUSTIFICATION

Blood donation is a self-directed volunteer services and this study will find the present situation of knowledge, attitude and practice of blood donation among A.A.U students. The outcome of this research may help in program formulation for hospitals and organizations within Ekpoma, Irrua and Edo state at large to make aware and incorporate students in regular donation of blood.

CHAPTER TWO

2.0 LITERATURE REVIEW

The aim of this chapter is to review previous literatures that are applicable to knowledge, attitude and practice of blood donation. Related literatures and studies which provide relevant facts and background information about this topic will be reviewed in this chapter.

The level of knowledge, attitude and beliefs associated with blood donation may affect the disposition of the potential donors.

2.1 LEVEL OF KNOWLEDGE TOWARDS BLOOD DONATION

According to a study conducted in Karachi among young students; more than half of the respondents (63.12%) indicated that they have heard about voluntary blood donation, 45 % were males and 55 % were female. 65.1% of the students had information about the blood donations from Family, friends or relatives, 20.5% from school, college or University and 7.9% from Television and other media. More than half (62.13%) of the respondents had the correct knowledge about the utilization of donated blood whereas 55.41% had a negative view about blood donation and health of the donor.[6]

A baseline result of a study done in Gondar town, Northwest Ethiopia shows that 436

(56.8%) had adequate knowledge of blood donation, 678 (88.3%) study participants thought that the importance of blood donation is to save life while 24 (3.1%) believed that it was to get health insuarance.[7]

The result of study done among medical students in resource - limited country shows that 84% of the study participants had good knowledge on blood donation. Only 29.8% know the age limit for donation, 28.5% were aware that the duration of donated blood volume replacement is within 48hrs in the body and 31% know the amount of blood that can be drawn for each donation cycle.[8]

About 85.3% of study participants in a university in Kilimanjaro, Tanzania had knowledge of blood donation while 64% were aware of their blood group[9] compared to a similar study done in Assoso University, Benishangul Gumuz in Ethiopia which revealed that 48.5% had adequate knowledge of blood donation. Among the study participants, 255 (76.3%) know about the common blood group, from this 143 (56.1%) of them get information from classroom, followed by internet 119 (46.6%). 241 (72.2%) of the respondents know the medical benefit of voluntary blood donation and 223 (66.8%) of them say no blood manufactured artificially in the laboratory. But only 127 (38%) of the respondents know the minimum time interval between two donations and 97 (29%) of them know the volume of blood donation at a time.[10]

In Nigeria, about half of the population in the country is medically fit for donation, only four in one thousand are voluntary donors. The low level of blood donation has been attributed to poor knowledge, myths, bias, misconceptions, poverty, ignorance, fear and malnutrition among the population. A study conducted in two selected states in North central Nigeria reported that less than two-third (64.8%) of the respondents had good

knowledge of blood donation. About one-quarter had poor knowledge on what actual blood donation entails. Less than half (47.5%) of the subjects had poor knowledge on health conditions that could warrant blood transfusion while only 43% could correctly state some clinical conditions that would indicate blood transfusion.[11] A similar study was conducted in Northeast, Nigeria, the baseline result revealed that three-quarter (77.5%) of the respondents had knowledge that some diseases could be transmissible through blood transfusion. Of those who had knowledge about these diseases, 64% knew of HIV while 25.9% and 9.6% knew of Hepatitis and malaria respectively.[12]

At the University of Benin Teaching Hospital (UBTH) in Nigeria, a study conducted among health workers shows a total of 151 (92.6%) respondents expressed good knowledge of the common blood group types and 153 (93.9%) knew their own blood group. The respondents also demonstrated knowledge of frequency of blood donation as 27% said donation should be every 6 months; 21.5% tri-monthly; 8% monthly while 20.2% had no knowledge of this.[13]

2.2 ATTITUDE TOWARDS BLOOD DONATION

Attitude is intention of participants towards blood donation practice. The attitude of 96 graduating health science students in Wolaita Soddo, Ethiopia was assessed and the study revealed that 58.33% of all the study participants strongly agreed that blood donation should be voluntary while 4 of them disagreed. 64 of them agreed that blood donation cannot affect the donors while 14 of them agreed that blood donation can affect the donors.[14]A similar study was conducted among Health science students of Addis Ababba University, this study shows that participants are willing to donate blood in future. However, more than one third of students, 76.6%, 34.6%, 91.4 and 59.1% of

respondents believe that blood donation makes weak, causes anemia and reduce immunity. Similar to overall knowledge assessment, the cumulative level of knowledge was assessed by considering all attitude questions, around one third, 123(32%) of respondents had unfavorable attitude towards blood donation.[15]

According to a study conducted in University of Gordar, Ethiopia, 86.7% of the respondents had positive attitude towards blood donation. The survey showed that 73.3% of the respondents agreed that voluntary donor is the major source of blood donation. Significant numbers of the participants are not donating blood either because of not being approached to donate or fear of results and consequences of donation. 60% of the participants agreed that temporary weakness occurs during or after donation and 80% of respondents agreed that patient relatives should be asked to donate.[16]

Another study done in Tanzania among university students revealed that out of the 422 study participants, 89.3% were willing to donate to anyone, 94.5% were willing to donate to relatives in need of blood and 84.4% do not expect reward for donation.[9]

In Nigeria, studies conducted in Calabar, Lagos and Benin City showed quite impressive attitude towards blood donation. Comparing the two studies conducted in Lagos; a total of 542 blood donors from Lagos State University Teaching hospital were interviewed, 52.4% of them believed that they could contract HIV and other infections from blood donation, 47% were afraid of what they regarded as side effects such as weight loss (28.8%), high blood pressure (5.2%), sexual failure (5.9%), sudden death (3.3%) and convulsion (1.47%). About 41% preferred certificate as incentive whereas 13.6% preferred money.[17]Another study conducted in a rural local government in Lagos revealed that majority (51%) of the respondents agreed that blood donation can save

life, 48.5% disagreed that blood donation can cause health problems to the donor, about 36.8% disagreed that blood donors should be offered financial incentives while 53.1% strongly agreed that voluntary blood donation should be encouraged. In this study, the prevalence of positive attitude is 69.2%.[18]In a study from university of Calabar Teaching Hospital, 79.7% of the respondents were willing to donate blood freely while 20.3% would not donate their blood. The most common reason for non-donation was based on religious belief, the result suggested that although most Nigerians are willing to donate blood freely but more positive steps should be taken to educate the population about blood donation.[19] In another research carried out in University of Benin Teaching Hospital (UBTH) , 81.6% respondents said blood donation was good and voluntary blood donation was accepted as the best source of blood by 72.2%, replacement donors by 6.7%, remunerated by 1.8% and self-donation by 1.8%. 72% said blood donation may have adverse effect, 12.3% said donor can contract infections, 60.7% said donor may experience temporary weakness and 5.5% said that donor may fall sick. However, 89.6% feel that patient relatives should be asked to donate. This study was carried out among Health workers in UBTH.[13]

2.3 PREVALENCE OF BLOOD DONATION

Out of 117.4 million blood donations collected globally, 42% of these were collected in high-income countries, home to about 16% of world's population. An increase of 11.6 million blood donations from voluntary unpaid donors has been reported from 2008 to 2015.[3]

In total, 78 countries collect over 90% of their blood supply from voluntary unpaid blood donors; however 58 countries collect more than 50% of their blood supply from

family/replacement or paid donors.[3] [WHO Blood Safety and Availabilty].

The report based on a Eurobarometer survey of 26,788 European citizens carried out in October 2009 in the 27 European Union Member States shows that some 37% of European citizens have given blood. This is significantly higher than percentage recorded in 2002 (31%) when European Union was composed of 15 member states. An analysis of blood donation at country level reveals some significant differences, but no particular geographical skew. The countries with the highest levels of blood donation are Austria (66%), France (52%), Greece and the Republic of Cyprus (51%).A number of the newer Member States, and Eastern European countries generally, recorded blood donation levels over 40% (higher than the EU27 average of 37%),including Bulgaria, Estonia, Latvia, Lithuania, Hungary and Slovenia. In contrast, the lowest proportions of respondents who stated that they had already given blood are noted in Portugal (22%), Italy (23%), Poland (25%), Malta (29%) and Sweden (30%). The most significant increases in blood donation levels between 2002 and 2009 were recorded in Austria (51% up to 66%), France (38% up to 52%), Greece (40% up to 51%), Spain (25% up to 41%), and Germany (31% up to 41%).[20][Eurobarometer 2009]

Between 2008 to 2013, WHO reported an increase in voluntary non-remunerated blood donation in Africa by 37%. 2.13 million Voluntary non-remunerated donations were recorded in 2008 and 2.92 million in 2013. The total blood donations in Africa were 2.95 million which also increased to 4.34 million in 2013, approximately 47% increase.[3]

According to WHO data for United State of America, 13.63 million blood donations were reported in 2011. Most of the donations were voluntary Non-remunerated donations. However, 6.12 million and 5.61 million donations were reported in 2012 and 2013

respectively.[3]

A study that was carried out among health science student in south Indian shows that the majority (62%) of students never donated blood and a mere4.1% do not know their blood group. Among 156 donors, 59.6% have donated blood only once and 15.6% donated blood whenever there is a need.[2]

In Nigeria, 57, 652 blood donations were reported in 2011. 43,006 blood donations were reported in 2012, out of which 40,442 were voluntary non-remunerated. A total blood donation of 125,101 were reported in 2013, 53,764 were voluntary non-remunerated blood donations, out of which 40,540 were voluntary non-remunerated donations from first time donors while 13,224 were voluntary non-remunerated blood donations from repeated donors. Family and replacement donations were 71,337.[3]

2.4 FACTORS ASSOCIATED WITH PRACTICE OF BLOOD DONATIONS

According to a study conducted in University of Gonar, age of the respondents, knowledge about blood donations, attitude towards donation and having any family member ever received blood were significantly associated with practice of blood donation. Participants whose family member had received blood before are five times more likely to donate blood as compared to those whose family member had not received blood, those who are 25years old and above are two times more likely to donate blood than those who are less than 25years old. Respondents who scored more than mean of the knowledge questions about blood donation are two times more likely to donate blood compare to those who scored less.[15] Another study done in Ambo University associates family literacy with practice of blood donation; those who have literate family are two times more likely to donate blood as compared to those who

have illiterate family. This study also revealed that paid donors are three times more likely to donate blood as compared to voluntary donors.[21]There was an association between gender of the participants and blood donation practices whereby more than three-quarter of males had donated at least once. Age, program undertaken at university and ethnic group not significantly associated with blood donation.[8]

A study linked the used of television with blood donation; a television users are more likely to be non-donors because psychological stress increases among television users than non-users and television users are more concerned about game show, soap operas, commercials and action movies but non-television users are blank monitors with no sound.[22]

According a research conducted among undergraduate students of Ebonyi State University, Abakaliki, Southeast Nigeria, this study supported the one conducted in Donor's Clinic of Delaware and revealed that male students were about four times more likely to be blood donors compared to the female students. Also students who were willing to donate in future were three times more likely to donate compared to those who were not willing. This study also linked socioeconomic group with blood donation; students who were in low socioeconomic group were about three times less likely to donate compared with those in high socioeconomic group.[23] Better education background and exposure to past donor were the predicators of intention to donate blood. Both younger age group and better educational status were significantly associated with the intention to donate blood. The higher willingness of younger age groups may be attributed to the direct effect of the better educational background rather than age. Individual who reported that they had donated blood in the past and

who reported that they knew someone who had donated before were more likely to donate in future.[24]

CHAPTER THREE
3.0 METHODOLOGY

3.1 STUDY AREA

Ambrose Alli University (AAU) is a state owned University located in Ekpoma, Edo state, Nigeria. It was established in 1981 by the then Governor of Bendel State

(now Edo and Delta States), Professor Ambrose Folorunso Alli. The University was first known as Bendel State University then Edo State University and finally changed to its present name in commemoration of Professor Ambrose Folorunso Alli. The university is located in Ekpoma town which is the administrative headquarter of Esan West Local Government Area. Ekpoma lies on the geographical coordinate of latitude 6º45'N 6º08'E, the town has an official post office and it is home to Ambrose Alli University. The town is politically divided into 10 wards and occupies a land mass of 502km^2 (194sq.m).

3.2 STUDY DESIGN

A descriptive cross sectional study involving students of Ambrose Alli University was carried out.

3.3 STUDY POPULATION

This study population included male and female students of Ambrose Alli University.

3.4 STUDY DURATION

This study was carried out within the period of five months from April 2021 to August 2021.

3.5 SAMPLE SIZE ESTIMATION

Using Cochrane Formula for sample size determination:

$$\underline{n}=z^2pq/d^2$$

Where, $\underline{n}$=minimum sample size

z= standard normal deviation (z-score =1.96 at 95% confidence interval)

P =Proportion of the target population with a desired characteristic

p = proportion of respondents who donate blood whenever there is a need

(based on study conducted in South Indian)[2]= 15.6%[3] = 0.156

q =1 – p = 1 – 0.156 = 0.844

d = degree of precision at the confidence level of 95% = 0.05

Substituting the values for the formula above

$$\underline{n} = 1.96^2 \times 0.156 \times 0.844 / 0.05^2$$

$$\underline{n} = 3.842 \times 0.156 \times 0.844 / 0.0025$$

$$\underline{n} = \frac{0.5059}{0.0025}$$

$$\underline{n} = 202$$

Minimum sample size = 202

Allowance for non-response rate = 10% of 202 = 20.2

Sample size = minimum sample size + non-response rate

Sample size = 202 + 20.2 = 222 (this calculated minimum sample size was rounded up to 250)

3.6 SELECTION CRITERIA

- INCLUSION CRITERIA

1. Students who are available in school at the period of data collection
2. Students who are willing to participate.
3. Students who are duly registered for the academic year

- EXCLUSION CRITERIA

1. Students who are not available at the period of data collection

3.7 DATA COLLECTION TOOLS

Data was collected using structured interviewer administered questionnaires focusing on socio-demographic profile (SECTION A), knowledge of blood donation (SECTION B), attitude to blood donation (SECTION C) and willingness to donate blood (SECTION D).

The questionnaires were designed after intensive literature review.

3.8 SAMPLING METHOD

To ensure appropriate representation of majority of faculties of interest, only year 1 to year 5 students were considered for selection in this study. The total population of undergraduate students from the classes of interest is estimated to be 35,750 (Source: AAU Admission office. 2021)

Level of study	Sample size (Class size/population)	Proportion to be sampled	Approximated sample proportion

Year 1	250 x (7800/35,750)	54.6	55
Year 2	250 x (5720/35,750)	40.0	40
Year 3	250 x (8160/35,750)	57.1	57
Year 4	250 x (10150/35,750)	71.0	71
Year 5	250 x (3860/35,750)	27.0	27
Total		249.7	250

Probability proportion to size sampling was used to determine the number of respondents needed from each year of study, as shown in the table above.

3.9 PRE-TESTING

Twenty (20) questionnaires were pretested among 20 randomly selected students of College of Education, Igueben.

3.10 DATA ANALYSIS

Information collected from the respondents were entered and analyzed with Statistical Package for Scientific Solution (SPSS) version 21. Descriptive

statistics were done and frequency and proportion were used to summarize variables of interest. To assess the overall knowledge of the respondents about blood donation, the aggregate of correct responses for each respondent were considered and categorized into good (score greater than 11), fair (score of 7 to 11) and poor (if score is less than 7) for an overall score of 18.

To assess the overall attitude of respondents towards blood donation, responses were graded into 1 to 5 or 5 to 1 depending on the nature of the question so that positive attitude carries a higher score for each question. To dichomize the attitude score, aggregate score greater than 21 was given value of 1 and less than 21 was given value of 0. Mean score was now obtained which is 0.71 (±0.45). Since the mean score was greater than 0.5, it was inferred that the respondents have positive attitude towards blood donation.

3.11 ETHICAL CONSIDERATION

Ethical approval was obtained from the ethic and research committee of Irrua Specialist Teaching hospital, Irrua- Edo State. Informed verbal consent was obtained from the students. The students were ensured of confidentiality and were also given leverage to opt out of the study anytime they feel like.

CHAPTER FOUR

1 4.0 RESULT

A total of 250 respondents participated in this study giving a response rate of 100%

4.1 SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

TABLE 1: Sociodemographic features of the respondents

Variable	Frequency (250)	Percentage (%)
Age Range (years)(Mean±SD)		
15-20	106	42.4
21-25	119	47.6
>25	25	10.0
Sex of the respondents		
Male	121	48.4
Female	129	51.6
Marital status		
Single	243	97.2

Married	7	2.8
Ethnic group of the respondents		
Esan	121	48.4
Bini	18	7.2
Etsako	25	10.0
Others	86	34.4
Year of study of respondents		
First year	55	22.0
Second year	40	16.0
Third year	57	22.8
Fourth year	71	28.4
Fifth year	27	10.8
Faculty of respondents		
Law	34	13.6
Medical laboratory science	36	14.4
Clinical Science	36	14.4
Engineering	36	14.4
Agricultural science	36	14.4
Basic Medical Science	36	14.4
Education	36	14.4
Religion of the respondents		
Christianity	238	95.6
Islam	8	3.2
African traditional religion	4	1.2
Employment status of father or male		

guardian		
Unemployed	45	18.0
Self employed	112	44.8
Salaried employment	82	32.8
Not applicable	11	4.4
Employment status of mother or female guardian		
Unemployed	29	11.6
Self employed	123	49.2
Salaried employment	92	36.8
Not applicable	6	2.4

Majority of the respondents (47.6%) are between age 21 to 25. There are more female respondents than male and most of the respondents (97.2%) are single. About 48.4% (121) of the respondents are Esan followed by Etsako (10%). As shown in the table, majority of the respondents (28.4%) are in fourth year followed by third year (22.8%) and then first year (22%). Most of the respondents (95.6%) are Christians and most of the parents of the respondents are self employed.

4.2 KNOWLEDGE OF BLOOD DONATION

Table 2: Knowledge of blood donation among Ambrose Alli University students

Question	Frequency	%
How did you know about your blood group?		
Pre-admission screening	58	23.2
Blood donation	50	20.0
Hospital visit	122	48.8
Requirement for travelling	6	2.4
Requirement for driving license	5	2.0
I don't know my blood group	9	3.6
Do you know about rhesus system of blood grouping?		
Yes	91	36.4
No	99	39.6
I don't know	60	24.0
Is there artificial blood?		
Yes	34	13.6
No	87	34.8
I don't know	129	51.6
Can women donate blood while menstruating?		

Yes	37	14.8
No	128	51.2
I don't know	85	34.0
Blood donation cause anemia		
Yes	72	28.8
No	89	35.6
I don't know	89	35.6
Person with history of drug abuse can donate blood		
Yes	24	9.6
No	179	71.6
I don't know	47	18.8
Pregnant women can donate blood		
Yes	9	3.6
No	185	74.0
I don't know	56	22.4
Can a person with any type of cancer donate blood?		
Yes	8	3.2
No	192	76.8
I don't know	50	20
Can a breastfeeding mother donate blood?		
Yes	39	15.6
No	136	54.4
I don't know	75	30.0

What is the minimum gap between two donations?		
Less than 3 months	20	8.0
3-4 months	71	28.4
6 months	25	10.0
I don't know	134	53.6
Which blood group is universal donor?		
O	186	74.4
A	13	5.2
B	3	1.2
AB	9	3.6
I don't know	39	15.6
Which of these can be transmitted through blood transfusion?		
a) Malaria		
Yes	75	30.0
No	95	38.0
I don't know	80	32.0
b) HIV		
Yes	185	74.0
No	31	12.4
I don't know	34	13.6
c) Hepatitis B		
Yes	96	38.4
No	54	21.6
I don't know	100	40.0

d) Lassa fever		
Yes	103	41.2
No	62	24.8
I don't know	85	34.0
e) Yellow fever		
Yes	72	28.8
No	76	30.4
I don't know	102	40.8
f) Ebola		
Yes	108	43.2
No	56	22.4
I don't know	86	34.4
What is your blood group?		
O	106	42.4
A	42	16.8
B	17	6.8
AB	11	4.4
I don't know	74	29.6

As shown in the table 2 above, 48.8% (122) knew about their blood group during hospital visit. More than half of the respondents do not know the minimum age between two donations. Regarding diseases that can be transmitted during blood transfusion, 70% (175) of the respondents do not know that malaria can be transmitted through blood transfusion, the same with Hepatitis B (61.6%). More than half of the respondents are not aware that Lassa fever, yellow fever and Ebola can be transmitted through blood

transfusion. 42.4% (106) of the respondents are blood group O followed by blood group A (16.8%).

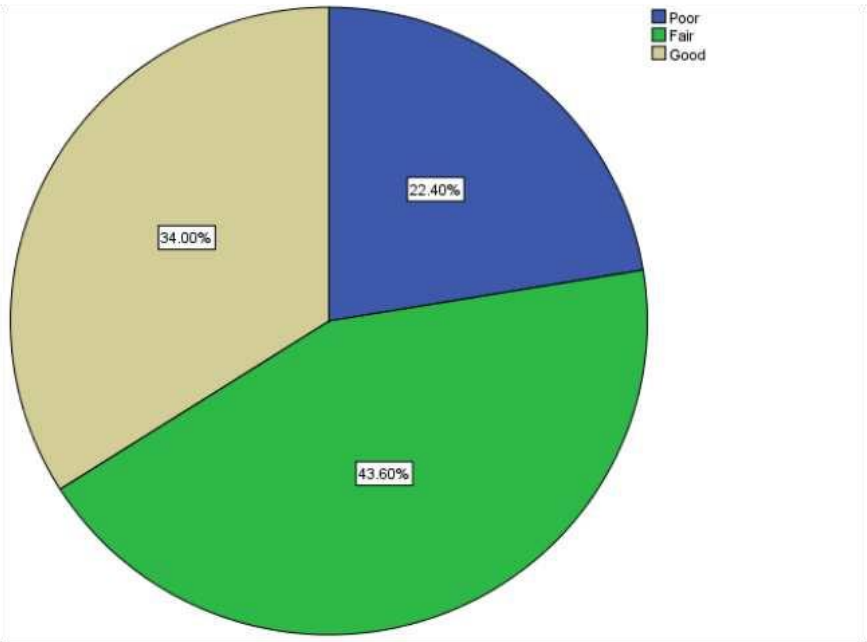

Fig. 1: Knowledge score of respondents

The figure above shows the respondents' knowledge about blood donation among Ambrose Alli University students. Majority of the respondents have fair knowledge (43.60%).

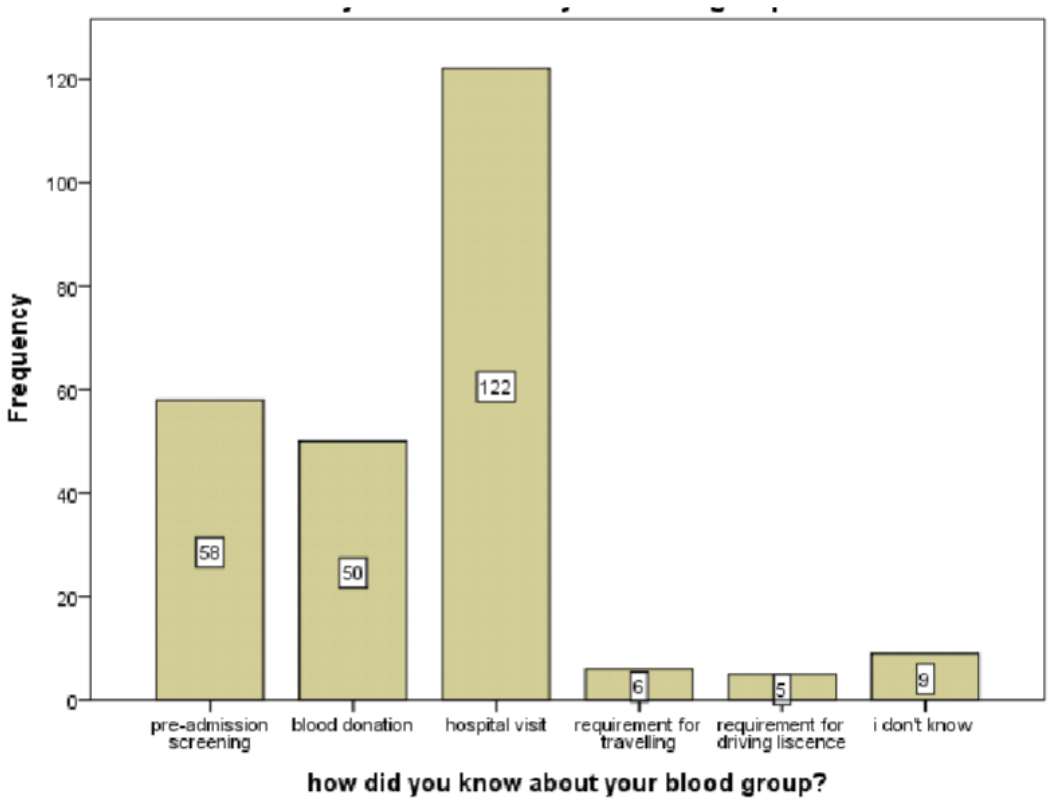

Fig 2: awareness of blood group

Most of the respondents (122) became aware of blood group during hospital visit.

4.3 ATTITUDE TO BLOOD DONATION

Table 3: Attitude of Ambrose Alli University students towards blood donation

Variable	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
I feel something harmful can happen during blood donation.	44 (17.6%)	94 (37.6%)	46 (18.4%)	44 (17.6%)	16 (6.4%)
Only patients relative should be asked to donate blood	24 (9.6%)	29 (11.6%)	25 (10.0%)	120 (48.0%)	46 (18.4%)
Blood donation is safe	32 (12.8%)	81 (32.4%)	81 (32.4%)	45 (18.0%)	7 (2.8%)
Blood donation makes one lose weight	24 (9.6%)	57 (22.8%)	77 (30.8%)	64 (25.6%)	22 (8.8%)
Best way to donate blood is voluntary non-remunerated	80 (32.0%)	87 (34.8%)	58 (23.2%)	10 (4.0%)	11 (4.54%)
People who donated blood may become infected because of needle insertion	34 (13.6%)	82 (32.8%)	71 (28.4%)	37 (14.8%)	22 (8.8%)
I believe that blood donated is always used for intended purposes	78 (31.2%)	97 (38.8%)	55 (22.0%)	12 (4.8%)	5 (2.0%)

According to the table above, 17.6% (44) of the respondents strongly agreed that something harmful can happen during blood donation while 17.6% disagreed. Majority of the respondents (48%) disagreed that only patient relatives should be asked to donate blood. 22.8% (57) agreed that blood donation can make one lose weight while 32.8% (82) agreed that people who donated blood may become infected due needle insertion.

To dichomize the attitude score, aggregate score greater than 21 was given value of 1

and less than 21 was given value of 0. Mean score was now obtained which is 0.71 (±0.45). Since the mean score was greater than 0.5, it was inferred that the respondents have positive attitude towards blood donation.

4.4 WILLINGNESS TO DONATE BLOOD

Table 4: willingness to donate blood among Ambrose Alli University Students

Variable	Frequency (250)	%
Have you donated blood before?		
Yes	34	13.6
No	202	80.8
I don't know	14	5.6
What are the reasons for your previous donation? (n=34)		
It is my moral responsibility to humanity	2	5.9
To save lives	23	67.6
To know my HIV status	2	5.9
To get money	1	2.9
No particular reason	6	17.7
Why haven't you donated blood?		
I am afraid of needle	25	12.4
My blood type not in demand	16	7.9
I am afraid of contracting disease	28	13.9
I haven't had the opportunity to donate	133	65.8

Willingness to donate blood to someone you do not know if called upon to do so		
Yes	149	59.6
No	59	23.6
I don't know	42	16.8
Willingness to donate blood if given incentive in cash or kind		
Yes	47	18.8
No	148	59.2
I don't know	55	22.0
Willingness to donate blood to family members or friends		
Yes	205	82
No	17	6.8
I don't know	28	11.2
Willingness to accept blood donation if need be		
Yes	176	70.4
No	35	14.0
I don't know	39	15.6
Have you ever donated during a blood donation campaign?		
Yes	16	6.4
No	215	86.0
I don't know	19	7.6

Have you ever encouraged someone to donate blood?		
Yes	64	25.6
No	167	66.8
I don't know	19	7.6
Have you ever refused to donate blood when asked?		
Yes	35	14.0
No	179	71.6
I don't know	36	14.4
Reasons for refusal of blood donation when called upon (n=35)		
Out of fear	6	17.1
It is against my culture and religion	6	17.1
No interest to donate	5	14.3
No time to go for donation	5	14.3
Insufficient information about blood donation	7	20.0
No reason	6	17.1

As shown in the table 4 above; only 13.6% (34) of the respondents have donated blood before. Out of the donors, 67.6% (23) indicated that they donated to save lives. 65.8% (133) of the respondents who haven't donated blood indicated that they had no opportunity to do so. 59.6% of the total respondents indicated that they are willing to donate blood to someone they don't know if called upon to do so, 18.8% indicated that they would donate if given incentive in cash or kind. Majority of the respondents (82%)

indicated that they would donate blood to family members or friends. 70.4% (176) agreed to accept blood transfusion. Only 6.4% (16) have donated blood during blood donation campaign. However, 14% (35) have refused blood donation before when asked; 20% indicated they declined due to insufficient information about blood donation while 17.1% refused due to religious and cultural background.

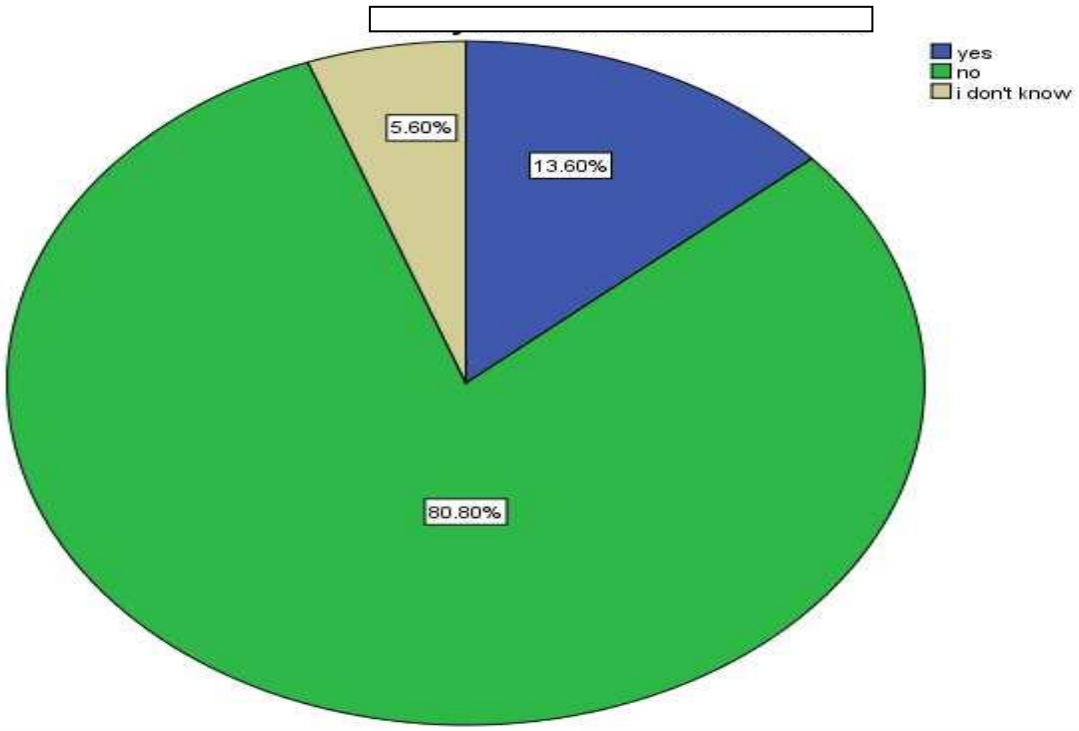

Fig. 3: prevalence of blood donation

The figure above indicates that only 13.6% of Ambrose Alli University students have donated blood before which shows a low prevalence of blood donation among them.

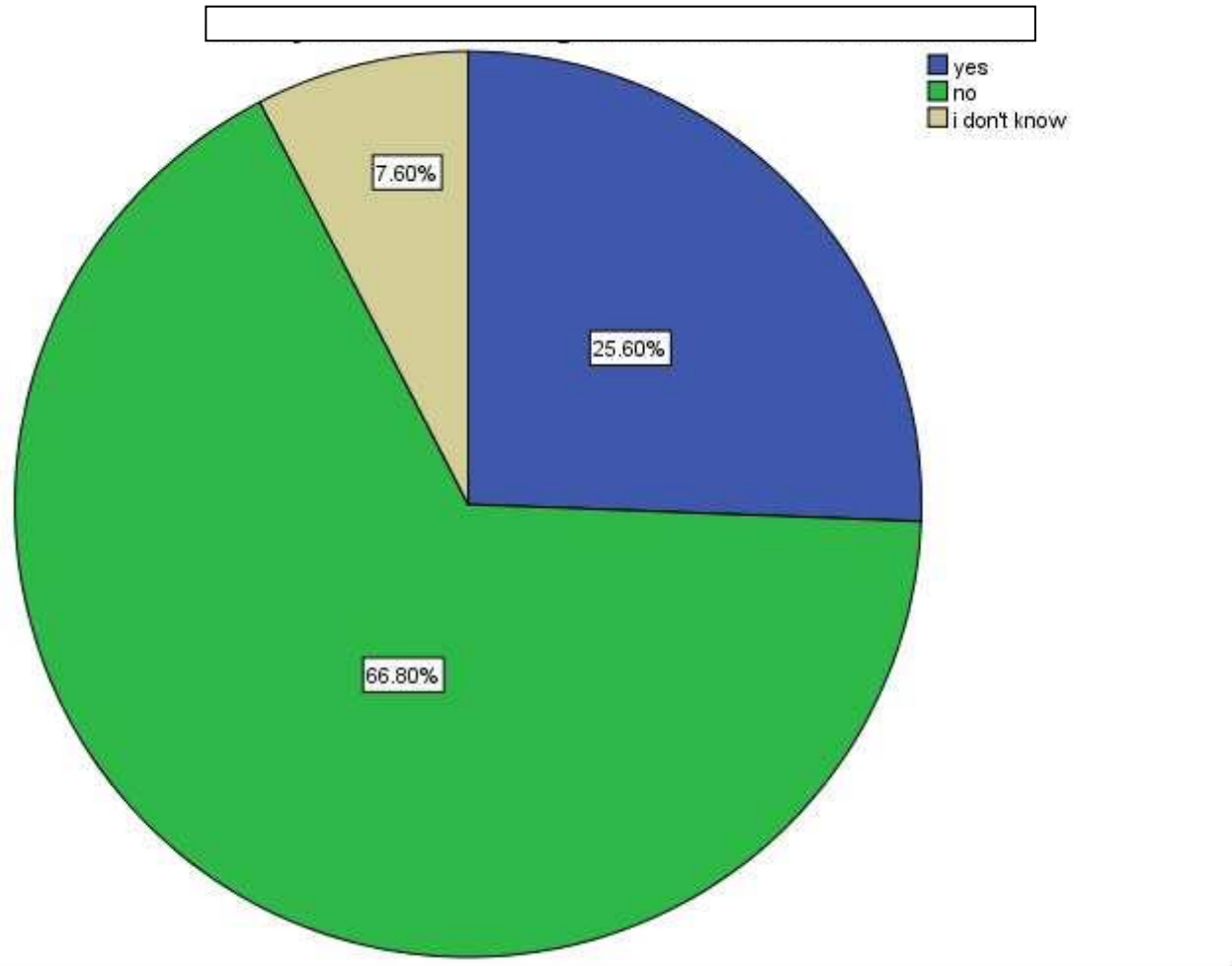

Fig 4: respondents' response when asked if they have encouraged someone to donate blood

Table 5: Association between sociodemography and practice of blood donation

Variables	Have you donated before		X^2	P-value
	Yes n(%)	No n(%)		
1) Age of respondents				
15-20	11 (10.4)	88 (83.0)	10.183	0.117
21-25	16 (13.4))	96 (80.7)		
>25	8 (32.0)	17 (68.0)		
2) Sex of respondents				
Male	24 (19.8)	91 (75.2)	7.453	0.059
Female	11 (8.5)	110 (85.3)		
3) Marital status of the respondents				
Single	33 (13.6)	196 (80.7)	1.568	0.667
Married	2 (28.6)	5 (71.4)		
4) Ethnic group of the respondents				
Esan	13 (10.7)	103 (85.1)	12.364	0.194
Bini	5 (27.8)	10 (55.6)		
Etsako	3 (12.0)	20 (80.0)		
Others	14 (16.3)	68 (79.1)		
5) Year of study of respondents				
First year	5 (9.1)	44 (80.0)	23.789	0.022
Second year	10 (25.0)	28 (70.0)		
Third year	5 (8.8)	47 (82.5)		

Fourth year	8 (11.3)	62 (87.3)		
Fifth year	7 (25.9%)	20 (74.1%)		
6) faculty of respondents				
Law	1 (2.9)	33 (97.1)	40.136	0.002
Medical laboratory science	1 (2.8)	33 (91.7)		
Clinical science	13 (36.1)	20 (55.6)		
Engineering	1 (2.8)	31 (86.1)		
Agricultural science	7 (19.4)	29 (80.6)		
Basic medical science	7 (19.4)	26 (72.2)		
Education	5 (13.9)	29 (80.6)		
7) Religion of respondents				
Christianity	35 (14.7)	189 (79.4)	3.073	0.800
Islam	0 (0.0)	8 (100.0)		
African Traditional religion	0 (0.0)	4 (100.0)		
8) Employment status of mother or female guardian				
Unemployed	4 (13.8)	23 (79.3)	9.761	0.370
Self employed	16 (13.0)	101 (82.1)		
Salaried employment	14 (15.2)	73 (79.3)		
9) Employment status of father or male guardian				
Unemployed	4 (8.9)	39 (86.7)	29.932	0.000
Self employment	11 (9.8)	94 (83.9)		
Salaried employment	18 (22.0)	61 (74.4)		

According to table 5 above, year of study, faculty of respondents and employment status of father or male guardian are factors associated with practice of blood donation among Ambrose Alli University students because the p-values are less than 0.05

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 DISCUSSION

The current study assessed the knowledge, attitudes and practice of Ambrose Alli University students towards blood donations. The main purpose of this study is to identify approaches and issues that influence the recruitment and retention of voluntary

non-remunerated blood donors to achieve 100% voluntary blood donation.

Socio-demographic pictures

All of the students were within the eligible age group for the blood donation age ranging from 16 and above. The mean age of the respondents was 22.3±0.45 years,

Studies about Knowledge of voluntary blood donation

Knowledge on blood donation among students was measured by using the questions which included the respondents understanding on risk of blood donation to donors; how they got to know about blood donation and conditions that can be transmitted through blood donation. The majority of the respondents (43.6%) have fair knowledge about blood donation, this is contrary to the study conducted in Gondar town, Northwest Ethiopia where 56.8% had adequate knowledge about blood donation probably due to different geographical location. 48.8% (122) know about their blood group during hospital visit, only 28.4% (71) know the minimum gap between two donations. A study conducted among university students in Kilimanjaro, Tanzania shows that 85.3% of the respondents had adequate knowledge about blood donation. Another study conducted among university of Benin Teaching hospital workers showed that 92.6% of the respondents expressed good knowledge. This percentage is contrary to the percentage that showed good knowledge in this study; the disparity may be due to the fact that it was conducted among hospital workers.

Studies about attitude towards blood donation

In this study, majority of the respondents showed positive attitude towards blood donation. This study agrees with the study done in university of Gordar, Ethiopia where 86.7% of the respondents had positive attitude towards blood donation. This also

agreed with the study conducted in Calabar and Benin City. From the study conducted in university of Benin Teaching hospital among the workers, 72.2% of the respondents accepted that voluntary blood donation is the best source of blood compared to 66.8% in this study who indicated the same. However, more than half of the respondents (55.2%) felt that something harmful can happen during blood donation. Though, majority of the respondents showed positive attitude, more positive steps should be done to educate the population about blood donation.

Studies about practice towards blood donation

Coming about the sharing of blood donation experience, it can be seen that only about 13.6% of the respondents are blood donor at the moment, this is far less than expected in a student environment. This result agrees with a study carried out among health science students in south Indian, majority of the respondents (62%) have never donated blood before despite schooling in a teaching hospital where blood is needed to save lives. In this research, it was discovered that out of the respondents who haven't donated blood before, 53.2% (133) indicated that they didn't donate because they had no opportunity to do so. And when asked if they would donate when called upon, 59.6% (149) indicated that they would. However, 18.8% (47) agreed that they would donate if given incentive in cash or kind. 82% (205) agreed to donate blood to family members while 70.4% (176) agreed to accept blood transfusion if need be. Regard donation during campaign, 86% (215) indicated that they have never donated during a campaign, this shows more positive steps must be taken to create awareness among population about blood donation. 14% (35) have refused to donate blood before for several reasons which include; fear, cultural and religious background and insufficient information

among blood donation. 13.6% prevalence of blood donation is less than expected but this indicate the prevalence of blood donation in Nigeria where as at 2011, only 57,652 donations were reported, 43,006 donations were reported in 2012 while 125,101 blood donations were reported in 2013 and only 53,764 were voluntary non-remunerated donors, out of 40,540 were voluntary non-remunerated donations from first time donors. Only 13,224 were voluntary non-remunerated blood donation from repeated donors. This shows that a lot need to be done to get more donors into the donor pool and this can be done by creating awareness especially among tertiary institution students and mitigating their fears and myths about blood donation.

Factors associated with prevalence of blood donation

The relationship between year of study of the respondents and willingness to donated blood is statistically significant with $p < 0.022$. Other factors affecting blood donation include faculty of the respondents ($p<0.002$) and employment status of the father or male guardian of the respondents ($p<0.000$). The study conducted among undergraduate students of Ebonyi State University linked socioeconomic group and educational status of the students to blood donation; students who were in low socioeconomic group were three times less likely to donate blood compared to those with high socioeconomic group.

5.1 CONCLUSION

The general knowledge on blood donation among respondents was satisfactory but not significantly good and above 50%. Present study showed that lack of awareness on blood donation was there even among the University students. Hence, an intermittent awareness program on blood donation has to be started in various educational

institutions to achieve a 100%voluntarynon-remunerated blood donation. The current study specifies that majority of the participants never donated blood despite perceived positive attitude. The reasons for non-donations were lack of information on blood donation, cultural and religious background as well as negative attitude like blood donation makes the person loss weight, fear and other multiple reasons. The non-donors with positive attitude should be motivated and awareness about voluntary blood donation should be provided to promote blood donation on voluntary basis, while non-donors with the negative attitude are needed to be educated about the importance and health benefits about blood donation. Their doubts regarding blood donation should be clarified and they should be motivated to donate blood on regular basis. Delivery of adequate knowledge, awareness, communication materials and advertisements to address the fear factor may strengthen the recruitment and retention of voluntary blood donors to donate blood on regular basis to achieve 100% of blood donation only on voluntary basis. Necessary steps to involve students and to create opportunities for them to donate blood are the vital needs to be given, if we need to improve the voluntary collection of blood from them. Studies are needed to be carried out in all states across the country to walk towards 100% voluntary non-remunerated blood donation in Nigeria.

5.2 RECOMMENDATION

To promote voluntary non-remunerated blood donation, it is crucial to build a positive and progressive image of the donor in the public and develop blood donation as an act of charity. So, a good public relations, mainly with employing different media is a crucial promotional means in blood donor retention and recruitment in providing information on blood donation and its positive effect on human health. Community participation and

involvement mainly the youth of the nation in blood donation can be encouraged with different methods and techniques by government and private sectors with different awareness programs, public honor to the active donors and genuine thanksgivings and offerings by the society and the government.

Making donors feel that their blood donations are useful for saving of lives is an important aspects. Not all the first time donors are repeated donors so it is certainly essential to focus donor retention policies on the conversion of the first timer donor into the repeated ones.

Each of the population has different knowledge, beliefs and practice so it is necessary to find out what the general population and donors know. Further research should be done into the knowledge, attitude and practice of the blood donation among general population, which would enable to identify proper knowledge, attitude and practice of blood donation in the society. The current study gives important information regarding proper knowledge, attitude and practice of blood donation and in fulfilling the aim of 100 % voluntary non-remunerated blood donation as soon as possible.

IRRUA SPECIALIST TEACHING HOSPITAL, KM87, BENIN-AUCHI
EXPRESS WAY, IRRUA, EDO STATE.

HREC Research approval number_____
HREC Approval Date _____
Dear Respondent,
Title of the Research:
Knowledge, attitude and practice towards blood donation among Ambrose Ali University students
Names and affiliation(s) of researcher(s) of applicant(s):
SAKA SULYMONAYOBAMI, The researcher is currently a medical student of Ambrose Alli University, Ekpoma .
Sponsor of Research:
Self Sponsored
Procedure of research, what shall be required of each participant and approximate total number of participants that would be involved in the research:
The research covers a total number of 250 participants and entails the use of a questionnaire which the researcher requires the participant to fill them
Risks:
The risk associated with this study is no more than minimal and may be a breach of privacy and confidentiality
Cost to the participants, if any, of joining the research:
Participation in this research will be at no cost to the participant.
Benefits:
The research will go a long way in assessing the availability, distribution as well as utilization of maternal health services in major areas of the Local Government.
Confidentiality:
The researcher assures you that all that will be revealed will be treated with utmost confidentiality and respect. Your names, address and hospital number will not be used in this study. The information gotten will be inputted into a password secured computer
Voluntariness:
Please you are not under any compulsion to fill this questionnaire as it is of your own free will.
Alternative to Participation:
There will be no repercussion for refusal to participate
Due inducement(s):
There will be no inducements to partake in this research

Consequences of participants to withdraw from research and procedure for orderly termination of participation:
Participants are free to withdraw from the study whenever they do not feel like continuing and this will be with no repercussion
Modality of providing treatments and action(s) to be taken in case of injury or adverse event(s):
The researcher will bear cost in case of any eventuality.
What happens to research participants when the research is over:
Information of the outcome will be made known to the participants through journal publication.
Statement about sharing of benefits among researchers and whether this includes or excludes research participants:
None
Any apparent or potential conflict of interest:
None

STATEMENT OF PERSON OBTAINING THE INFORMED CONSENT:
I have fully explained this research to and have given sufficient information, including about risks and benefit, to make an informed decision.

DATE:_____ SIGNATURE:_____

NAME:_____

STATEMENT OF PERSON GIVING CONSENT
I have read the description of the research or have had it translated to the language I understand. I have also talked it over with the researcher to my satisfaction. I understand that my participation is voluntary. I know enough about the purpose, methods, risks and benefits of the research study to judge that I want to take part in it. I understand that I'm free to stop being part of this study at any time. I have received a copy of this consent form and additional information sheet to keep for myself.

DATE:_____ SIGNATURE:_____

Apply your thumb
Print here

NAME:_____

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PLEASE KEEP A COPY OF THE SIGNED INFORMED CONSENT

QUESTIONNAIRE

DEPARTMENT OF COMMUNITY HEALTH, AMBROSE ALLI UNIVERSITY COLLEGE OF MEDICAL SCIENCES

TOPIC: KNOWNLEDGE, ATTITUDE AND PRACTICE OF BLOOD DONATION AMONG AMBROSE ALLI UNIVERSITY STUDENTS

Please answer all questions as accurately as possible as all information provided will be handled with utmost confidentiality. Tick as appropriate and fill necessary details where appropriate.

SECTION A: SOCIO-DEMOGRAPHIC AREA

1. Age:_____years
2. Sex: Male [ ] Female [ ]
3. Marital status: Single [ ] Married [ ] Divorced [ ]
4. Ethnic Group (Tribe): _____
5. Year of study : 1st yr [ ] 2nd yr [ ] 3rd yr [ ] 4th yr [ ] 5th yr [ ] 6th [ ]
6. Department _____
7. Religion: Catholic[ ] Islam [ ] Jehovah witness [ ] African Traditional Religion [ ] Protestants [ ] Others(specify)
8. Employment status of father or male guardian: Unemployed [ ] self-employed [ ] salaried employment [ ] not applicable [ ]
9. Employment status of mother or female guardian_: Unemployed [ ] self-employed [ ] salaried employment [ ] not applicable [ ] _____

SECTION B: KNOWLEDGE OF BLOOD DONATION

10. How did you know about your blood group? Pre-admission screening [ ] Blood donation [ ] Hospital Visit [ ] Requirement for travelling [ ] Requirement for driving license [ ] I don't know [ ]
11. Do you know about Rhesus System of Blood grouping? Yes [ ] No [ ]I don't know [ ]
12. Is there artificial blood? Yes [ ] No [ ]I don't know [ ]
13. Can women donate blood while menstruating? Yes [ ] No [ ]I don't know [ ]
14. Does blood donation cause anemia? Yes [ ] No [ ]I don't know [ ]
15. Is someone with a history of drug abuse allowed to donate blood? Yes [ ] No [ ] I don't

know [ ]

16. Are pregnant women allowed to donate blood? Yes [ ] No [ ] I don't know [ ]
17. Can a person with any type of cancer donate blood? Yes [ ] No [ ] I don't know [ ]
18. Can a breastfeeding mother donate blood? Yes [ ] No [ ] I don't know [ ]
19. What is the minimum gap between two donations? Less than 3 months [ ] 3-4 months [ ] 6months [ ]I don't know [ ]
20. Which blood group is universal donor? O: [ ] A: [ ] B: [ ] AB: [ ]I don't know [ ]
21. Which of these conditions can be transmitted through blood transfusion?
    a) Malaria Yes [ ] No [ ] I don't know [ ]
    b) HIV Yes [ ] No [ ] I don't know [ ]
    c) Hepatitis B Yes [ ] No [ ] I don't know [ ]
    d) Lassa fever Yes [ ] No [ ] I don't know [ ]
    e) Yellow fever Yes [ ] No [ ] I don't know [ ]
    f) Ebola Yes [ ] No [ ] I don't know [ ]
22. What is your blood group? O: [ ] A: [ ] B: [ ] AB: [ ] I don't know [ ]

SECTION C: ATTITUDE TO BLOOD DONATION

Statement	Strongly agree	agree	Not sure	Disagree	Strongly disagree
23. I feel something harmful can happen to a donor during blood donation.					
24. Only patient relatives should be asked to donate blood.					
25. Blood donation is very safe.					
26. Donation of blood makes one lose weight.					
27. Best way to donate blood is voluntary and non-remunerated.					
28. People who donate blood may					

become infected because of needle insertion.					
29. I believe that donated blood is always used for intended purposes.					

SECTION D: WILLINGNESS TO DONATE BLOOD

30. Have you donated blood before? Yes [ ] No [ ] I don't know [ ]

31. If YES, what are the reasons for your previous donation? It is my moral responsibility to humanity [ ] To save lives [ ] To know my HIV status [ ] To get money [ ] No particular reason [ ]

32. If No, why? I am afraid of needles [ ] my blood type not in demand [ ] I am afraid of contracting diseases [ ] I haven't had opportunity to donate [ ]

33. Will you donate blood to someone you do not know if called upon to do so? Yes [ ] No [ ] I don't know [ ]

34. Will you donate blood only if you are given an incentive in cash or kind? Yes [ ] No [ ] I don't know [ ]

35. Would you donate blood to family members or friends? Yes [ ] No [ ] I don't know [ ]

36. Would you be willing to accept blood donated for you if you had need to? Yes [ ] No [ ] I don't know [ ]

37. Have you ever donated during a blood donation campaign? Yes [ ] No [ ] I don't know [ ]

38. Have you ever encouraged someone to donate blood? Yes [ ] No [ ] I don't know [ ]

39. Have you ever refused to donate blood when asked to? Yes [ ] No [ ] I don't know [ ]

40. If YES to the question above, why? Out of fear [ ] It is against my culture and religion [ ] No interest to donate [ ] No time to go for donation [ ] Insufficient information about blood donation [ ] No reason [ ]

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