KNOWLEDGE, PRACTICE AND PERCEIVED BENEFITS ON VOLUNTARY BLOOD DONATION AMONG PUBLIC SECONDARY SCHOOL TEACHERS IN IBADAN NORTH LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA

BY

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B.Sc Zoology (A.B.U)

Matric. No.: 204555

A project in the Department of Health Promotion and Education submitted to Faculty of Public Health,

In partial fulfillment of the requirement for the degree of

MASTER OF PUBLIC HEALTH

(Health Promotion and Education)

Of the

UNIVERSITY OF IBADAN

JUNE, 2019

ABSTRACT

Blood is life and the most donated tissue for therapeutic treatment in medical history. Voluntary Non-Remunerated Blood Donors (VNRBD) worldwide were adjudged to have the safest blood devoid of Transfusion Transmissible Infections (TTIs). There is dearth of information on the knowledge, practice and perceived benefits of voluntary non-remunerated blood donation among the public. This study was therefore, designed to investigate the knowledge, practice and perceived benefits of VNRBD among public secondary school teachers in Ibadan North Local Government Area, Oyo State, Nigeria.

The study was a descriptive cross-sectional survey using a multistage sampling method to select 290 respondents. A semi-structured self-administered questionnaire comprising of socio-demographic characteristics, 36-point knowledge and 32-point practice scale was used to elicit information related to respondents on blood donation. Knowledge scores of 0-11, >11≤23 and >23 were rated poor, fair and good, respectively. Practice scores of 0-15 and >15 were rated poor and good practice, respectively. Data were analysed using descriptive statistics, Chi-square test, with level of significance set at 5%.

The mean age was 37.2±10.2 years, 67.6% of respondents were married, 66.2% of the respondents were female. Few (25.2%) were within the age bracket 39-45 years. Majority (73.8%), of the respondents had a first degree. Most (89.3%), of respondents were of Yoruba ethnic group while more than three-quarter (79.7%), were Christians. One-third of respondent (33.1%), had good knowledge of blood donation, while a little above three-quarter (76.2%), had poor practice. Majority, (97.6%) ever heard of blood donation, 23.1%, had donated blood before. Different reasons were given for donating blood which included a friend needed blood (41.8%), voluntary (34.3%), a family/relative (20.9%), among others. Reasons for non-blood donation 34.5% of respondents said they were never approached for it, 3.6% said fear of weakness from donation, 7.6% phobia for needles; 21.1% said no cause to donate, while 2.7% were scared of knowing their viral status among others. Influencing factors for blood donation among respondents were to save life (83.1%), voluntary (84.1%), a family/friend was in need of blood (76.9%) and during emergency (85.2%). Detail explanation of procedures (64.4%), reassurance of its safety (13.8%), blood compatibility to that of patient (11.1%), among others were the factors that could motivate respondents to donate blood. Education, marital status and religion were

statistically significant with the respondents' knowledge. Association between knowledge and practice was equally significant.

Knowledge and practice of blood donation was poor among teachers in Ibadan North Local Government Area of Oyo State. The perceived benefits included among others, to save life, emergency needs and a family/friend needed blood. Because teachers' opinions were respected in the society, therefore, sensitization and workshop on blood donation should be embarked upon by the Teaching Service Commission in conjunction with the National Blood Transfusion Service and the State Ministry of Health. Public enlightenment campaign on voluntary non-remunerated blood donation is also recommended.

Keywords: Blood donation, treatment, voluntary non-remunerated blood donors, transfusion transmissible infections

Word count: 452

DEDICATION

This project is dedicated to God Almighty who gave me the grace to accomplish this programme despite all odds, may His name be praised.

ACKNOWLEDGEMENTS

All glory to God Almighty for His grace towards the completion of this programme. I am highly indebted to my indefatigable and dynamic supervisor Dr. Musibau A. Titiloye for his ever willing spirit to support, advice and directive towards the successful completion of this programme.

My gratitude goes to the Head of Department, Dr. Oyewole O.E. for his encouragement. I appreciate the efforts of all the academic staff in the Department for their immense efforts and contributions towards the success of the programme. The non-academic staff Messrs. John Imaledo, Olusegun Bello, Lanre Quadri, Oyeyemi T. and others are appreciated for their assistance in one way or the other.

My special appreciation goes to my lovely and beautiful wife, Roseline IfeOluwa, for her moral and financial support towards the completion of the programme. My lovely children (Micah & Mathilda) for their love and support during the programme I appreciate you. Dr. Bola Agbona, Dr. Joseph Iyanda, Dr. Adeoye of New Day Hospital, Ibadan, Mr. Moses Olukotun, Engr. Adongbede C.B. and others too numerous to be mentioned are all appreciated for their financial and moral support to make this course a reality.

I am also indebted to my colleagues Mrs. Babalola C.O, Mrs Jaiyeola E., Mrs Adeleke V. and Mrs. Oluwatosin O. Others are Mrs Akinlade O., Dr. Akano O., Mr. Joseph Abe, Mrs. Akiode, Mr. Akinloye, Pst. Abu and Akinbola for their financial and moral support. I equally appreciate my classmates Paul Amao (Class Rep.), Kayode Abisoye, Emma Yelotan, Gloria Onuh, Olabisi Elias and others too numerous to mentioned for their assistance and encouragement.

I cannot but appreciate the respondents without which this work wouldn't have been possible for their time and cooperation, you are wonderful.

CERTIFICATION

I certify that this study was carried out by Olusegun Ajayi DADA in Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.

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LIST OF ABBREVIATIONS

HBV	-	Hepatitis “B” Virus
HCV	–	Hepatitis “C” Virus
HIV/AIDS	–	Human Immune Deficiency Syndrome Virus / Acquired Immune
IBNLGA	–	Ibadan North Local Government Area
IFRC	_	International Federation of Red Cross and Red Crescent Societies
NACO	–	National Aids Control Organisation
NBTS	–	National Blood Transfusion Service
NPC	_	National Population Commission
TTIs	–	Transfusion Transmissible Infections
TESCOM	_	Teaching Service Commission
VBD	–	Voluntary blood donations
VNRBD	–	Voluntary non-remunerated blood donor
WHO	–	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Autologous Donors – These are the set of donors that donate blood for self-usage ahead of time.

Blood Donation – The act of bloodletting (phlebotomy).

HIV, HbV, HcV and Syphilis – These are viral infections transmitted through blood transfusion.

Paid/ Commercial Donors – Those who donate their blood for the sake of money.

Perceived Benefits of Blood Donation – These are the benefits derived from the act of donating blood.

Replacement Donors - These are donors who donate blood in replacement of the one given to their family member/relative.

Voluntary non-remunerated Blood Donors – Those who donate their blood willingly without expecting financial reward.

CHAPTER ONE

INTRODUCTION

1.1 Background

Blood transfusions forms a crucial and irreplaceable part in the medical management of many diseases. The collection of blood from voluntary non-remunerated blood donors (VNRBD) from low risk population is an important measure for ensuring availability of quality, adequate and safety of blood for transfusion. In a situation whereby there are fatal and numerous road traffic accident, aneamia in pregnancy, post-partum hemorrhage, anemia in children, pregnancy and child birth complications, surgical operations and a host of terminal diseases that required blood transfusion, availability of safe and quality blood is of utmost importance (Agrawal, Tiwari, Ahuja and Kaira, 2013). In a state like Uttarakhand in India, which is visited by lakhs of visitors during pilgrimage season and where natural calamities and accidents happens commonly, the availability of blood is of paramount importance (Agrawal, et al, 2013).

Blood donation is the acts of giving one's blood and blood products so that it can be transfused to another person for therapy. It is of great advantages to the donor, recipient, the community and the blood banks. Globally, about 80 million unitsk of blood are donated annually but 2 million out of this is donated in the Sub-Saharan Africa where the need for blood is so enormous (Salaudeen and Odeh, 2011). In Nigeria with a population of about 120 million according to 2006 census, the yearly collection is about 80,000 units from the records of the National Blood Transfusion Service. Donations through other agencies /services both private and public facilities are unaccounted for due to poor statistical records (NBTS, 2014). Nigeria is a large country whose public health is administered at a three tier levels of government. The private sector is a big player in health issues accounting for about 70% of all health facilities in the country.

The blood transfusion service in Nigeria is in the process of evolving from the current limited level of hospital-based, family replacement, donor service which is unable to meet the demands of the whole country to a functional, centralized service which would be based on blood donations from voluntary, low-risk, non-remunerated blood donors, who would be free from transfusion transmissible infections (TTIs).

This is a very big challenge, not only in Nigeria but throughout the whole world (Operational Guidelines for Blood Transfusion Practice in Nigeria, 2007; World Health Organization, WHO plus International Federation of Red Cross and Red Crescent Societies IFRC, 2010). If one percent of each Country's population can donate blood annually, this challenge would be a thing of the past (WHO, 2008).

Studies have shown that economic status, social status, cultural, demographic and historical background could affect the variation in the donating patterns of a region which may affect the drives towards blood donation. Because of these motivating factors in donating blood from region to region, community to community, ethnicity to ethnicity globally, there is absolute need for a better understanding of the correlates of blood donation (Saberton, Paez, Newbold, and Heddle, 2009). Nigeria with a population of 120 million people according to 2006 census, if 1% of the population could donate, then the blood need for the Nation would be met, but this is not the case.

Therefore, there is a general apathy to donation of blood globally to meet with the increased demands of blood even among physicians who make use of blood and blood products for their patients (Gillespie and Hillyer, 2002; Benedict, Usimenahon, Alexander and Isi, 2012; NBTS Records, 2012). Also, the safety of the blood for transfusion with regard to the risk of transfusion transmissible infections (TTIs) is of paramount concern most especially in the developing countries like ours. It is assumed that blood from voluntary non-remunerated donors are adjudged the safest source of blood (Gillespie, and Hillyer, 2002; Benedict, Usimenahon, Alexander and Isi, 2012).

Globally, altruistic, regular voluntary non-remunerated donors are adjudged the safest blood donors. However, the prevalence of paid donors and family replacement is uppermost in most countries of the world. In many countries, concerted efforts are geared towards the attainment of 100% voluntary non-remunerated blood donation. Countries like India forbid the collection of blood from paid donors, but many times the health care facilities have no option than to collect blood from these paid donors due to the scarcity of voluntary blood donors (Sojka, 2003).

In the year 2008, WHO, had an estimated report of 38% of voluntary blood donated by the youths of below age 25years. Therefore, for the WHO adopted policy aimed at achieving

100% donor blood procurement from voluntary non-remunerated blood donors by the year 2020, it is pertinent for countries to focus on the youths of age range of between 18 -30 years. A study carried out indicated that majority of the participants (89.25%) had never donated blood before, out of this (63.58%) showed some positive observed attitudes towards it (Zaller, 2005, Manikandan, Srikumar and Ruvanthika, 2013). Their reasons for non-donations were no one has ever asked them to donate blood; there was no information or awareness on blood donation and it's perceived benefits and importance; don't know where to go for donation and other negative attitude for instance, blood donation will make donors weak, reduce libido, reduce immunity and consequently leads to lack of blood (36.42%) (Zaller, 2005, Manikandan, et al, 2013). Hence, this study is to investigate what is known about voluntary blood donation, its' practice and the benefits derived from such, among public Secondary School Teachers in Ibadan North Local Government Area, Oyo State.

1.2 Statement of the Problem

The needs for blood and blood products is daily increasing, and this could be adduced to the facts that there are improvements in medicine to ensure that peoples live are not shortened due to non- availability of blood and blood products in the blood banks. In as much as blood cannot be manufactured (that is, no substitute) like other pharmaceutical products, therefore, blood from low- risk non-remunerated voluntary donors is the way out of sourcing for quality blood. But to the contrary, this is a big challenge especially in the developing countries and worldwide generally. To have a population donating for altruistic sake is like a proverbial saying of making a Carmel go through the eye of a needle most especially in the developing world. There are no adequate incentives to serve as a motivating factor for the teeming youth population of donating age and the regular voluntary non-remunerated donors are aging and needs replacement, that is the big challenge (Bönig, Schemidt, Hourfar, Schuttrumpf, and Seifried, 2012).

Various data have suggested that if we do not change our strategies and bring in new innovation of recruiting new or first time donors, retain the existing ones through donor retention strategies, making family replacement donors to become voluntary donors as well as bringing back lapse donors to donate again and again then we might not meet the rising need for blood and blood products globally and Nigeria in particular. Since, regular voluntary non-remunerated donors are adjudged to be the safest blood donors, a lot of

motivating factors must be put in place so as to have more volunteer donors in order to avert the impending public loss of confidence in blood and blood products available in the blood banks and also meeting need for increase in demand for blood and its' products (Saberton, Paez, Newbold et al., 2009).

In a study carried out by a team of researcher on perception of blood donation among Medical and Pharmaceutical Science Students of Nnamdi Azikiwe University, Akwa found out that because of the medical inclination of respondents there was high knowledge level of blood donation but poor practice of blood donation (Nwabueze, S., Nnebue, C., Azuike, E., Ezenyeaku, C. et al. 2014). Similar survey conducted by Salaudeen et al., in determining the knowledge and practices of blood donation among adults in a State in Northern Nigeria showed low knowledge and poor practices of blood donation among respondents in comparing their result to that of the one conducted in South Western Nigeria where by Egbewale et al on knowledge, attitude and practice of blood donation where 80% of respondents had poor knowledge of blood donation. The observed gap on knowledge of blood donation is a paramount factor militating against blood donation practices in Nigeria (Salaudeen, A. G., Musa, O.I., Awoyemi, A. O., Bolarinwa, A. O., et al., 2011). Also, a study carried out in Maiduguri on declining frequency of blood donation among elites indicated that it was not only dearth of knowledge on blood donation that could cause a decline, but also the fear of viral screening result especially HIV/AIDS as it was found out that over 80% of respondents indicated this as their reason followed by economic hardship (Ahmed, S. G., Gamas M. G., et al. 2006).

According to an investigation carried out by Kumari and Raina, 2015, in India, it was found out that blood safety initiative programme became an integral part of the country's National Aids Control Organization (NACO) due to the increase in the prevalent of HIV /AIDS. It was revealed

that voluntary non-remunerated blood donors (VNRBD) are not under any form of pressure or coercion to donate and they also know the standard criteria for donation, can self-defer themselves when they feel they are unfit to donate. Therefore, their blood is adjudged to be the safest. WHO attested to this by advocating for 100% voluntary blood donation (VBD) by the year 2020? They are also easily motivated to become regular and permanent donors and respond quickly to emergency calls for blood and blood products needs especially for rare blood groups. Apart from these advantages, there are some other

medical benefits of being a regular voluntary blood donor (VRNBD). Donating regularly reduces the incidence of acute myocardial infarction. It also reduces the insulin resistance and increases the insulin sensitivity and thus improve the glucose balance in the body. Seropositivity of HIV, HBs Ag, HCV and Syphilis is more pronounced in replacement and paid donors as compared to VNRBD (Kumari, and Raina, 2015).

For the fact that the centralized blood banks are saddled with the responsibility of making safe, quality and adequate blood available for every residents of a country at an equitable and cost effective manner, there is still the big challenge of blood shortage to contend with. As the donor population is declining so also the demand for blood and blood products is increasing. This increase is due to the advancement in surgery, treatment of cancer and other terminal ailments and some life threatening cases like anemia, road traffic accidents, and a host of others.

While the decline is most of the time caused by deferral using the screening guidelines to screen out those perceived with risky behavior, screening the blood for transfusion transmissible infections (TTIs), and some other diseases that is not healthy for blood donation, these precautions are essential to ensure the safety of both the donors and the recipients (NBTS Operational guidelines, 2007, Safe Blood for Africa Foundation Training manual, 2013).

A study carried out by a team of researchers among regular health science students of Samora University, Ethiopia on Knowledge, Attitude, Practice and Associated factors towards Voluntary Blood Donation (VBD), discovered that out of a total sample population of 339, 319 (94.1%) had information on blood donation, 305 (90%) of the respondents had knowledge of source of blood donation, 79.6% and 44.2% of the respondents did not know the age and weight limit for blood donation respectively.

A little above half (50.2%) of the study participants were unaware whether hepatitis C (HCV) virus could be transmitted via blood transfusions, however, 96% and 67.1% of the respondents are quite aware that HIV and HBV viruses could be transmitted through blood transfusion respectively (Tadesse, Ayalew, Yisma, Liben and Wudu, 2018). Among the total respondents of 339, 93.5% said blood donation is a good thing while 6.5% think otherwise. From the study, 82.9% of respondents have it in mind to donate blood

voluntarily in future. Individual response showed that 92.3% considered VBD as the best source of blood donation. According to the study, 65.8% of the respondents' overall attitude (95% CI 61.0 -71.0%) had favorable attitude towards blood donation voluntarily, while the remaining part had unfavorable attitude towards voluntary blood donation (Tadesse et al., 2018).

According to the study less than a quarter, 83 (24.5%) (95% CI, 20.0 -29.0%) have ever donated blood and the remaining 256 (75.5%) had never donated before (Tadesse et al, 2018). Over fifty-seven percent of donors had donated blood once in their life time. However, only 16 (19.3%) reported to have donated blood regularly based on volunteerism. Why they are not donating ranges from medical reasons, lack of information, to fear of weakness after blood donation (Tadesse et al., 2018). A good understanding of donor motivating factors would facilitate improvements in recruitments and donor retention strategies (Kasraian and Maghsudlu, 2012).

1.3 Justification of the Study

The mortality associated with the issue of blood is on the alarming rate. While it can be drastically reduced if there is proper and elaborate sensitization, education and awareness geared towards the knowledge and practice of voluntary blood donation among the citizenry of the country in particular and the world as a whole. If this is done, there will be urge for voluntary blood donation among the populace with subsequent availability of safe, quality and adequate blood in our blood banks a situation whereby blood is readily available and waiting for patients and not patients waiting for blood as it is currently in our health facilities (Field, S. 2004; Erahbor, O., Adias T. C. and Mainasara, A. S., 2016). Therefore, due to the dearth of information on blood donation, this study was to investigate the knowledge and practice levels of voluntary non-remunerated blood donation among public secondary school teachers IBNLGA, Oyo State, so as to have more volunteers for blood donation in the State in particular and the Country in general.

The choice of the target audience (teachers) is deliberate knowing fully well the impact of teachers in the society. They are responsible for teaching, inculcating knowledge to the students and making sure the students are not exhibiting deviant behaviors by instilling discipline in them. Since it is so, I believe if they are aware and knowledgeable enough and practicing the act of blood donation and seeing its benefits, they would be able to pass

it down to their students. Students being what they are, will pass the information on to their peers, family members, and to the larger community /society. By the time the students are ripe enough for blood donation it would not be a new thing to them, a syndrome of "catch them young".

Being teachers, there is the need to know how knowledgeable they are as far as blood donation is concerned. Their opinions are respected in the society and therefore, they are expected to impact the larger society and neighbors who are not aware of what blood donation is all about and this will have a great influence on the generality of the society and subsequently boosting the blood in the blood banks. More safe and quality blood in the blood banks will reduce blood related morbidity and mortality in our society.

The information gathered will form a baseline for blood related public health intervention design in creating awareness and sensitization campaign geared towards enhancement of donor recruitment and subsequently having adequate, quality and safe blood in the society to save lives and make people live long which is the ultimate goal of blood donation.

It is worth mentioning that blood donation does no harm, therefore, it is pertinent to note that with the predisposing factors, enabling factors (environment) and the reinforcing factors in place, strengthening community participation by having community initiated blood drives, building healthy public policy and re-orientating the health services will drastically reduce the challenge of not having blood in the blood banks (Erahbor, O., Adias, T. C. and Mainasara, A. S. 2016).

The public secondary school teachers in Ibadan North Local Government, Oyo State, are a part of the larger population that constituted residents in Ibadan, Oyo State. Among them are eligible donors and non- eligible donors that are prospective donors in the future or as an ambassador by educating and recruiting other prospective donors for blood donation. Their justification as the target audience, using their knowledge level and the influence they weigh in the community, practice, perceived benefits and other influencing factors towards blood donation could as well serve as an inference to other residents in Ibadan in particular and Oyo State in general. Therefore, the choice of the target respondents was to use their position in the society to influence the community by propagating the knowledge on voluntary blood donation so as to disabused the mindset of the public on the myths and misconceptions towards blood donation. This will therefore, enhance recruitment of

voluntary blood donors and subsequently increase safe, quality and adequate blood in our Nation's blood banks.

1.4 Research Questions

The following questions needed answers if thorough assessment is to be carried out on the topic:

(1) What is the knowledge level of blood donation among the public secondary school teachers in Ibadan North Local Government Area, Oyo State?

(2) What is the level of practice of blood donation among the public secondary school teachers?

(3) What are the perceived benefits of blood donation among the secondary school teachers?

(4) What type of attitude do the teachers exhibit towards blood donation?

(5) What are the influencing factors of blood donation?

1.5 Objective of the Study

1.5.1 Broad Objective

To investigate the knowledge, practice and perceived benefits of voluntary and regular blood donation among public secondary school teachers in Ibadan North Local Government Area, Oyo State.

1.5.2 Specific Objectives are to:

(1) Assess the level of knowledge of blood donation among public secondary school teachers in Ibadan North Local Government Area, Oyo State.

(2) Assess the attitude of public secondary school teachers towards blood donation.

(3) Determine the perceived benefits of blood donation among public secondary school teachers in Ibadan North Local Government Area, Oyo State.

(4) Determine the level of practice of blood donation among public secondary school teachers in Ibadan North Local Government Area, Oyo State.

(5) Identify the factors that can influence blood donation among public secondary school teachers.

1.6 Research Hypotheses

Based on the variables to be measured, the following null hypotheses (Ho) were formulated:

(1) There is no relationship between the knowledge of blood donation and the educational status of the respondents.

(2) There is no association between the respondents' marital status and their attitude towards blood donation.

(3) There is no relationship between the respondents perceived benefits in blood donation and their practice towards it.

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of Blood donation

Blood is an essential element of human life. It is the most donated tissue in medical practice and a veritable tool in many live-saving situations through blood transfusion. In spite of the rapid and remarkable conquest and breakthrough in medical science today, an ideal substitute for blood is yet to be discovered. Blood cannot be manufactured artificially like other pharmaceutical products. The only way to meet the emergency blood requirements for road traffic accident victims, complications in pregnancy and childbirth, various anemic disorders and other surgical operations is through human blood donation. Experiments with blood transfusions, the transfer of blood or blood components into a person's blood stream, have been carried out for hundreds of years. Many patients have died and it was not until 1901, when the Austrian Karl Landsteiner discovered human blood groups, that blood transfusions became safe https://educationalgames.nobleprize.org/educational/medicine/landsteiner /readnore.html Dec.2001)

Blood donation is safe and of immense advantage to the donor, recipient, community and the blood transfusion service (Anikta, Hoshiar, and Bishwas, 2015). The need for blood transfusion is growing day by day the requirement of blood and blood products in a country depends on the population, health care structure, prevalence of conditions requiring regular transfusions. While the developed countries are able to meet the demand of blood donation with well- structured health system to a reasonable extent, the developing countries are still struggling with replacement and paid donors largely due to ignorance, misperceptions, myths and misconceptions and fears concerning blood donation (Manikandan, Srikumar and Ruvanthika, 2013).

The factors affecting blood donation decision are varied and complex. The practice of blood donation behavior can be determined by intention to donate, which in turn is affected by positive or negative attitude, subjective factors like social pressure and perceived ease or difficulty in performing the blood donation (Ajzen, 1991; Giles, McClenahan, Cairns and Mallet, 2004). In voluntary blood donation programmes across

the globe, altruism remains the centre piece of voluntary blood donation and has been associated most often as reason for giving blood in many developed countries (Oswalt, 1997; Glynn, Klinman, Schreiber et al, 2002).

According to the World Health Organization (WHO, 2008), 1% of the population is generally the minimum needed to meet the country's most basic requirements for blood; hence the estimated blood requirement of South East Asia is about 18million units per year, and the annual collection is about 9.4million units, leaving a gap of 7million units. In India, the proportion of blood units collected through voluntary blood donation at National AIDS Control Organization (NACO) supported blood banks was 84.3% in 2012. There is a need to fill this gap of demand and supply from various sources (Manikandan et al, 2013). The World Health Organization (WHO) therefore in contrast to the 1% of population recommends that 1-3% of adult donating age in a population to donate blood voluntarily so as to meet up the country's blood demand annually (Ankitar et al, 2015).

2.2 Knowledge of Blood Donation

A study carried out in Saudi Arabia to determine the knowledge, attitudes and motivations towards blood donation among King Abdulaziz Medical City Population in 2014, indicated that almost two thirds of participants (64.5%) knew their blood group type, while 27.5% of them recognized the blood group type that can donate blood to any other needy individual. Generally, their knowledge level towards blood donation is good as the highest level of knowledge about blood donation was reported in the age group of 20-30years (mean rank 186.7) compared to 119.9 reported among those aged less than 20 years. The knowledge about donation level was increasing steadily with the increase in the educational level (the mean rank for knowledge score was highest among postgraduate individuals and lowest among illiterate individuals (229.6 and 95.2) respectively. Most of the participants (78.6%) strongly agreed or agreed that blood donation is part of altruism, 71.3% strongly agreed or agreed that blood donation is a religious duty, 74.2% strongly agreed or agreed that it is a national duty, and 81.9% strongly agreed or agreed that it is a healthy habit. In practice, 45.8% of the participants claimed they have donated blood before. About 56.8% of individuals in the age group of 31-50 years compared to only 8.6% of aged less than 20 years had a history of blood donation and 57.1% of individuals with post graduate education compared to 20% of illiterates have donated blood before (Alfouzan, 2014). Dissemination of more information about blood donation among those

with inadequate knowledge in order to improve their knowledge and practice on blood donation is very important (Chee K. C., Yee C. K. and Dariah M. Y. 2018).

2.3 Practice of Blood Donation

The need for blood and blood products is rising in all parts of world (World Health Organization WHO Global Data base on Blood Safety, summary report, Geneva, 2011; Blood Safety and availability,http//www.who.int/mediacentre/factsheets/fs279/en/l, 2014). Evidence showed that a quarter of a million maternal deaths globally and about 15% of child mortality in Africa were attributed to obstetric and anemia, respectively (World Health Organization African Region, Regional training workshop on blood donor recruitment: pre and post donation counseling, Addis Ababa, 2006). Had there been adequate and safe transfusion service such a significant mortality would have been averted. The lowest level of blood collection rate is found in the middle and low income countries, particularly in Africa (Blood Safety and avalaibility, http/www.who.int/ mediacentre/factsheets/fs279/ne/l, 2014).

Blood donation rate in Africa is estimated to be 5/1000 population compared with developed countries which is 47/1000 population in USA (World Health Organization Making Safe Blood Available in Africa, vol Geneva: Statement by Coordinator; 2006). With the study carried out among adults in Debre Markos town, Northwest Ethiopia about knowledge, attitude and practice towards blood donation, all the respondents (772) have heard about blood donation through one means or the other and slightly above have (56.5%) were knowledgeable about blood donation based on the knowledge questions. However, this does not translate to practice of blood donation as only 124 (16.1%) have donated before. Five hundred and ninety-eight (77.5%) among the respondents showed willingness to donate blood in future and 403 (52.2%) of the respondents had favorable attitude towards blood donation (Achem,Jemberu, Esmael and Ahmed,2016).

One of the potential sources that can be tapped for blood donation is the young and physically fit students from educational institutions across India. They can meet the blood demands of our country and provide safe and quality blood and blood components collected from healthy voluntary donors. In order to be able to tap this valuable source of safe blood, it is pertinent to have information regarding their attitude towards blood donation and whether they have adequate knowledge to make the decision to donate blood

and what factors are associated with their knowledge as well as donation behavior. Recruitment of this group will be of great benefit to the availability of safe and quality blood (Anikta et al, 2015; Bönig et al, 2012; Salaudeen and Odeh 2011).

According to Salaudeen and Odeh, 2011, quoting the World Health Organization's figure of 2002, the global annual blood donation was put at 80 million units and out of this, 2 million units were donated from the sub-Saharan Africa where the need for blood is so enormous (WHO, 2002). In Nigeria, where half of the population in the country is medically fit for blood donation, only four in every one thousand are voluntary donors (WHO, 2007). This is the crux of the matter. However, in contrast to Salaudeen and Odeh, 2011, Ankita et al, 2015, realized from their review that the annual global blood collection is over 108 million units of which half of them approximately were collected from the high-income countries.

In low-income countries, up to 65% of blood transfusions are given to children under 5 years of age; whereas in high-income countries, 76% of all transfusions are given to patient group over 65 years of age. Blood donation rate in high-income countries is 36.8 donations per 1000 population; 11.7 donations in middle-income and 3.9 donations in low-income countries. In 2012, 70% countries had a national blood policy, compared to 60% countries in 2004, which implies that people are getting more awareness about blood donations.

Majority of young people donate blood in low and middle- income countries proportionally than in high-income countries (WHO. 2015). The average number of blood donations per 1000 populations is 10 times higher in high-income countries than in low-income countries (Ankita et al, 2015).

Since infectious diseases can be transmitted through blood transfusion, there is need to source blood from a low-risk population. The first step towards blood safety is to encourage voluntary, non-remunerated and regular blood donors who will donate blood at least once or three times a year. The National policy on blood advocates that blood donation should be solely voluntary and that donors should not be moribund should be adhered to. Little wonder many nations across the world are continually evaluating their blood donor strategies in the light of the current demand for blood and its products and in

some cases, the reduction of the available eligible donors due to the stringent criteria in place to ensure blood safety (Salaudeen and Odeh, 2011).

A study in a Delhi urban slum reported that 7.7% of the participants had donated. Therefore, the findings of this study would suggest that greater knowledge about blood donation does not necessarily lead to actual blood donation practice, probably because of the mythical beliefs and wrong perceptions about blood donation still held by people (Manikandan et al, 2013).

Blood donations among the respondents in the study were mostly for beneficial reasons as the recipients were mostly friends (24.6%) and relatives (57.4%) and the majority claimed emergency situations compelled them to donate blood (Manikandan et al, 2013). The voluntarily donated blood was scarce (2.8%) and about two-thirds of those who had donated voluntarily, did so during organizations' activity. This agrees with the findings of Olaiya, 2004, that voluntarily donated blood was donated during Religious week and Club activities. Hence the need to explore the unions and departmental activities of tertiary institutions in the country as a means of voluntary blood donation drive.

2.4 Perceived Benefits of Blood Donation

A study amongst the adults in Mwanza Region, Tanzania, also noted a positive attitude towards voluntary blood donation but the majority of the people will do so only for an incentive. In Nigeria, the National blood transfusion service is making an effort to retain its voluntary donors by giving incentives such as free blood tests (blood group, hemoglobin, HIV/ hepatitis and Syphilis) to donors, allowing the immediate family of volunteers to use blood without replacement and giving donor items such as certificates, T-shirts, refreshments and badges.

When assessing donor incentives and enablers, the study found that, in general, people are focused primarily on motivational tools, rather than rewards. This is critical in beginning to change the blood donation culture from replacement to that of volunteerism.

Incentives like blood credit, Cholesterol, and PSA screening for donors older than 25years, tickets to events, lottery, and or raffle draw tickets for younger donors (<25yrs). Apart from incentives, effective measures have frequently been shown to encourage blood donation. Such measures include inducing a ‘sense of give’ among the public when presented with hypothetical emotionally charged situations demonstrating the need for

donor blood, “sense of solidarity or duty and possible personal or family benefits that blood donation might bring, feeling of satisfaction, being more alert, and feeling generally better, after blood donation. There is also the sense of sharing and willing to accept the export blood to benefit other communities in need. A work done by Olaiya M. A et al in Nigeria found out that 41% of donors prefer certificates as incentive for blood donation (Alfouzan, 2014).

2.5 Attitude towards Blood Donation

A study carried out in Bangladesh among University Level Students on factors influencing blood donation, it was discovered by the researchers that even though youngsters are the potential blood donors in every society and students constitute a huge percentage of them, the student’s attitude and practice towards blood donation differs from one to another. In their survey conducted using a structured questionnaire on 490 respondents showed that only 34.3% of these respondents ever donated blood before and among the non-donor respondents 73.3% showed positive attitude towards blood donation. Here it was discovered that the behaviour of the students towards blood donation was positively associated with their parent’s levels of education. On the other hand, it was discovered that willingness of the students to donate blood is also related to their sex. The research identified that factors which influence to donate blood are family background, physical status, urgency for family, awareness/ knowledge and maturity level. It was also noted that the only factor that influences not to donate blood is fear (Karim, Alam, Labone and Farazi, 2012).

A study carried out among non-blood donor female health care professionals in tertiary care institutions in Karachi, Pakistan, it was said according to WHO, that about 10,000 blood centers were spread across 168 countries and their total annual blood collection was about 83 million units. Out of these, women constituted only 30% of the global blood donations and in 20 of the 111 reporting countries, less than 10% donations were given by female donors (Bani and Giussani, 2010). Men are given more blood than women despite the fact that the women are of higher population worldwide this is why there is a challenge to the blood transfusion services to meet the increasing demand of blood. In Pakistan, it was on record that more than 1.5 million units of blood were collected on annual basis. Among these donors 65% is from family replacement donors, 25% from volunteer donors and 10% from professional (paid) donors (Asif, Kokhar and Ilahi, 2004).

According to estimates, over 70% of blood donations in Pakistan are replacement or paid donations while unscreened blood transfusion is done in over 50% of the cases. Reports suggest that over 90% of total blood transfused in Pakistan is donated by the friends and relatives of the patients (Bilal, Haseeb, Zahid, Lashkerwala and Arshad, 2016). The reasons for the low blood collection in Pakistan was due to lack of education and awareness about the need of safe blood in the community, importance of voluntary non-remunerated blood donation (VNRBD) and high prevalence of hepatitis B, C, HIV/AIDS and anemia. For the research it was discovered that very high percentage of the female respondents have good knowledge about blood donation and why most of them don't donate is that they have misconception that a donor can contract infections through blood donation. Some would donate if blood donation camps are arranged in the hospital premises. Some said they can only donate if a relative or friend is in need of blood. Others talked of infertility after donation, weight loss and weight gain, severe fatigue and so on are the reasons given by these female non-donors. Another pertinent reason given was that they lose blood on a monthly basis due to their menstruation and some said they are not as strong as men (Bilal, Haseeb, Zahid, Lashkerwala and Arshad, 2016).

In another study carried out in Saudi Arabia to determine the knowledge, attitudes and motivations towards blood donation among King Abdulaziz Medical City Population in 2014, indicated that almost two thirds of participants (64.5%) knew their blood group type, while 27.5% of them recognized the blood group type that can donate blood to any other needy individual. Generally, their knowledge level towards blood donation is good as the highest level of knowledge about blood donation was reported in the age group of 20-30years (mean rank 186.7) compared to 119.9 reported among those aged less than 20 years. The knowledge about donation level was increasing steadily with the increase in the educational level (the mean rank for knowledge score was highest among postgraduate individuals and lowest among illiterate individuals (229.6 and 95.2) respectively. Most of the participants (78.6%) strongly agreed or agreed that blood donation is part of altruism, 71.3% strongly agreed or agreed that blood donation is a religious duty, 74.2% strongly agreed or agreed that it is a national duty, and 81.9% strongly agreed or agreed that it is a healthy habit. In practice, 45.8% of the participants claimed they have donated blood before. About 56.8% of individuals in the age group of 31-50 years compared to only 8.6% of aged less than 20 years had a history of blood donation and 57.1% of individuals

with post graduate education compared to 20% of illiterates have donated blood before (Alfouzan, 2014).

2.6 Factors that Influence Blood Donation

The reasons given by the respondents for not donating blood include lack of opportunity (45.4%) resulting from tight lecture schedules and inaccessibility of blood bank facilities, inadequate information about the benefits of voluntary blood donation to the donor, recipient and community (24.1%) as well as the fear (10.3%) that the process is harmful to the health of the donor. Additionally, other inhibitory factors that would deter them from blood donation were inadequate information about the blood donation process, fear of exposure to HIV/ Hepatitis infection (49.8%) and fear of fainting (Olaiya, 2004). This shows the wrong perception still held by people of the transmission of HIV infection. The same finding was seen in Mwanza, Tanzania where donors were afraid of being infected with HIV.

This was also a deterrent amongst the Scottish population as it adversely affected their blood donation practice. In Australia, a study conducted among the college students showed that the reluctance was mostly due to fear, contracting possible illness afterward and inconveniences of giving blood. Another study in Mexico also found that non-donation was mainly due to the fear of getting dizzy after blood donation.

This study has shown that providing adequate information about blood donation (70.5%) and the knowledge that it will save lives (73.2%) would motivate students to donate blood voluntarily.

Nonetheless, giving incentives (29.2%) such as wrist bands, T-shirts, pens and diaries would attract students to donate blood voluntarily. It was also found in the study conducted in Lagos that 41% of the respondents had preferred a certificate as an incentive, 13.6% preferred money and 2.5% would donate for nothing (Salaudeen and Odeh, 2011). Comparatively, in the present study 83.8% of the respondents showed willingness to donate blood voluntarily. This finding indicates that an incentive can be used in enhancing the effectiveness of blood donation campaigns (Salaudeen and Odeh, 2011). A study in Baltimore also found that the donors would be encouraged to donate if specific incentives were offered; the highest response was for future blood credits and medical testing. Another study in Texas also concluded that individuals donate in order to reduce

medical risks and that earning future blood credits would be a primary motivator. The most prevalent barrier towards blood donation among non-donor respondents was fear of needle prick, pain or discomfort. In order to remove barriers from blood donation, health promotion on this issue is the utmost strategy. Social networking, advertisements and other communication routes like counseling and campaigns should be used to promote the practice of blood donation and overcome the public fears. The most common reason for the respondents to become blood donors was the belief that blood donation is a practice or selfless concern for the well-being of others (Chee K. C., Yee C. K. and Dariah M. Y. 2018).

2.7 Conceptual Frame Work

Precede-Proceed Model

This is a planning model developed by Green, Kreuter, and associates. It does not predict or explain factors linked to the outcome of interest but provides a road map for designing a health education and health promotion programs. It identifies behavioral antecedent factors and appropriate intervention strategies.

Because the model view health behavior as influenced by both individual and environmental forces, it has two distinct parts: an educational diagnosis (PRECEDE) and ecological diagnosis (PROCEED). The PRECEDE acronym stands for Predisposing, Reinforcing, Enabling Constructs in Educational/ Environmental Diagnosis and Evaluation.

PROCEED stands for Policy, Regulatory, and Organizational Constructs in Educational and Environmental Development.

PRECEDE-PROCEED has nine steps. While the first five steps are diagnostic in nature, the last four are for implementation and evaluation. The diagnostic part addresses both the educational and the environmental issues and these includes among others:

(1) Social assessment

(2) Epidemiological assessment

(3) Behavioral and environmental assessment

(4) Educational and ecological assessment and

(5) Administrative and policy assessment.

The last four as earlier said are for implementation and evaluation. However, the PRECEDE model which is the educational diagnosis, will be applied as the theoretical model for the sake of this research.

For the sake of this study, the behavioral and environmental assessment which identifies both the internal and external factors of individuals which can make them to exhibit a behavior change. The internal factors as it relates to this study could be their predisposition to blood donation, what enables them to donate blood and what can be done to sustain the practice of blood donation (changed behavior). The external or environmental factors could be peer influence, pressure from friends, relations or spouse and even the community to cultivate the habit of blood donation, distance of donation point, time and the likes.

Knowledge about blood donation must be at your disposal, your attitudes towards blood donation must be favorable, your perceptions towards it must be positive and you must place a good value on your action. The predisposing factors could be likened to the pre-contemplating and contemplating stages before an action is initiated. Once this action is initiated, that is, the practice of blood donation, there must be some enabling factors in place like time, money, incentives, passion, favorable policies to put their predispositions into practice.

At the establishment of the predisposing and enabling factors, the sustainability of these factors is paramount, therefore, the reinforcing factors of the behavioral change in order to encourage / motivate the continuation or repetition of behavior, in this case, blood donation through the provision of continuing rewards / awards or incentives. These factors could be in form of social support, reassurance, praise and other forms of incentives that will make the donors feel proud and elated.

The final diagnostic step of the model will enable the use of previous information gathered like availability of needed resources to formulate policies that will help the organization in the enhancement of donor recruitment vis-à-vis provision of safe, quality and adequate blood to save lives.

THE PRECEDE FRAMEWORK

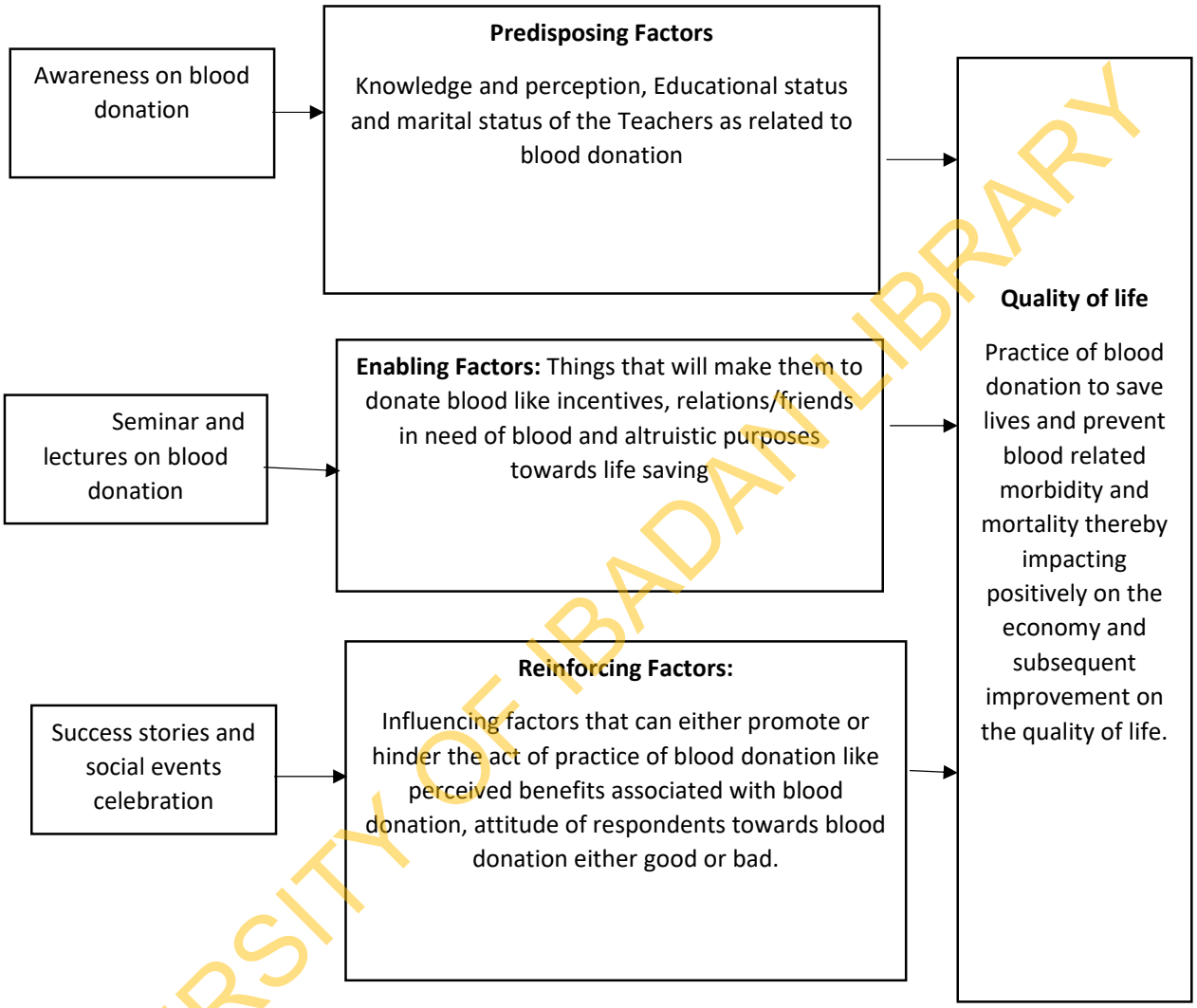


Fig. 2.1: The Precede- Conceptual Framework

CHAPTER THREE

METHODOLOGY

3.1 Study Design

This study was a descriptive cross-sectional survey that involves both blood donors and prospective donors among public secondary school teachers in Ibadan North Local Government Area, Oyo State. Semi-structured Self-administered questionnaire was used to obtain data from the respondents.

3.2 Study Area

The study was carried out in Ibadan North Local Government Area (IBNLGA) of Oyo State, which comprises one of the 5 Local Governments in Ibadan metropolis. It has an estimated size of 27,249 square kilometres with 12 geo-political wards. According to National Population Commission, the projected population was 432,900 (NPC,2016). The residents are predominantly Yoruba tribe with other ethnic groups that constituted the minority. In this LGA there are basically two categories of secondary schools, public (42) and private (30) respectively. However, the two categories are under the control of the State Ministry of Education (Government), the public schools are directly under the constituted authority of the State Governing Board of Education while the private have their own arrangement. The public schools are mainly populated by children from parents of relatively low socio-economic class. The study was restricted to public secondary schools in IBNLGA.

The choice of IBNLGA, was because many other investigators worked in other Local Governments and this type of research has never been carried out among secondary school teachers in the LGA.

3.3 Study Sample

This study was carried out among 300 randomly selected consenting males and females that were willing to participate in the research, and are teachers in the Public Secondary Schools within Ibadan North Local Government Area, Oyo State. It was spread among the 12 geo-political wards and 20 public secondary schools selected randomly through balloting across the Local Government Area.

3.3.1 Inclusion Criteria

The study participants included both male and female that are within the age bracket of 18-65 years that is considered the blood donation age range. However, because of Government policy on retirement age in the civil service which is 60 years, only those within the age brackets of 18 – 60 years were captured for the research.

3.3.2 Exclusion Criteria

Those excluded were males and females that were not within the donation age bracket and those that were not willing to participate.

3.4 Sample Size Determination

The minimum sample size was calculated using Leslie Kish (1965) formula

$N = Z^2pq / d^2$ (Araoye, 2003).

N = minimum sample size required;

Z = standard normal deviation set at 1.96 which corresponds to 95% confidence level;

p = prevalence of blood donors = 22.6% (Salaudeen et al., 2011);

q = 1 – p (1 – 0.226) =0.774;

d = level of significance desired, set at 0.05.

$$N = \frac{(1.96)^2 \times 0.226 \times 0.774}{(0.05)^2}$$

$$= \frac{3.842 \times 0.226 \times 0.774}{0.0025}$$

= 268.82

=269

By this calculation the sample size equals two hundred and sixty-nine and 10% of 269 (10 /100 x 269) = 26.9. This calculated 10% took care of loss of and incomplete responses to the questionnaire, and the sample size was approximated to 300.

3.5 Sampling Technique

Multistage sampling technique was applied in the survey in picking the sample size. Firstly, was to select 20 out of the existing 42 Public Secondary Schools in the twelve (12) geo-political wards in IBNLGA through random sampling and balloting. After this a simple random sampling was conducted to pick the numbers of Teachers in each School who were willing to participate in the survey. Depending on the students' population, the

average numbers of Teachers in each School is between 32 and 35. Therefore in selecting 15 out of this higher limit which was 35 a simple random probability sampling method was employed to give everybody equal chance of selection. A simple calculation of 15/35 = 3/7; that means everybody out of 35 teachers has a chance of 3:7 of been selected. This was how the total sample size of 300 was arrived at for the research. Four weeks was used for field work, both pre-test and the real data collection from the respondents.

3.6. Data Collection method

Since the respondents can read and write, the aspect of training research assistance in reading and interpreting the questionnaire to the respondents was out of place except in administering and collection of the questionnaire. Therefore, the assistance of some research assistants would be needed to help distribute the questionnaire to the respondents and as well collect back the data for collation. The consent of the respondents was sought before the questionnaire was administered, it was self-administered.

The instrument was divided into seven (7) sections:

1. Socio-demographic information
2. Knowledge of blood donation
3. Practice of blood donation
4. Perceived benefits of blood donation
5. Attitude towards blood donation
6. Factors influencing blood donation
7. Factors inhibiting blood donation.

3.6.1 Validity of Instrument

The validity of the study instrument was ascertained through scrutiny by the project supervisor, some senior colleagues in the department and criticism by colleagues.

The pre-test was carried out at Ibadan North East Local Government Area, Oyo State, a similar urban L.G.A in the metropolis. Thirty respondents participated in the pre-test through a self-administered questionnaire to determine their knowledge, practice level and perceived benefits of blood donation. The collated result was subjected to Statistical Package for Social Science (SPSS) version 20.0 for analysis and the reliability coefficient of 0.87 was gotten as determined by Cronbach's alpha.

Result of pre-tested instrument on the respondents was used to make final amendments on the instrument to ensure validation. Senior colleagues input and criticism from class mates too were used to fine tune the study instrument to validate it. There was no need for translation into any other language from English since the respondents were secondary school teachers, which means they can read and understand the questions from the study instrument.

3.6.2 Reliability of Instrument

The reliability coefficient of the instrument was determined from the pre-tested result and was subjected to Cronbach's alpha measure and a reliability coefficient of 0.87 of the pre-test sample size was considered reliable. Ten percent of the total sample size (300) which is 30 was used for pre-test so as to determine the reliability of the instrument.

3.6.3 Data Collection Procedure

Since the respondents / participants are teachers, the issue of training of research assistants was almost out of place but for the minimal training in administering the questionnaire. The researcher then introduced himself, sort and obtained permission from the various school heads after explaining the reasons for the study. Thereafter, introduction to the participants telling them the essence of the study and questionnaire distributed to the willing respondents. The completed questionnaire was assembled, numbered and entered into the system for analysis.

3.6.4 Data management and Analysis

Knowledge, practice, perceived benefits and attitude were measured on a scale point. The knowledge was 15 item 36-point scale rated as follows: good >23-36; fair >11≤23; poor 0-11. The coding is 3, 2 and 1 as good, fair and poor knowledge respectively. While the practice was a 10 item 32-point scale rated as good >15-32 and poor 0-15 coded 2 for good and 1 for poor practice respectively. Perceived benefits variables is relative, what could be a perceived benefit to one might not be to the other, while the attitude was rated based on either agreed, disagreed or undecided. The questionnaire was serially numbered for control, easier identification and recall of any instrument with problems.

Data collected was thoroughly scrutinized as it comes in on a daily basis; sorted and cleaned. It was coded manually using the coding guide before it was computed for analysis using the Statistical Package for Social Science (SPSS) version 20.0. The data were

analyzed with descriptive statistics such as percentage, counts, means and standard deviation. Inferential statistics like Pearson's Chi-square test at $p \leq 0.05$ was used to check for relationship between categorical variables at 95% level of significant.

3.7 Ethical Issues

The following ethical considerations were conducted in the course of the study:

- Ethical approval was sought and obtained from the Ethical Review Committee of Ministry of Health Oyo State.
- Permission was obtained from TESCOM through the Ethical review committee.
- Informed consent was sought and obtained verbally from each of the respondents to ensure that answers to the questionnaire were provided voluntarily.
- There was respect for confidentiality and privacy of all respondents, thus, names or any identifier was not required.
- Any participant who wished to withdraw from participation was free do so without suffering any harm or repercussions.
- All information that were supplied by the participants were treated with utmost confidentiality.

The respondents were not exposed to any risk since there was no intervention, however, since they are human participants detailed explanations on the reasons for the study were provided.

CHAPTER FOUR

RESULTS

The result for this study is presented in this chapter and organized into seven sub-headings namely: Socio-demographic characteristics, knowledge, practice and perceived benefits derived from blood donation by the respondents. The attitude, influencing factors and inhibiting factors towards blood donation were also presented.

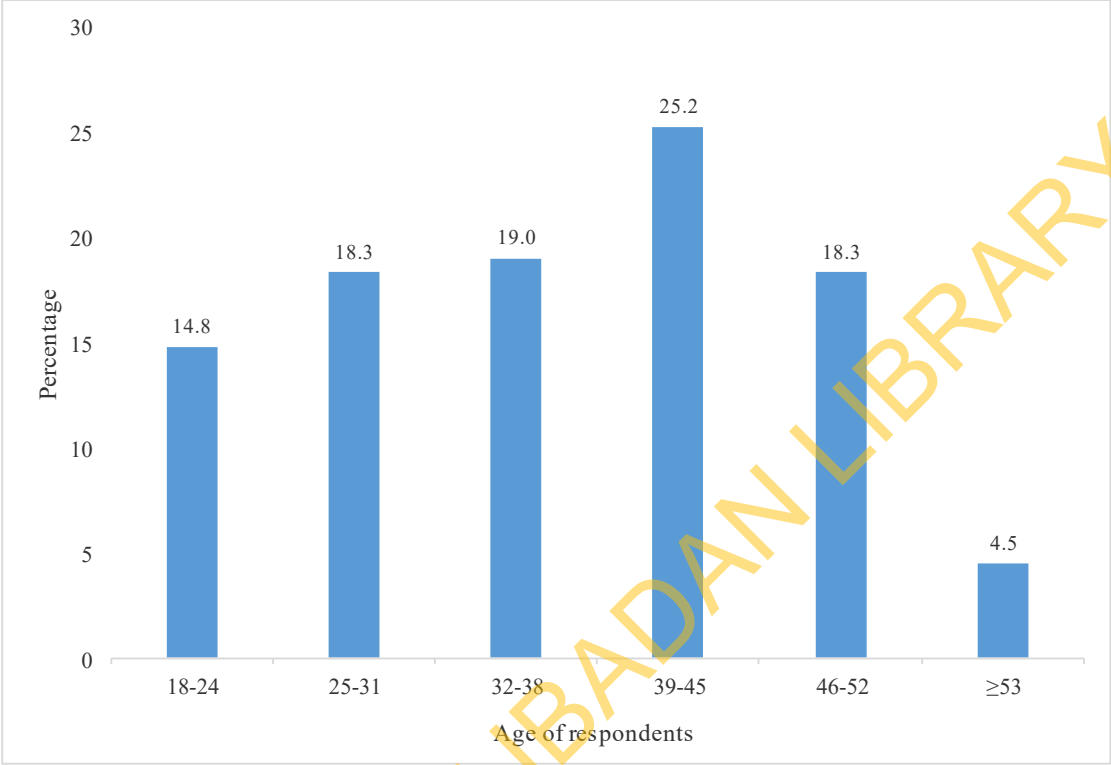
4.1. Socio-demographic characteristics of respondents

A total of 300 respondents took part in the study out of which 290 instrument were retrieved. Out of this 290, majority 192 (66.2%) were female and male 98 representing (33.8%) of the respondents. The age range of the respondents as at their last respective birthday was 18 -63 years with the mean age of 37.22±10.2 years (i.e. 27-47 years). Slightly above a quarter of the respondents **25.2%** fall within the age bracket of 39 -45 years which accommodated highest population of respondents, while 19.0% is next with age range of 32 -38 years. Age brackets 25 -31 and 46 -52 years have equal percentage of 18.3, while age category 18 -24 years is 14.8% and very few respondents 4.5% are in the age category of above 53 years (Figure 4.1). Educationally, all the respondents are educated to various levels of tertiary education ranging from the National Certificate in Education (NCE) to a postgraduate degree in the University. The highest percentage **214 (73.8%)** of the respondents have a First degree certificate followed by Polytechnic graduates 38 (13.1%), NCE 25 (8.6%) and post graduate 13 (4.5%) qualification.

Majority of the respondents are of Yoruba ethnicity **259 (89.3%)** while the closest is the Igbo 15 (5.2%) followed closely by other ethnic groups 14 (4.8%) which comprises of South-South and finally the Hausa ethnic group 2 (0.7%). Out of the 290 sample size, only one (0.3%) is of traditional believe while 58 (20.0%) are Muslim faithful and the majority **231 (79.7%)** are Christian. Martially, **67.6%** of the respondents are married, 31.0% are single, 1.0% separated and 0.3% divorced (Table 4.1).

Out of these 290 respondents that knows about blood group, **277 (95.5%)** knows the various blood group they belong and 13 (4.5%) of the total sample size did not know their blood group.

On the rhesus ‘d’ factor that is whether they are positive or negative blood group, the study revealed that majority of the respondents **222 (80.1%)** were able to know but, 55 (19.9%) did not know anything about that.



Mean=37.2 ± 10.2 years

Figure 4.1: Age category of respondents in years

Table 4.1: Socio-Demographic Characteristics of Respondents N= 290

	Frequency (N)	Percent (%)
Gender		
Male	98	33.8
Female	**192**	**66.2**
Educational Status		
NCE Graduate	25	8.6
Polytechnic Graduate	38	13.1
University Graduate	**214**	**73.8**
Others	13	4.5
Marital Status		
Single	90	31.0
Married	**196**	**67.6**
Divorced	1	0.4
Separated	3	1.0
Ethnic Group		
Yoruba	**259**	**89.3**
Igbo	15	5.2
Hausa	2	0.7
Others	14	4.8
Religion		
Christianity	**231**	**79.7**
Islam	58	20.0
Traditional	1	0.3
Blood group		
Blood group known Yes	**277**	**95.5**
No	13	4.5
Rhesus "D" factor known Yes	**222**	**80.1**
No	55	19.9

4.2 Knowledge of respondents on blood donation

Majority of the respondents 283 (97.6%) have heard about blood donation at one time or the other through various channels or means ranging from radio jingles, posters, television to sensitization/ awareness campaign and many other sources. Only very few 7 (2.4%) of the respondents said they have never heard about blood donation despite their educational level. Out of 290 sample size, 280 (96.6%) know about blood group, only 10 (3.4%) said they did not know or are indifferent about blood group.

Talking about whether a person can be infected through blood transfusion, majority 276 (95.2%) of the respondents are of the opinion that it is possible by saying yes while few 14 (4.8%) said no or I don't know. The type of diseases transmitted through blood transfusion generally referred to as transfusion transmissible infections (TTIs) 246 (84.8%) said yes to HIV/AIDS and 44 (15.2%) said no, 141 (48.6%) said yes to HbV and 149 (51.4%) have a contrary opinion. Also, 99 (34.1%) believed that HcV is transmissible to a recipient of blood that is contaminated with the virus and 191 (65.9%) did not believe in that while 60 (20.7%) said yes to the infection of Syphilis and 230 (79.3%) said no or indifferent on the infection.

For the eligibility of blood donors, 248 (85.5%) of the respondents knew that a healthy person of both sexes between the ages of 18 – 65 years that met other donation criteria should donate blood and only 42 (14.5%) were of contrary opinion about the donor's eligibility. Only 51 (17.6%) respondents know the correct volume of blood collected per donor at each time of donation while majority 239 (82.4%) don't know the volume of blood collected; 47 (16.2%) of the respondents gave the correct time taken for the process at each donation under an ideal situation while 243 (83.8%) gave the wrong option. The study instrument further revealed that majority 243 (83.8%) of the respondents do not know the types of blood donor that are present, only few 47 (16.2%) knew these. The different types of blood donors are voluntary non-remunerated, paid donors, family replacement and autologous (self) donors. Very few 59 (20.4%) respondents knew about autologous while slightly above 50% (147) knew about voluntary non-remunerated donors. A sizable numbers of the respondents have the idea on paid and family replacement donors (Table 4.2).

The knowledge score was calculated per respondent on a 36- point knowledge scale. Each respondents' knowledge on blood donation was based on a score of 1- point for every correct answer chosen and 0- point for every wrong option. The score of >23 indicated that the respondents have a good knowledge of blood donation; >11 ≤ 23 score showed the respondents have a fair knowledge on blood donation while a score of 0 – 11 showed poor knowledge on blood donation. The study revealed that 96 (33.1%) of the study population have good knowledge of blood donation, 95 (32.8%) have fair knowledge and 99 (34.1%) have poor knowledge on blood donation (Table 4.2b).

Table 4.2 Respondents' Knowledge of blood donation **N= 290**

Knowledge of blood donation	Frequency	Percent (%)
Ever heard about blood donation		
Yes	**283**	**97.6**
No	7	2.4
Source of information about blood donation		
Radio	**283**	**97.6**
Television	88	30.3
Posters	54	18.6
Friends	63	21.7
Relatives/Family	69	23.8
Books	53	18.3
Health Worker	93	32.1
Schools	56	19.3
Social Media	65	22.4
Sensitization Campaign	64	22.1
Internet	33	11.4
Faith-Based organization	24	8.3
Others	2	0.7

Table 4.2a: Knowledge about blood donation

Variables	Frequency	Percent (%)
Know about Blood group (N=290)		
Yes	**280**	**96.6**
No	10	3.4
Types Blood group known (n=280)		
Blood group correctly known Yes	**154***	**53.1**
No	126	46.9
Person can be Infected through Blood Transfusion Yes	**276***	**95.2**
No	14	4.8
Those who should donate blood (N=290)		
Young boys and girls (<18 years)	32	11.0
Healthy person (men and women age 18-65 years)	**242***	**83.4**
Aged (>65 years)	5	1.7
Vulnerable group (children, prisoners, physically challenged, mentally derailed)	5	1.7
Sick / ill person	1	0.3
Others**	5	1.7
Volume of blood collected at each donation		
350mls	32	11.0
450mls	49*	16.9
500mls	14	4.8
I don't know	**195**	**67.2**
Diseases that are transmitted through blood transfusion		
HIV/AIDS	**246**	**84.8**
Hepatitis B Virus	141	48.6
Hepatitis C Virus	99	34.1
Syphilis	60	20.7
Duration of blood donation process		
<15 min.	58	20.0
15-30 min.	55*	19.0
30-40 min.	21	7.2
>1 hr.	10	3.4
I don't know	**146**	**50.3**

*Correct responses
**Those fit

Table 4.2b: Knowledge Score of Respondents **N= 290**

Knowledge of Blood Donation	Frequency (N)	Percent(%)
Good (24-36)	96	33.1
Fair (12-23)	95	32.8
Poor (0-11)	**99**	**34.1**

Mean 13.8±5.4

4.3. Practice of blood donation among respondents

It was found out that 67(23.1%) of respondents have donated blood before. It was also deduced that these donations were due to several reasons like a friend needed to be transfused 28(41.8%), a family member or a relation was to be transfused14(20.9%), some to know their transfusion transmissible infections (TTIs) status 2(3.0%) and second to the highest number 23(34.3%) that donated, did it voluntarily.

The overall practice score is indicated on Table 4.3c, the score was calculated on a 3-point score for every correct answer per respondent and a 0-point for every wrong option chosen, this gave an overall score to be 32. Any respondent who score >15-32 was regarded as having a good practice of blood donation and 0-15 was regarded to have poor practice. With this 67(23.1%) had good practice while 223(76.9%) had poor practice of blood donation among the respondents.

Nine percent of respondents who are non-donors said they were never aware of blood donation, 34.5% said nobody had ever approached them for blood donation, while 27(12.1%) said they were not fit to donate. Three percent said they would need to donate for their family member, relation or friend in future, 7.6% were scared of the needle for phlebotomy. Some other reasons like pregnancy, breastfeeding and genotype had 0.9% a piece among the respondents. Thirteen (5.8%) of the non-donor respondents said they have no time for blood donation, 4.5% gave medical conditions for their inability to donate blood. While 47(21.1%) said they have no cause for it, 1.3% said they don't know who needs the blood, and 1.8% gave unfavorable economic situation as reason why they do not donate blood. Six (2.7%) were afraid that their blood could be used for ritual purposes, 3.6% gave the fear of weakness after donation as reason why they don't donate blood, while 2.7% gave other reasons (death etc) why they refused to donate blood.

4.3: Practice of Blood Donation among respondents

(N=290)

Practice of Blood Donation	Frequency (N)	Percent(%)
Ever donated blood before		
Yes	67	23.1
No	**223**	**76.9**
Number of donation in a year		
< 3 times	**44**	**65.7**
3 times	12	17.9
4 times	5	7.5
> 4 times	6	9.0
Number of time donated blood in the past		
Once	**32**	**47.8**
Twice	15	22.4
Thrice	9	13.4
4-10 times	8	11.9
>10 times	3	4.5
When last donated blood		
<6 months ago	14	20.9
6-12 months ago	5	7.5
12-18 months ago	9	13.4
>2 years ago	**39**	**58.2**
Reasons for donating blood (n=67)		
A friend needed to be transfused	**28**	**41.8**
A family/relative was to be transfused	14	20.9
Voluntary / altruistic	23	34.3
To know my status	2	3.0
Reasons for not donating (n=223)		
Not aware	20	9.0
Never approached for donation	**77**	**34.5**
Not fit to donate	27	12.1
Need to donated for family or friend in future	6	2.7
Phobia for needles	17	7.6
Scared of knowing my status	6	2.7
Pregnancy	2	0.9
Breastfeeding	2	0.9
Lack of time to donate	13	5.8
Genotype	2	0.9
Medical reasons	10	4.5
No reason to donate	47	21.1
I don't know who needs the blood	3	1.3
Poor economic situation	4	1.8
Fear of using blood for rituals	6	2.7
Fear of weakness from donation	8	3.6
Others	6	2.7

Table 4.3a. Practice of Blood Donation among respondents

N=290

Respondents willing to donate blood	Frequency(N)	Percent(%)
Yes	**185**	**63.8**
No	105	36.2
TOTAL	**290**	**100**

Table 4.3b. Practice of Blood Donation among respondents

		(N=290)
Encourage family members/ relation or friends to donate blood	**Frequency(N)**	**Percent(%)**
Yes	**234**	**80.7**
No	56	19.3
TOTAL	**290**	**100**

Table 4.3c: Overall Practice Score of Respondents

N=290

Practice Score	Frequency (N)	Percent(%)
Good (16-32)	67	23.4
Poor (0-15)	**223**	**76.6**
TOTAL	**290**	**100**

Mean 11.0±5.4

4.4: Perceived benefits of blood donation

On the perceived benefits of blood donation, 87.9% of the respondents saw blood donation as a means of saving both the lives of recipient and that of the donor; 48.3% felt blood donors are heathier and look fitter than non-donors and a very large proportion (93.4%) believed that apart from saving lives, they also know their blood group through this means. Ninety-two percent among the respondents felt that through blood donation HIV and other transfusion infection status could be known. Eighty-seven percent of the respondents felt it is good for healthy living however, 88.6% said it's for them to know their genotype. Seventy percent felt it helped in reducing blood induced raised blood pressure (b.p), 83.8% said other health challenges could be discovered in the process of blood donation while, 52.1% said it could help in reducing obesity. Sixty-six percent said they were fulfilled for contributing to the economic growth of the Nation through the exercise and only 38.6% felt one of the benefits derived from blood donation is the financial inducement.

(Table 4.4)

Table 4.4: Perceived Benefit of Respondents

N=290

Benefits	Frequency	Percent (%)
Means of saving lives of the donor and the recipient		
Yes	**255**	**87.9**
Blood donors are healthier and look fitter than non-donors.		
Yes	**140**	**48.3**
To know the blood group.		
Yes	**271**	**93.4**
To know HIV and other transfusion infection status.		
Yes	**267**	**92.1**
To have a healthy living		
Yes	**251**	**86.6**
To know the genotype		
Yes.	**257**	**88.6**
Reduce blood induced blood pressure		
Yes	**197**	**67.9**
To know about other health challenges		
Yes	**243**	**83.8**
Help reduce obesity		
Yes	**151**	**52.1**

**Multiple responses*

4.5: Attitude of respondents towards blood donation

This study revealed that majority 252(86.9%) of the respondent were of the opinion that blood donation is a good thing, 188(64.8%) felt it is a Godly thing to do while 204(70.6%) considered it to be rewarding. Only very few 27 (9.3%) felt it is a bad thing to donate blood.

The ultimate aim for blood donation is to save lives, thus, majority (87.9%) of the respondents agreed. However, 39.7% of the respondents were of the opinion that donor can contract infection during or after donation, 81.0% agreed that donor can be weak after donation, 35.5% said donor can fall ill, while 18.3% were of the opinion that donor can even die during or after donation. Thirty-nine percent of the respondents felt there could be no adverse effect on donor while 35.9% felt there could be. Fifty-five percent were of the opinion that donor can faint in the course of donating blood and 39.7% agreed that donor can run short of blood after donation. Thirty-eight percent were of the opinion that donor can throw up (vomit) during the process of donation and a very high percentage (76.2%) agreed that donor can feel dizzy during or after blood donation.

Because of blood compatibility, genetic factor, intimacy, the love for one another and for the sake of life saving and so many other reasons, very high percentage of the respondents felt that when the need arise a family member should donate blood for their patient. (Table 4.5).

Table 4.5: Attitude of Respondents towards Blood donation

N=290

Statements	Agree N(%)	Undecided N(%)	Disagree N(%)
View concerning blood donation			
It is good	**252 (86.9)**	9 (3.1)	29 (10)
It is bad	27 (9.3)	38 (13.1)	**225 (77.6)**
It is a Godly thing to do	**188 (64.8)**	68 (23.4)	34 (11.7)
It is rewarding	**204 (70.6)**	49 (17.0)	36 (12.5)
What can happen to blood donors			
Contraction of Infection	115 (39.7)	39 (13.4)	**136 (46.9)**
Can be weak sometimes	**235 (81.0)**	34 (11.7)	21 (7.2)
Illness	103 (35.5)	68 (23.4)	**119 (41.0)**
Death	53 (18.3)	67 (23.1)	**170 (58.6)**
No adverse effect	**114 (39.4)**	110 (38.1)	65 (22.5)
Adverse effect	**104 (35.9)**	90 (31.0)	96 (33.1)
Faintness	**160 (55.2)**	61 (21.0)	69 (23.8)
Shortage of blood	115 (39.7)	57 (19.7)	**118 (40.7)**
Vomiting	**110 (37.9)**	88 (30.3)	92 (31.7)
Dizziness	**221 (76.2)**	37 (12.8)	32 (11.0)
I think patient's relative/ friends should donate blood because:			
Members are of the same family	**221 (76.2)**	32 (11.0)	37 (12.8)
For easy blood compatibility	**227 (78.3)**	30 (10.3)	33 (11.4)
To save lives	**272 (93.8)**	11 (3.8)	7 (2.4)
If the need arise	**244 (84.1)**	35 (12.1)	11 (3.8)
Because of their intimacy	**183 (63.1)**	52 (17.9)	55 (19.0)
For the sake of love to one another	**228 (78.6)**	45 (15.5)	17 (5.9)
For genetic reasons	**216 (74.5)**	44 (15.2)	30 (10.3)
To produce a stronger bond	**131 (45.2)**	77 (26.6)	82 (28.3)
Might not like unknown people's blood	**140 (48.3)**	73 (25.2)	77 (26.6)
Financial implication	**145 (50.0)**	70 (24.1)	75 (25.9)

4.6: Factors influencing blood donation among respondents

The researcher deduced from the survey instrument that many of the respondents gave different reasons why they would give blood when there is need for it. For instance, 83.1% of the respondents said they would donate blood to save life, 5.9% said they can donate blood for altruistic reasons, 22.8% for critical situation, 23.1% would only donate for family member, relations, friends or known person, 15.9% would donate voluntarily, 2.8% would donate for monetary purpose, 18.3% said they can only donate blood if they are fit to do so, 14.8% would donate during emergencies while 1.4% said nothing would ever make them donate blood.

Some of the respondents would donate blood if or when encouraged or motivated, 63.4% would donate if motivated and 36.4% would not donate no matter the type of encouragement or motivation given to them. The instrument further revealed that majority57.9% of the respondents that needed encouragement/motivation wanted detail explanation of the procedure while, 12.4% required reassurances of the safety. Ten percent would be encouraged if their blood is compatible with that of the patient, 6.1% would be motivated to donate by appreciation and 3.1% would be moved to donate during sensitization and enlightenments campaign.

Furthermore, there are some factors that are standing as a barrier between majority of the respondents and blood donation. For example, 73.1% of the respondents claimed that location (distance) to the Service Centre is a barrier, 51.0% gave lack of money as an excuse, 80.3% said inadequate intake of food is the main obstacle between them and blood donation. Eighty-seven percent gave medical reasons, 63.1% gave falling short of one of the donation criteria as an excuse. Thirty-six percent gave genotypic reasons why they cannot donate, 59.3% said there was no awareness, 52.1% were afraid of the needle while 62.1% were scared of contracting infections (HIV/AIDS, HbV, HcV, Syphilis etc). Forty percent were of the opinion that blood donation could result to death, 46.6% gave spouse influence as obstacle to blood donation, 44.1% talked about peer/ parental pressure against donation. Other reasons given as obstacles are religion not supporting it 26.2%, fear of knowing their transfusion transmissible infections (TTIs) status 40.0%, unpleasant experience from previous donation 36.6%, lack or no adequate incentive or inducement

35.2% and finally 61.4% for pregnancy, lactating, menstruation or other gynecological reasons. (Table 4.6)

Respondents needed encouragement like full explanation of the procedures 64.4%, reassurance of its safety 13.8%, compatibility of their blood with that of the patient 11.1%, appreciation inform of incentives 7.3% and sensitization/enlightenment 3.4% to donate blood from time to time.

Table 4.6: Factors influencing blood donation by respondents N=290

Factors influencing Blood Donation	Frequency(N)	Percent(%)
To save life	241	83.1
For altruistic reason	273	94.1
Critical need for it	224	77.2
For family/ friend/known person	223	76.9
Voluntarily	244	84.1
Remuneration Purpose	282	97.2
Fit to Donate	237	81.7
Would never donate	**286**	**98.6**
Emergency	247	85.2
Respondents would like to donate blood	168	57.9
Respondents needs encouragement to donate blood	184	63.4
Type of encouragement /motivation needed to donate blood (n=261)		
Full explanation of procedures	**168**	**64.4**
Reassurance of its safety	36	13.8
If only my blood is compatible to that of the patient	29	11.1
Appreciation	19	7.3
Sensitization/enlightenment	9	3.4

4.7: Test of Hypotheses

The following hypotheses were tested in the study:

1. There was an association between the respondents' knowledge of blood donation and their practice.
2. There was significant difference between the respondents socio-demographic characteristics and their knowledge on blood donation.
3. There was no significant difference between the respondents socio-demographic characteristics and their practice to blood donation.

4.7.1 Association between respondents' Socio-demographic Characteristics' and their knowledge on blood donation

In other to have a clear view of the association between variables, Chi-square test was used at p-value ≤ 0.05 to ascertain the association of all the variables been considered in the socio-demographic status of the respondents and their knowledge:

Hypothesis 1

There was significant association between the respondents socio-demographic characteristics and their knowledge on blood donation with the result from the cross tabulation. The Pearson Chi-square (X^2) value for the Educational status is 17.6 with p-value 0.007, marital status with 17.8 and 0.007 and religion 10.5 and 0.03 Chi-square and p-value respectively which were lower than of 0.05 therefore the null hypothesis was rejected.

Hypothesis 2

Association between respondent' Socio-demographic Characteristics' and their practice of blood donation.

The sex (gender) and Educational status of the respondents were cross tabulated against their practice towards blood donation using inferential statistics. The analysis revealed that there was no significant association between practice of blood donation and the sex of the respondents; so also there was no significant association between their educational status and their practice towards blood donation. Twenty-eight percent male and 21.4% female had good practice while 72.4% male and 78.6% female had poor practice, Chi-square was 1.9 and p-value 0.40. Educationally, 8% of NCE holders, 39.5% of Polytechnic holders, 22.4% of University (First degree) holders and 23.1% of other degree holders have good practice towards blood donation, the Chi-square value was 9.2 and p-value 0.20 and for all other variables under the socio-demographic characteristics have p-value > 0.05 and therefore, the researcher failed to reject the null hypothesis.

Hypothesis 3

Association between respondents' knowledge and practice of blood donation.

The respondents' level of knowledge of blood donation was cross tabulated with their practice of blood donation using the Inferential statistics. The analysis showed that there was a significant association between knowledge and practice of blood donation among the respondents with 33.1%, 32.8% and 43.1% good, fair and poor knowledge respectively. Also, 23.4% and 76.6% having good and poor practice respectively. From the Pearson Chi-square analysis, it could be deduced that the association was statistically significant with p-value 0.03 which is less than 0.05, therefore, the null hypothesis was rejected.

Table 4.7.1 Association between Respondents' Socio-demographic Characteristics and their knowledge on blood donation

N= 290

Socio-Demographic characteristics	Knowledge Good(%)	Fair(%)	Poor(%)	Total(%)	X^2	p-value
Sex						
Male	28(28.6)	27 (37.8)	33 (33.6)	98(100.0)	2.1	0.40
Female	68 (35.4)	58 (30.2)	66 (34.4)	192(100.0)		
Age						
18- 24	8 (18.6)	21 (48.8)	14 (32.6)	43 (100.0)	17.7	0.06
25- 31	15 (28.3)	23 (43.4)	15 (28.3)	53 (100.0)		
32- 38	25 (45.5)	11 (20.0)	19 (34.5)	55 (100.0)		
39- 45	25(34.2)	24 (32.9)	24 (32.9)	73 (100.0)		
46-52	20 (37.7)	12 (22.6)	21 (39.6)	53 (100.0)		
>53	3 (23.1)	4 (30.8)	6 (42.6)	13 (100.0)		
Education						
NCE	9 (36.0)	3 (12.0)	13 (52.0)	25 (100.0)	17.6	0.007**
Polytechnic	18 (47.4)	9 (23.7)	11 (28.9)	38 (100.0)		
University	63 (29.4)	76 (35.5)	75 (35.0)	214(100.0)		
Others	6 (46.2)	7 (53.8)	0 (0.0)	13 (100.0)		
Marital Status						
Single	24 (26.7)	41 (45.6)	25 (27.8)	90 (100.0)	17.8	0.007**
Married	69 (35.2)	53 (27.0)	74 (37.8)	196 (100.0)		
Divorced	0 (0.0)	1 (100.0)	0 (0.0)	1 (100.0)		
Separated	3 (100.0)	0 (0.0)	0 (0.0)	3 (100.0)		
Ethnic Group						
Yoruba	84 (32.4)	80 (30.9%)	95 (36.7)	259 (100.0)	12.3	0.06
Igbo	8 (53.3)	6 (40.0%)	1 (6.7)	15 (100.0)		
Hausa	0 (0.0)	2 (100.0%)	0 (0.0)	2 (100.0)		
Others	4 (28.6)	7 (50.0%)	3 (21.4)	14 (100.0)		
Religion						
Christianity	86 (37.2)	70 (30.3)	75 (32.5)	231 (100.0)	10.5	0.03**
Muslim	10 (17.2)	24 (41.4)	24 (41.4)	58 (100.0)		
Traditionalist	0 (0.0)	1 (100.0)	0 (0.0)	1 (100.0)		

* Statistically significant; **Fisher's exact test

Table 4.7.2: Association between the Respondents' Socio-Demographic Characteristics and their practice to Blood Donation

N=290

Variables	Yes(%)	No(%)	Total(%)	Fischer's Exact Test/ X^2	p-value
Sex					
Male	27 (27.6)	71 (72.4)	98 (100.0)	1.9	0.40
Female	41 (21.4)	151 (78.6)	192 (100.0)		
Age					
18- 24	8 (18.6)	35(81.4)	43 (100.0)	14.8	0.10
25- 31	13 (24.5)	40 (75.5)	53 (100.0)		
32- 38	21 (38.2)	34 (61.8)	55 (100.0)		
39- 45	13 (17.8)	60 (82.2)	73 (100.0)		
46- 52	12 (22.6)	41 (77.4)	53 (100.0)		
>53	1 (7.7)	12 (92.3)	13 (100.0)		
Education					
NCE	2 (8.0)	23 (92.0)	25 (100.0)	9.2	0.20
Polytechnic	15 (39.5)	23 (60.5)	38 (100.0)		
University	48 (22.4)	166 (77.6)	214 (100.0)		
Others	3 (23.1)	10 (76.9)	13 (100.0)		
Marital Status					
Single	19 (21.1)	71 (78.9)	90 (100.0)	5.1	0.50
Married	48 (24.5)	148 (75.5)	196 (100.0)		
Divorced	1 (100.0)	0 (0.0)	1 (100.0)		
Separated	0 (0.0)	3 (100.0)	3 (100.0)		
Ethnic Group					
Yoruba	58 (22.4)	201 (77.6)	259 (100.0)	10.6	0.10
Igbo	2 (13.3)	13 (86.7)	15 (100.0)		
Hausa	2 (100.0)	0 (0.0)	2 (100.0)		
Others	6 (42.9)	8 (57.1)	14 (100.0)		
Religion					
Christianity	54 (23.4)	177 (76.6)	231 (100.0)	3.6	0.50
Muslim	13 (22.4)	45 (77.6)	58 (100.0)		
Traditionalist	1 (100.0)	0 (0.0)	1 (100.0)		

Table 4.7.3 Association between Respondents knowledge and practice

Knowledge of Blood donation	Practice of blood donation		Total (%)	X^2	P-value
	Yes (%)	No (%)			
Poor	27 (28.13)	69(71.88)	96(100)		
Fair	26(27.37)	69(72.63)	95(100)	6.8	0.033*
Good	14(14.14)	85(85.86)	99(100)		
TOTAL	**67**	**223**	**290**		

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Discussion

5.1.1: Socio-demographic characteristics of the participants

The study focused on public secondary school teachers in an urban Local Government Area, Ibadan metropolis to examine their knowledge, practice and perceived benefits of blood donation. The sample size of the respondents in this study was two hundred and ninety (290) including both male and female of age ranges between 18-63 years with an average age of 37.2±10.2 years, this is in consistence with an earlier study carried out on a community in the Northern part of this Country (Kwara State) on practice of blood donation where 73 (25.2%) participants were from the age group of 39-45 years (Salaudeen et al. 2011). It is also in consistence with a previous study carried out by Udegbe and Odukoya, 2015, where the mean age of respondents was 36.7±11.1 years. Out of this sample size, 98 (33.8%) are male while the majority 192 (66.2%) are female. Sixty-seven (23.1%) had at one time or the other donated blood before among the respondents and these are the category of those with good practice of blood donation, this is in contrast with the study carried out in Saudi Arabia among King Abdulaziz Medical City Population where 45.8% claimed to have donated blood before (Alfouzan,2014) and in Markos town, Northwest Ethiopia, where 16.1% of respondents have donated at one time or the other (Yenework et al, 2016).

Being all educated to tertiary level, it is thought that, this will translate in enhancing their knowledge level on blood donation and subsequently their practice of blood donation but that was not the case. Majority 196 (67.6%) are married while, 90 (31.0%) are single. The percentages of divorced and separated are inconsequential. The association between the respondents' socio-demographic characteristics and their knowledge on blood donation showed that their educational level, marital status and religion were statistically significant with p value of 0.007, 0.007 and 0.03 respectively. Association between their socio-demographic and practice revealed that all socio-demographic variables were not statistically significant p-value 0.4, 0.1, 0.2, 0.5, 0.1 and 0.5 for gender, age, education, marital status, ethnicity and religion respectively. More than half (59.7%) of the donors

were female while 40.3% were male, this is in consistence with a study carried out by Salaudeen and Odeh, 2011 where 51% of donors were female; but in contrast to another study carried out by a team of researcher (Pondei, Lawani and Pughikumo, 2013) where 98.0% of donor respondents were male.

The reason why majority (89.3%) of the respondents are of the Yoruba ethnic group is simply because the research was conducted in the South-west geopolitical zone of the country.

5.1.2: Level of knowledge of blood donation among respondents

It was revealed that 97.6% of the respondents have heard about blood donation through various channels/means. However, with this very large proportion, about one third (33.1%) of the study population have good knowledge of blood donation. Thirty-two point eight percent (32.8%), have fair knowledge while 34.1% have poor knowledge. The knowledge level was not that bad as compared to some previous studies with abysmally low level of knowledge on blood donation. This knowledge level is consistence with a study carried out in South India where 35.7% of respondents have good knowledge of blood donation (Manikandan, Srikumar and Ryanthika, 2013).

Though, 97.6% of the respondents have ever heard of blood donation, 33.1% have good knowledge and only 23.1% of this had ever donated blood before. This number is significant yet, level of knowledge does not translate to the practice of blood donation. Comparable observations were also found in studies conducted among students of Chulalongkon University, Thailand where 80.0% of the participants knew about blood donation but only 11.0% of the study population had donated blood before and likewise among the students of the University of Dhaka, Bangladesh, 80.0% of participants showed positive attitude towards blood donation, but 16.0% of the participants had actually donated blood before (Salaudeen and Odeh, 2011). Good knowledge about blood donation does not necessarily translate to actual practice of blood donation and this could be due to the myths and misconception regarding blood donation especially in this part of the world that is still holding sway. Therefore, a lot of education, sensitization and awareness campaign must be intensified so as to disabused the minds of society against these erroneous believes.

5.1.3: Practice of blood donation among respondents

This study revealed that out of a sample size population of 290 participants, only 67 (23.1%) that is less than a quarter, had ever donated blood before. This is in consistence with a previous study conducted among undergraduate students in district Una, Himachal Pradesh, India, where less than a quarter (17.3%) of the respondents had donated blood before, 19.4% of the donors were male and 14.3% were female donors (Ankita, Chauhan, Acharya, 2015). It is also consistent of a study carried out in Addis Ababa in Ethiopia among health science students where 23.4% reported history of blood donation (Chalachew, Meaza, Andualem, Megdelawit, Tesfalem, and Hawult, 2014). And also consistent with another study carried out in Ethiopia (Samara University) among health science students where 24.5% had donated before (Tadesse, Ayalew, Yisma, Liben and Wudu, 2018). However, it is in contrast with a study in Badagry, Lagos, where 35.5% which is more than one-third of respondents had ever donated blood before (Udegbe, Odukoya and Ogunnowo, 2015).

In this study, 15.2% donated blood less than three times, 4.1% donated three times, 1.7% donated four times in a year; 13.4%, 3.1% and 4.8% of the respondents donated blood over two years ago, twelve to eighteen months ago and less than six months ago respectively. Among those who donated, only 7.9% did that voluntarily without any ulterior motive, while 9.7% donated because a friend needed to be transfused and 4.8% did that because their family / relative was to be transfused. The percentage of voluntary donors in this study is higher a bit than the study carried out in Badagry, Lagos by Udegbe et al, 2015, where despite the fact that 35.5% of respondents have donated blood before only 2.3% did it voluntarily. In the survey conducted by Salaudeen and Odeh, 2011 in a Tertiary institution in Nigeria, only 15.0% of the respondents have ever donated blood before and out of these, only 3.0% did it voluntarily. This pose a risk for the transmission of blood borne infections as blood from voluntary non-remunerated donors is considered the safest. The low percentages of voluntary blood donors called for concern as commercial blood donors, often known to have higher rates of transfusion-transmissible viral infections constitute the major risk of transmitting infections to potential recipients if the blood is poorly screened. For the non-donors, various reasons were given for their action or in action; 26.6% said they were never approached for blood donation, this is in contrast with the survey carried out by Udegbe et al, 2015, where 72.5% of non-donor

respondents were never approached for blood donation. In terms of awareness 6.9% said they were not aware of it, 9.3% said they were not fit, 2.1% said they need to donate for their friends, family member or relation in future. Other reasons are fear of needle 5.9%, lack of time 4.5%, scared of knowing viral status 2.1%, medical reasons 3.4%, no cause for it 16.2%, fear of blood been used for rituals 2.1%, fear of weakness after donation 2.8% and poor economic reasons 1.4%. As in other previous studies similar demotivating factors were mostly responsible for the attitude of the non-donors, these required urgent attention so as to improve on blood collection generally. However, among the non-donors, 63.8% will be interested in donating blood if they were called or reminded to do so. For those that have donated before, they wanted a reminder for their due dates.

The study also revealed that among the very few (67) donors 59.7% were female and 40.3% were male donors. In terms of ethnicity, 85.0% were Yoruba and this could be attributed to the zone where the research was carried out and 3.0% each were of Hausa and Igbo ethnic groups while the remaining 9.0% were of other ethnic groups like the Efik, Benin and Idoma. Majority of the donors were Christian 80.6%, 17.9% Islam and 1.5% Traditionalist. In terms of marital status, 70.1% of the donors were married and 29.9% single. Expectedly, 100% of the total respondents are Educated to various degrees of tertiary level ranging from NCE to post graduate. This was consistence with a previous research carried out in Norway where 68.3% of respondents were married and in contrast with the same research where the male (53%) donors were higher than the female donors (Misje, Bosnes, Gasdal and Heier, 2005).

5.1.4: Perceived benefits of blood donation

From the revelation of this study, 87.9% of the respondents said that blood donation saves the lives of donors as well as that of recipients, 48.3% said donors looks fitter and healthier than non-donors, while 93.4% said to know their blood group. A high proportion, 92.1% were of the opinion of knowing their viral status, while 86.6% said it's for healthy living, 88.6% said basically to know their genotype and 93.4% said they derived joy in the fulfilment of saving lives. Sixty-eight percent were of the opinion that blood donation helps in reducing blood induced blood pressure, 83.8% said for them to know about other health challenges. Others 52.1% to reduce obesity, 65.9% contribution to the economic

growth of the Nation through life saving and only 38.6% said they do it for monetary purpose.

Comparing this result with others carried out in the past in Nigeria and some other parts of the world, there was a contrast. Contrast in the sense that there was a wide margin of positivity in the result presented. While that conducted by Salaudeen et al., 2011, said 63.6% of respondents benefited by saving lives, 87.9% that is, majority of the respondents in this survey said their benefits in donating blood was seeing that people's lives were saved as well as their own lives. While almost all the donors 93.4% derived joy and fulfilment in seeing that their blood saved the lives of others who would have died premature death through the shortage of safe and quality blood. Reason for this could be due to their educational exposure and knowledge of blood donation.

5.1.5: Attitude of respondents towards blood donation

Majority (86.9%) of respondents have a good attitude towards blood donation which was slightly higher than a study conducted in India with 85.0% level of attitude, and 9.3% have a negative or bad attitude towards blood donation and the balance were indifferent. This was consistent with a study carried out among regular health science students of Samara University, Ethiopia, where 93.5% of total respondents said blood donation is a good habit and 6.5% thought otherwise (Tadesse, et al., 2018; Ferguson and Farell, 2008).

Factors that can be attributed or associated to this high level of positive attitude towards blood donation could not be far from their educational status and marital status since 100% of respondents are educated to tertiary level although this does not transcribe to practice but good attitude and 70.1% of donor respondents were married. In as much as majority have positive attitude towards blood donation, greater number 35.9% still believed that there could be adverse reaction on donors which was temporal anyway, 33.1% disagreed with this opinion and the balance 31.0% were undecided. Out of the total respondents, 76.2% agreed that patient's relation or friend be called upon to donate blood whenever there is need for it 12.8% disagreed while 11.0% were undecided. Eighty-three percent of total respondents would rather donate blood to save lives 21.8% would donate blood voluntarily and 1.4% said nothing would ever make them donate blood. In consistence with the study carried out among the health science students in Samara University, Ethiopia, where 82.9% and 92 3% were willing to donate blood voluntarily in

the future and accepted that voluntary blood donation was the best respectively (Tadesse et al., 2018).

It is the general believe that having good knowledge about something will give one a good perception on that issue, therefore, good knowledge of blood donation is a prerequisite tool for avoiding the myths and misconceptions about blood donation and thereby developing a positive attitude towards it.

5.1.6: Influencing factors towards blood donation among respondents

There were lot of influencing factors both for and against blood donation as revealed by this study. Majority 83.1% of the total respondents would donate blood for the simple reason that they want to save lives, while others would want to donate blood for other reasons like altruistic/ voluntary, critical need for it, for a family member, relation or friend, emergencies and so on. About 18.3% said they could be influenced to donate blood if fit for it, and a negligible number 2.8%, would do it for remuneration purposes, 1.4% said nothing can influence them to donate. For some to be motivated to donate blood, they required detailed explanation of procedures and reassurance of their safety.

While 35.2% were of the view that lack of incentive or inadequate inducement will keep them away from donating blood 36.6%, 40.0%, 26.2% and 61.4% gave reasons like unpleasant experience from previous donation, fear of knowing their viral status, religion and gynecological respectively for not donating blood. Also, 172(59.3%), said no awareness or enlightenment enough on blood donation, some were afraid of the needle, some were afraid of death resulting from donation and 62.1% were afraid of contracting some viral diseases like HIV/AIDS, HbV, HcV, Syphilis etc. Peer, parental or spouse influence or pressure will always hinder some prospective donors from carrying out the exercise. Some of the respondents pointed to the location of the blood transfusion centres as a hindrance while 63.1% said they either fall shorts of one or two of the donation criteria each time they had the opportunity of presenting themselves for the donation exercise. Some gave medical reasons, some inadequate food intake and genotypic. These findings go in line with previous studies carried out in Malaysia among adults in Hospital University Sains Malaysia, where fear of needle prick, pain or discomfort from previous donation were top barriers (45.3%)among non-donors' respondents (Chin, Kueh and Yusoff, 2018). Also was consistence with a study carried out in 2012 in Bangladesh

among University level students where fear was the only influence that hinder blood donation. Among the survey participants, only 34.3% donated blood in the past and among the 73.3% non-donors showed positive attitude towards blood donation (Karim, Alam, Labone and Farazi, 2012).

5.1.7: Implications of Findings to Health Promotion and Education

This study revealed that despite educational level of the study participants vis-à-vis their occupation (Secondary school Teachers), one would expect them to exhibit a high level of knowledge on blood donation so as to be able to pass same to their students, but it was to the contrary. Barely one third (33.1%) of the total population had good knowledge on blood donation and for the objective of the blood donation to be achieved a lot of enlightenment, sensitization and educational campaign needs to be intensified. Blood transfusion is a critical therapy in medicine and if people knew it to be so 14.5% of the 67 donors wouldn't have waited till their friends, relations or known person was in dear need of blood before going to donate voluntarily. And because of their limited knowledge on blood donation, they didn't know that blood circulating in the body system has a life span of 120 days after which the blood is dispensed off through urine, sweat and storage in the gall bladder through the spleen, and fresh blood manufactured in the stem cells of the bone marrow. This is a vicious cycle which no one has control over, therefore, the blood you are about to waste by destruction through the body mechanism can save a life.

Excess blood in the body at times causes dizziness, persistent headache, unable to sleep well (Insomnia), blood induced raised blood pressure and other health challenges, therefore, the more you donate blood the more you are refreshed, looking younger and healthier because fresh blood is always in circulation in your system. Being a regular voluntary non-remunerated blood donor (VBD), you are saving your own life as well as the life of recipient. Also, as a regular voluntary donor afford you the opportunity of knowing your viral status (TTIs) at regular interval, should there be any reaction at any point of donation one can quickly nib it in the bud.

All impediments towards blood donation should be looked into and as much as possible tackled so as to have no excuse for prospective donors. All replacement donors should be converted to voluntary donors so that they would not be waiting until any of their

relations, friends or family member is in need of blood. The old regular donors too who have passion for saving lives through blood donation should be motivated as well as the first and replacement donors that have been converted to regular donors. The lapse donors should be brought back donating, while those permanently deferred be made blood donor advocates and ambassadors. This will boost the blood in the bank and subsequently save more lives, boost the economy of the Nation by reducing the morbidity and mortality rate as a result of shortage of blood. It will also put smiles into the faces of recipients' relatives and the recipients.

We should cultivate the habit of what is obtainable in some advance countries whereby blood waits for patients at any point in need in the health facilities, not the current situation we are now where patients wait for blood to be source from anywhere even when you have doubt or query the safety of the blood. And in most cases as the relations of the patients were running around to source for the blood, that's if they have the money to access it, the patient may die in the process depending on how critical the situation was. A lot of road traffic accidents victims died because when they were rushed to the medical facility there was no blood at all or no compatible blood for these victims. Safe blood is the blood that is devoid of diseases and infection that is why it is said that safe blood saves lives.

Apart from the aforementioned health implications of not donating blood regularly, shortage of quality and safe blood in the blood banks can lead to increased morbidity and mortality. To prevent these, safe, quality and adequate blood must be available all the time in our blood banks through an improved practice of voluntary non-remunerated blood donors who are eligible among the general populace and this can only be achieved through rigorous sensitization, education and enlightenment campaign using the socio-media, radio jingles, television, hand bills/ flyers, posters, faith based organization and so on. SAFE BLOOD SAVES LIVES

5.2: Conclusion

The availability of safe, quality and adequate blood in order to save lives is seriously a big challenge worldwide and especially in Africa from the outcome of this study and many previous studies in the world.

From the outcome of this study, it was deduced that though the respondents are all educated to a very reasonable extent where one should think that their knowledge level should translate to their practice of blood donation, and even through that educate their neighbors and their students concerning blood donation so that there will be a boost of blood in the blood banks; it was to the contrary. Therefore, it could be said that educational status and knowledge of blood donation does not necessarily translate to practice of the act of blood donation.

The maximum donation a donor can donate blood per annum is four and three times for male and female donor respectively all things being equal, the study revealed that those respondents who said they have donated blood more than four times in a year were not really sure of what they were saying.

Only 33.1% that is, barely one third of the sample size have good knowledge of blood donation that is to say despite their educational level they still exhibit low knowledge of blood donation and that was one of the factors that transcribed into their practice level.

In as much as there are still misconceptions in the mind of the participants and some still felt that not until there was urgent need for blood or their relation, family member or friends were in need of blood before they can donate blood, then the goal of having 100% voluntary donors by year 2020 according to WHO Assembly, is still a mirage.

Another salient point deduced from the study was that majority 86.9% of the respondents have a positive attitude towards blood donation yet their practice level was low as only 23.1% have donated blood before. Regular blood donation is beneficial to both the donor and the recipient. Donor respondents will always do it once avail the opportunity and even encourage friends and relations to be involved in the act of saving lives through blood donation.

Blood donation does no harm, but from the inhibiting factors recorded in this study, it clearly showed that the factors militating against blood donation was far higher than the promoting factors. The perception at which individual respondents has towards blood donation differs from one another. From the study, it was revealed that respondents who got to know about blood donation through Television were less than one-third, despite the fact that people watch Television a lot, this was due to the fact that there was no

advertisement on blood donation on our National and privately owned Television stations except maybe once a year which was usually during the World Blood Donor Day.

In light of these, for adequate, safe and quality blood to be available at all times in our blood banks rigorous work on sensitization, enlightenment, educating, and a lot of advocacy of the gate-keeper, opinion leaders, stakeholders and the public in general is needed. This will make them to imbibe the culture of voluntary non-remuneration blood donation thereby having attitudinal change and subsequently behavioural change which invariably will change the current situation of patients waiting for blood in our health facilities to the opposite whereby blood will be waiting for patients and unnecessary loss of lives in the process of trying to access blood will be saved.

5.3: Recommendations

Based on the findings of this study, the following recommendations were made to address the issues:

i. Enlightenment, seminars, workshops to sensitize the teachers on voluntary blood donation should be intensified and even among the public generally. Apart from the various channels of creating awareness, there should be scrolling on blood donation on the National and privately owned Television stations all the time as it is obtainable in some advance countries.

ii. Pamphlets, flyers, and other information, education and communication (IEC) materials should be placed at strategic positions at the Faith Based Organizations (FBOs) and other popular centres like the Shopping malls across the country, Social event centres, Schools and Corporate organizations and other work places generally to educate people about blood donation.

iii. The respondents' opinion is well respected in the society; therefore, the concerned authorities should harness this opportunity to propagate the campaign of voluntary blood donation through seminars, workshops and incorporating knowledge of blood donation into the Teachers' training curriculum.

iv. Blood donation should be incorporated into the school academic curriculum so that when the students are of donating age it will not be a new thing to them. A syndrome of catch them young.

v. Success stories should be given wide publication so as to serve as a motivating factor for donors and prospective donors and there should be a reward like National honour for ≥25 times donors to motivate others especially among the Teachers and other strata of the society.

vi. The National Blood Transfusion Service (NBTS) should collaborate with the Local Government Authority to ensure periodic enlightenment campaign in the public secondary schools on blood donation to create awareness and educate the teachers for possible good practice of donating blood.

vii. Donors should be celebrated especially on their special events like birthday, wedding and so on, this will make them feel elated and continue donating.

REFERENCES

Agrawal, A., Aseem K., Tiwari, Alok A. and Kaira R. 2013. Knowledge, attitudes and practices towards blood donation in Uttrakhand in India. Asian Journal of Transfusion Science, vol.7 Issue 1, Jan-June 2013.

Ahmed, S. G., Gamas, M. G. 2006. Declining frequency of Blood Donation among elites in Maiduguri, Nigeria. Afr.J Med. MedSci 35(3): 359-63.

Ajzen, I., 1991. An application of the Theory of Planned Behaviour. Organizational behaviour and human decision processes. 50(2):179-211.

Ankita T., Hoshiar S.C., Bishwas A., 2015. Knowledge and practices of Blood donation among the undergraduate students of distrct Una, Himachal Pradesh, India.

Araoye, M. O. 2003. Research Methodology with Statistics for Health and Social Sciences. Nathadex Publishers, Awka, Nigeria.

Bani M., and Giussani B., 2010. Gender differences in giving blood. A review of literature

Benedict N., Usimenahon A., and Alexander I. N. 2012. Knowledge, attitude and practice towards blood donation among Physicians in a Tertiary Health Facility in a Developing Country. Journal of Blood Transfusion vol.3 2012

Benedict N., Usimenahon A., and Alexander I. N. 2012. Knowledge, Attitude and Practice of Voluntary Blood Donation among Healthcare workers at the University of Benin Teaching Hospital, Benin- City, Nigeria.

Blood Safety and availability (http://www.who.int./media centre/factsheets/fs279/en/l, 2014).

Blood Groups, Blood Typing and Blood Transfusions. The discovery of blood groups(https.//educationalgames.nobleprize.org/educational/medicine/Landsteiner/readmore.html, Dec.2001)

Bönig, H., Schmidt, M., Hourfar, K., Schüttrump, F.J. and Seifried, E. 2012. Sufficient blood, Safe blood: Can we have both? *BMC Medicine*.http://doi.org/10.1186/1741-7015 pgs. 10-29

Chalachew M., Meaza T., Andualem D., Megdelawit T., Tesfalem T.T and Hawult T. 2014. The Level and Associated factors of Knowledge, Attitude and Practice of Blood donation among Health Science Students of Addis Ababa University, Ethiopia.

Chee K.C., Yee C.K and Dariah M. Y. 2018. Knowledge, Perceptions and Barriers of Blood Donation among adults in Hospital Universiti Sains Malaysia. Malaysian Journal of Medical Research vol. 2(1), pg.7-8.

Erahbor, O., Adias T. C. and Mainasara A. S. 2016. Provision of Safe Blood Transfusion Services in a Low Income Setting in West Africa. Case Study of Nigeria.

Field, S. The activities of Safe Blood for Africa Foundation in Nigeria. 32nd Annual General Meeting of the Nigerian Society for Haematology and Blood Transfusion, 22-25th September, 2004.

Gillespie, T. W. and Hillyer, C. D. 2002. Blood Donors and factors impacting the blood donation decision. *Transfusion Medicine Reviews; vol.16: 115-30*

Glynn, S.A; Kleinman, S.H; Schreiber, G.B; Zuck, T; Combs, S.M. and Bethel, J. 2002. Motivations to donate blood: demographic comparisons. 2002 Pub.Med. Journal Feb; 42(2): 216-25

Jacobs, B. and Berege Z.A. Attitudes and Beliefs about blood donation among adults in Mwanza Region, Tanzania. East Africa Med. Journal, 1995. Jun; 72(6):345-8

Kasraian, L. and Maghsudlu, M. 2002. Blood Donors' attitudes towards incentives: Influence on motivation to donate. *Blood Transfusion, 10(2), 186-190. http://doi.org/10.2450/2011. 0039-11*

Manikandan, S., Srikumar, R., Ruvanthika, P.N. 2013. A study on Knowledge, Attitude and Practice on Blood Donation among Health Professional Students in Chennai, Tamil Nadu, South India. *International Journal of Scientific and Research Publications, vol.3, issue 3, March 2013*

Muhammad B., Abdul H., Ibrahim Z., Sehan S. L.K., Fawad S., Muhammad S., Muhammad H. A., Manpreet M., Midhat Z. K., Ahsam T., Haya H., Tehrema I., and Rohan A., 2016. Knowledge, Attitude and Percptions among non-blood donor female health care professionals. Global journal Health Science vol. 8(4).

Najd Alfouzan, 2014. Knowledge, Attitudes and Motivations towards Blood Donation among King Abdolaziz Medical City Population. International Journal of Family Medicine vol.2014, Article ID 539670, 8 pages. http://dx.doi.org/10.1155/2014/539670

National Blood Transfusion Service (NBTS). 2012, 2014. Annual report

National Population Commission (NPC, 2016), Population Statistics, Charts, Map and Location.

Nwabueze, S., Nnebue, C., Azuike, E., Ezenyeaku, C., Aniagboso, C. and Ezemonye, O. 2014. Perception of Blood Donation among Medical and Pharmaceutical Science Students of Nnamdi Azikiwe University, Akwa. Open journal of preventive medicine, 4, 515-522. Doi:10.4236/ojpm.2014.47061.

Olaiya, M.A., Alakija, W., Ajala, A. and Olatunji, R.O, 2004. Knowledge, Attitudes, Beliefs and Motivations towards blood donation among blood donors in Lagos, Nigeria. Transfus Med.2004.Feb; 14(1):13-7

Oswalt, R.M.1997. A review of Blood Donor Motivation and Recruitment. Transfusion vol.76. Issue 2.

Operational Guidelines for Blood Transfusion Practice in Nigeria. 2007

Pondei K., Lawani E., and Pughikumo C., 2013.Blood donor practices at two blood banks in Bayelsa State, Nigeria.

Rezaul K., Morshed A., Ubiyat J. L and Manzur R. F, 2012. Factors Influencing Blood Donation Behaviour of University Level Students in Bangladesh

Saberton, P.J., Paez, A., Newbold, K.B., and Heddle, N.M. 2009. Geographical variations in the correlates of blood donor turnout rates: an investigation of Canadian Metropolitan areas. *International Journal of Health Geographic 8(56). http://doi.org/10.1186/1476-072X-8-56*

Safe Blood for Africa Foundation Training manual. 2013

Salaudeen, A.G., Musa, O.I., Awoyemi, A.O., Bolarinwa, A.O and Adegboye, A.O. 2011. Community survey on Blood Donation Practices in a Northern State of Nigeria. *J. Preview Med. Hyg 52(1): 21-5*

Salaudeen, A.G., Odeh, E. 2011. Knowledge and behaviour towards voluntary blood donation among students of a tertiary institution in Nigeria. *Nigeria Journal of clinical practice. July- Sept. 2011. Vol.14, issue 3*

Sojka, B.N. 2003. The Blood Donation experience: perceived physical, psychological and social impact of blood donation on the donor. *Vox Sang.; 84: 120-128*

Tadesse, W., Ayalew, Y., Yisma, E., Liben, M. L and Wudu, M. 2018. Knowledge, Attitude, Practice and Associated Factors towards Voluntary Blood Donation among Regular Health Science Students of Samora University, Ethiopia. Health Science Journal, 2018 vol.12 no.1:542

Udegbe, A.L.N, Odukoya, O.O and Ogunnowo, B.E. 2015. Knowledge, Attitude and Practice of voluntary blood donation among residents in a rural Local Government Area in Lagos State: A mixed methods survey. Nigeria Journal of Health Sciences, 2015 vol. 15:80-8

Usman Waheed, MuneebaAzmat and Hassan Abbas Zaheer. 2015. Knowledge, Attitude and Practice towards Blood Donation in Pakistan: A Nationwide survey. *Haematology and Transfusion International Journal. Vol.1, issue 4, 2015*

WHO 2010 Global database on blood safety: report 2001-2002. http://www.who.int/bloodsafety/GDBS_Report_2001-2002 pdf. Accessed Nov.8,2010

WHO African Region, Regional training workshop on blood donor recruitment pre and post donation counseling, 2006.

World Health Organization (WHO), Global Data base on Blood Safety, Summary report Geneva, 2011.

World Health Organization (WHO), 2008. Blood Transfusion Safety. Available from *http://www.who.int/bloodsafety/voluntary_donation/en/.o*

World Health Organization (WHO) plus International Federation of Red Cross and Red Crescent Societies (IFRC). 2010. Towards 100% Voluntary Blood Donation – A Global Framework for Action. WHO 2010

Yenework A. J., Ahmed E. and Kedir Y.A. 2016. Knowledge, Attitudes and Practice towards blood donation and associated factors among adults in Debre Markos town, Northwest Ethiopia.

Zaller, N., Nelson, K. E., Ness, P., Wen, G., Bai, X. and Shan, H. 2005. Knowledge, Attitude and Practice survey regarding blood donation in a North –western Chinese city. *Transfusion Med: vol.15: 277-286*

APPENDICES

APPENDIX I

QUESTIONNIARE ON KNOWLEDGE, PRACTICE AND PERCEIVED BENEFITS OF VOLUNTARY BLOOD DONATION AMONG SECONDARY SCHOOL TEACHERS IN IBADAN NORTH LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA.

Salutations, my name is OLUSEGUN DADA, from the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Ibadan, Oyo State.

The reason for this study is to determine how knowledgeable the respondents are concerning blood donation, practice and the associated benefits to it. This questionnaire will require simple answers that will not give you any stress. Your completion of this questionnaire is voluntary, and your agreement to participate in the study will be highly appreciated as it will help in possibly developing an intervention or policy programme that will enhance constant availability of safe and quality blood in our blood banks.

If you decide not to participate in this study, you will neither suffer any harm nor discrimination as your willingness to participate is absolutely voluntary. I promise that any information provided will be highly confidential; and to this effect your name or any identifier will not be required.

Thank you for your anticipated cooperation.

Instruction: Please tick (√), or write where there is need in the spaces provided.

SECTION A: Socio-demographic information

1. Gender: 1. Male [ ] 2. Female [ ]

1 Age (as at last birthday) ----------

2 Educational status:

1. NCE Graduate [ ] 2. Polytechnic graduate [ ] 3. University graduate [ ]

4. Others *(please specify)* ----------

4. Marital status: 1. Single [ ] 2. Married [ ] 3. Divorced [ ] 4. Separated [ ]

5. Widow /Widower [ ] 6.Cohabiting [ ]

5. Ethnic group 1. Yoruba [ ] 2. Igbo [ ] 3. Hausa [ ]

4. Others *(please specify)* ----------

6. Religion: 1. Christianity [ ] 2. Islam [ ] 3. Traditionalist [ ]

4. Others *(please specify)* ----------

SECTION B: <u>Knowledge of blood donation</u>

7. Have you ever heard about blood donation? 1. Yes [ ] 2. No [ ]

8. How did you get to know about blood donation? (Tick all mentioned)

1. Radio jingles [ ] 2. Television [ ] 3. Posters [ ] 4. Friends [ ]

5. Relatives / Family [ ] 6. Books [ ] 7. Health worker [ ] 8. School [ ]

9. Social media [ ] 10. During sensitization campaign / outreach [ ] 11. Internet [ ]

12. Faith based organizations [ ] 13. Others (please specify) ----------

9. Do you know about blood group? 1. Yes [ ] 2 No [ ]

10. How many types do you know? 1. Two [ ] 2. Three [ ] 3. Four [ ] 4. I don't know [ ]

11. What blood group do you belong? 1.A [ ] 2. B [ ] 3. AB [ ] 4. O[ ]

5. I don't know [ ]

12. What is your rhesus 'D' factor? 1. Positive [ ] 2. Negative [ ] 3. I don't know [ ]

13. Can a person be infected through blood transfusion? 1. Yes [ ] 2. No [ ]

14. Who should donate blood? 1. Young boys and girls (below 18 years) [ ]

2. Healthy person (men and women age 18-65years) [ ] 3. Aged (above 65 years) [ ]

4.Vulnerable group (children, prisoners, physically challenged, mentally derailed) [ ]

5. Pregnant women [ ] 6. Sick / ill person [ ] 7. Others specify…….

15. What is the volume of blood collected at each donation? 1. 350 mls. [ ]

2. 450 mls. [ ] 3. 500 mls. [ ] 4. I don't know [ ]

16. What type of diseases are transmitted through blood transfusion? (Tick all mentioned)

1. HIV/AIDS [ ] 2. Hepatitis B Virus (HbV) [ ] 3. Hepatitis C Virus (HcV) [ ]

4. Syphilis [ ] 5. Malaria [ ] 6. Ebola [ ] 7. Gonorrhoea [ ] 8. Haemophilia [ ]

9. None [ ] 10. I don't know [ ]

17. For how long does the process of blood donation takes? 1. Less than 15 minutes [ ]

2. 15- 30 minutes [ ] 3. 30 -40 minutes [ ] 4. Above 1 hour [ ] 5. I don't know [ ]

18. When do you transfuse blood? (Tick all mentioned). 1. When there is severe blood loss /post-partum haemorrhage [ ] 2. Anaemic situation [ ] 3. Accident victims / emergencies [ ] 4. During complications in pregnancy [ ] 5. Sickle cell patients [ ]

6. During surgery [ ] 7. I don't know [ ] 8. Cancer patients [ ]

9. Others (please specify)----------

19. How many types of blood donors do we have? 1. 1 [ ] 2. 2 [ ] 3. 3 [ ] 4. 4 [ ] 5. I don't know [ ]

20. Do you know the different types of blood donors? 1. Yes [ ] 2. No [ ]

21. What are the different types of blood donor? (Tick all mentioned) 1. Voluntary non-remunerated donors [ ] 2. Paid donors [ ] 3. Family replacement donors [ ] 4. Autologous donors (self) [ ] 5. I don't know [ ]

6. Others (please specify) ----------

SECTION C: Practice of blood donation

22. Have you ever donated blood before? 1. Yes [ ] 2. No [ ] (if no, please, go to question 27)

23. How often do you donate in a year? 1. Less than 3 times [ ] 2. 3 times [ ] 3 4 times [ ] 4. More than 4 times [ ]

24. How many times have you ever donated in the past? 1. Only once [ ] 2. Twice [ ] 3. Thrice [ ] 4. 4- 10 times [ ] 5. Above 10 times [ ]

25. When was your last donation? 1. Less than six months ago [ ] 2. Six to twelve months ago [ ] 3. Twelve to eighteen months ago [ ] 4. Over two years ago [ ]

26. What called for your action? 1. A friend needed to be transfused [ ] 2. A family / relative was to be transfused [ ] 3. Voluntary / altruistic [ ] 4. Paid (remuneration) [ ] 5. To know my status [ ]

(If you have donated before, please, skip question 27)

27. Reasons for not donating by non-donors. 1. Not aware of it [ ] 2. Never approached for donation [ ] 3. Not fit to donate [ ] 4. Need to donate for family member, a relation or a friend in future [ ] 5. Have phobia for needles [ ] 6. Scare of knowing my status [ ] 7. I am pregnant [ ] 8. I am breastfeeding [ ] 9. Lack of time to donate [ ] 10. Because of my genotype [ ] 11. Medical reasons [ ] 12. I don't have any cause for it [ ] 13. I don't know who needs the blood [ ] 14. Poor economic situation [ ] 15. Fear that my blood could be used for rituals [ ] 16.Fear of weakness from donation [ ] 17. Others (please indicate) ----------

28. Will you be willing to donate if called or reminded to do so? 1. Yes [ ] 2. No [ ]

29. If No, why? 1. I am afraid of contracting infection through the process [ ] 2. I am scared of the needle prick [ ] 3. Fear of weakness from donation [ ] 4. Others (please state it) ----------

30. Can you encourage your family members, relations or friends to donate blood? 1. Yes [ ] 2. No [ ]

31. If No, why? 1. Because I just can't do it [ ] 2. Because I wouldn't know their feelings about it [ ] 3. Because I might not be able to convince them [ ] 4. Others (please specify)

SECTION D: <u>Perceived Benefits of Blood Donation</u>

32. Do you see blood donation as a means of saving the lives of both the donor and the recipients at the same time? 1. Yes [ ] 2. No [ ] 3. I don't know [ ]

33. Do you think that voluntary blood donors are healthier and look fitter than non-donors? 1. Yes [ ] 2. No [ ] 3. I don't know[ ]

34. Do you think the under listed benefits are embedded in blood donation apart from saving lives?

		Prompt	
		Yes	**No**
i.	To know your blood group		
ii.	To know your HIV and other transfusion infection status		
iii.	To have a healthy living		
iv.	To know your genotype		
v.	The joy of fulfilment of saving lives		
vi.	To reduce your blood induced raised blood pressure		
vii.	To know about other health challenges		
viii.	Help reduce obesity		
ix.	For monetary purpose		
x.	The fulfilment of contributing to the economic growth of the Nation		

SECTION E: <u>Attitude towards blood donation</u>

35. What is your view concerning blood donation?

		Disagree	**Agree**	**Undecided**
i.	It is a good thing			

ii.	It is a bad thing			
iii.	It is a Godly thing to do			
iv.	It is rewarding			

36. I think the following can happen to a blood donor during and after donation

		Agree	**Undecided**	**Disagree**
	Donor can contract infection(s)			
	Donor can be weak for sometimes			
	Donor can fall sick			
	Donor can die because of donation			
	No adverse effect on the donor			
	Donor can have adverse reaction			
	Donor can faint			
	Donor can run short of blood			
	Donor can throw up (vomit)			
	Donor may feel dizzy			

37. Due to the following reasons, I feel that patient's relative, family or friends be asked to donate blood when the need arise:

		Agree	**Undecided**	**Disagree**
	Because they are members of the same family			
	For easy blood compatibility			
	To save a life			
	If the need arise			
	Because of their intimacy			
	For the sake of love to one another			
	For genetic reasons			
	Because it can produce a stronger bond			
	Because some might not like unknown peoples blood			
	Because of the financial implications			

SECTION F: Factors Influencing Blood Donation

38. What would make you to donate blood? 1. To save life [ ] 2. For altruistic reason [ ] 3. If there is critical need for it [ ] 4. For a family member, relation friend or known person [ ] 5. Voluntarily [ ] 6. Remuneration purpose [ ] 7. If fit for donation [ ] 8. Nothing would make me donate blood [ ] 9. In emergencies [ ]

39. What would make you not wanting to donate blood? 1. If not medically fit [ ] 2. If the person to be transfused is not a family member, relative, friend or someone I know [ ] 3. Phobia for needles [ ] 4. Fear of contracting infections Transfusion Transmissible Infections (TTIs) [ ] 5. Fear of death resulting from blood donation [ ] 6. If there is no remuneration [ ] 7. I have an infection (Hepatitis, HIV/ AIDS etc.) [ ] 8. I don't have sufficient blood for donation [ ] 9. It is risky [ ] 10. I am not just interested

40. Would you like to donate blood? 1. Yes [ ] 2. No [ ] 3. Undecided [ ]

41. Would you donate blood if you are encouraged and or motivated? 1. Yes [ ] 2. No [ ]

3. Undecided [ ]

42. What sort of encouragement and or motivation do you need to make you donate blood? 1. Detailed explanation of procedures [ ] 2. Reassurances of its safety both to the donors and recipients [ ] 3. If my blood is the only one that is compatible with that of the patient [ ] 4.Inducement either financially or appreciation [ ] 5. Sensitization, awareness and enlightenment campaign [ ]

SECTION G: Inhibiting Factors towards Blood Donation

43. What are the barriers or factors militating against blood donation?

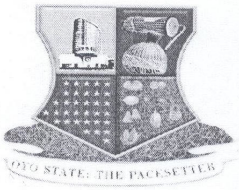
S/N	Barriers	Yes	No
1.	Location of the service centre (Distance)		
2.	Financial barrier (Short of fund)		
3.	Inadequacy of food intake		
4.	Medically unfit		
5.	Always falling short of one out of the criteria for donation		
6.	My genotype would not permit donation		
7.	No awareness or enlightenment concerning blood donation		
8.	Phobia for needle		

9.	Fear of contracting infections in the process of donation (HIV/AIDS, HbV, HcV, Syphilis, etc.)		
10.	Fear of death as a result of blood donation		
11.	Spouse influence		
12.	Peer /parental pressure against donation		
13.	My religion does not support it		
14.	Fear of knowing my Transfusion Transmissible Infections (TTIs) status		
15.	Unpleasant experience from previous donation		
16.	Due to pregnancy, lactating, menstruation or other gynaecological reasons		
17.	No incentive or inadequate inducement		

Thank you for your time and cooperation.

APPENDIX 11

TELEGRAMS..... TELEPHONE.....



MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....

All communications should be addressed to

the Honorable Commissioner quoting

Our Ref. No. AD 13/479/1125

26th February, 2019

The Principal Investigator,
Department of Health Promotion and Education,
Faculty of Public Health,
College of Medicine,
University of Ibadan,
Ibadan

Attention: Dada Olusegun

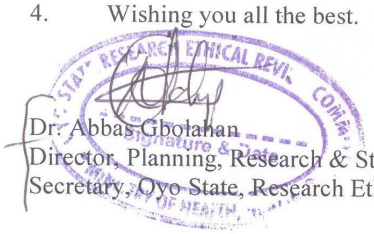
ETHICS APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Knowledge, Practice and Perceived Benefits Towards Voluntary Blood Donation among Secondary School Teachers in Ibadan North Local Government Area, Oyo State" has been reviewed by the Oyo State Ethics Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

4. Wishing you all the best.



Dr. Abbas Gbolahan
Director, Planning, Research & Statistics
Secretary, Oyo State, Research Ethics Review Committee