

**FACTORS ASSOCIATED WITH THE PRACTICE OF VOLUNTARY
BLOOD DONATION AMONG COMMUNITY MEMBERS AGED
15-50 YEARS IN MUTUNDWE-KIGGAGA ZONE,
LUBAGA DIVISION IN KAMPALA**

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**A RESEARCH REPORT SUBMITTED TO THE SCHOOL OF NURSING IN
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DECLARATION

I, Jjemba Alex, hereby declare that this research report entitled “factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone” is my own work and has never been submitted at any institution partially or in full for any academic award.

Signature.....

Date.....

APPROVAL

This is to certify that this research report of Jjemba Alex on “factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone” has been done under my supervision and approved for submission in partial fulfillment of the requirements for the award of a Bachelor’s degree in Nursing Science of International Health Sciences University.

Signature.....

MRS. WAFULA ELIZABETH

SUPERVISOR

Date.....

DEDICATION

With a lot of joy, I dedicate this report to my father and mother Mr. Muwanga Kamagu and Ms. Namatovu Jane, my boss Prof. Badru D. Kateregga and the wife, colleagues at my work place and my best friend Nassali Jovia. You have groomed me into a hardworking person that I am today. I pray that the almighty rewards you abundantly.

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OPERATIONAL DEFINITIONS

Blood: The red liquid that circulates in the heart, arteries, veins and capillaries of humans and other vertebrate animals, carrying oxygen and nutrients to the body cells and carbon dioxide and waste materials from the tissues of the body.

Blood donation: Refers to the process of collecting blood from someone, testing, preparing, and storing blood and blood components.

Voluntary blood donation: Refers to when a person agrees to have blood drawn and used for transfusions or made into biopharmaceutical medications.

Misconception: A view or opinion that is incorrect because it is based on faulty thinking or understanding.

Belief: An acceptance that a statement is true or that something exists.

Risk: A situation involving exposure to danger, harm, or loss.

Conduciveness: Making it easy, possible, or likely for something to happen or exist.

Practice: Performance of an activity habitually or regularly.

LIST OF ABBREVIATIONS

DHO	:	District Health Officer
IHSU	:	International Health Sciences University
MOH	:	Ministry of Health
NSSF	:	National Social Security Fund
SPSS	:	Statistical Package for Social Sciences
UBTS	:	Uganda Blood Transfusion Services
URCS	:	Uganda Red Cross Society
WHO	:	World Health Organization

ABSTRACT

Introduction: Blood transfusion is a fundamental component of healthcare. It plays a big role in saving millions of lives every year, both in routine cases and emergencies. Voluntary donation is the prime factor to a safe and bountiful supply of blood.

Objectives: The aim of the study was to identify the factors associated with the practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone from May to June, 2017. The objectives were; to determine the socio-cultural, individual factors and health system factors associated with the practice of voluntary blood donation.

Methodology: This was a cross-sectional study with 111 participants. Data collection was by use questionnaires. Stratified random sampling technique and simple random sampling were used to obtain the participants.

Results: Approximately 33.3% of the respondents had ever donated blood with 41% having donated twice. Culture ($P=0.015$), myths and misconception ($P=0.003$), age of the respondents ($P=0.019$), fear of donating blood ($P=0.001$), availability of blood donation centers ($P=0.003$), accessibility to blood donation centers ($P=0.012$), and conduciveness of blood donation center ($P=0.003$) had significant association with practice of voluntary blood donation.

Conclusion and recommendation: The study revealed that prevalence of practice of voluntary blood donation was 33.3%. Contributing factors in practice of blood donation include culture, myths, age, fear, availability, accessibility and conduciveness of blood donation centers. With regards to the findings of the study, it is recommended that more effort should be put on sensitizing younger residents and finding ways to overcome the perceived barriers to blood donation.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter introduces the study on factors associated with practice of voluntary blood donation in Mutundwe, Kiggaga zone by highlighting; the background of the study, problem statement, research objectives, research questions, significance of the study, conceptual framework and theoretical framework.

1.1. Background of the study

Blood transfusion is a fundamental component of healthcare. It plays a big role in saving millions of lives every year, both in routine cases and emergencies. It enables complex medical and surgical interventions and greatly improves life expectancy and quality of life of patients with various acute and chronic conditions (WHO, 2010).

Voluntary donation is the prime factor to a safe and bountiful supply of blood. In many developed countries, the principle of voluntary unpaid blood donors is thoroughly established. However, only a few of the developing countries have entirely established the voluntary unpaid donation programmes. Many of these countries still rely on paid and replacement donors. Professional blood donors are usually found waiting outside the doors of hospitals in many developing countries, too happy to represent as a helpful brother or cousin, in order to make money. It is estimated that majority of the blood in over 70 countries in the world comes from paid or replacement donors (Global Blood Fund, 2016).

Voluntary, unpaid blood donors are the base of a safe, sustainable blood supply. Without a health system based on regular voluntary non-remunerative blood donation, no country can be able to provide sufficient blood for all the patients who require transfusion (WHO, 2017).

Developed countries have well-structured health systems and blood transfusion services, hence are generally able to meet the demand for blood and blood products. In contrast, in developing countries and transitional countries, chronic blood shortages are common. Good healthcare provision is available in major urban centers, but large sectors of the population (in rural areas) usually have access to limited health care services in which blood transfusion may be unsafe or not available at all. Estimates by WHO show that only 1% of a country's population can meet the nation's most basic requirements for blood. However, the average donation rate is 15times lower in developing countries as compared to developed countries (WHO, 2010). Globally, more than 70 countries had a blood donation rate of less than 1% in 2006 (WHO, 2007).

Globally, 112.5 million blood donations are collected every year, whereby about half of them are from the developed countries, which is just 19% of the world's population. The blood donation rate in developed countries is 33.1 per 1000 people as compared to 4.6 donations per 1000 people in developing countries. Blood donations from voluntary non-remunerative donors were reported to have increased by 10.7million donations from 2008 to 2013 (WHO, 2016).

The number of blood donors in the United States of America is 6.8 million (American Red Cross, 2017).

In South-East Asia, 15 million units of blood are required each year, but only 7 million units are collected annually (Sharma, 2000). Taiwan has the highest rate of blood donation among all Asian countries with a donation rate of 7.86 percent (Debora Kuo, 2009). In Japan, 9 million units of blood were reported to have been collected by 2014 with 96% of blood from voluntary donors and a rate of 1.17% in 2014.

In Africa, blood requirements in 2006 were estimated at about 8 million units but only 3.2 million units were collected which is about 41.5% of the demand (Tapko et al, 2006). In Ethiopia, 87,000 units of blood are donated for transfusion, but the country requires 200,000 units of blood every year (Chanie, 2015). Since 2001 when Kenya's National Blood Transfusion Service was established, blood collection increased from around 22,000 units to 124,190 units in 2007 (Kimani et al, 2010). According to Chevalier et al (2014), among the East African countries, Uganda has the highest blood collection units per 1000 people which is 6.2, followed by Kenya with 4.1 then Tanzania with 3.6 units/1000 people.

According to the Uganda Blood Transfusion Services (UBTS), only 230,000 units of blood are collected per year in Uganda, an amount below the recommended 340,000 units by the World Health Organization (Daily Monitor, 2013). This is why the researcher was interested in finding out the factors associated with blood donation.

1.2. Problem statement

Majority of blood transfusions in Uganda are for the children and mothers. Fifty percent of the collected blood is for children with severe anemia mainly due to malaria, intestinal worm infestation, and malnutrition. Twenty five is required to treat pregnant women with anaemia and complications of childbirth like ante partum hemorrhage and post- partum hemorrhage, and 25% to treat accident and surgical cases (UBTS, 2011). Around 17 million Ugandans are eligible to donate blood but less than 170,000 people actually regularly donate blood (Daily monitor, 2013).The Uganda Blood Transfusion Services (UBTS)and Uganda Red Cross Society (URCS)have increased blood collection by putting up a vigorous Donor Recruitment and Retention program. These are recruited through mass media, public announcements or placement of public notices, and 20 mobile and recruitment teams with each performing an average of 20 sessions per month (UBTS, 2011). UBTS has seven regional banks across the country with 6 collection centers to support them. Also the UBTS and National Social

Security Fund (NSSF) carryout six-day blood donation campaigns every year since 2010 with an aim of bridging the current shortage of blood in the country (NSSF, 2015).

But even with all the efforts by the UBTS, response from the adult community as regards donating blood is still very low. Only 1% of Ugandans eligible to donate blood do so leading to frequent shortages of safe blood across the country. Approximately 80% of blood donated is from pupils and students thus leading to a shortage in supply during holidays (NSSF, 2015).Hence, the country is collecting only 240,000 units of blood annually, which is short of the recommended 340,000 units by the world health organization (The monitor, 2016).Therefore, this study aimed to establish the factors associated with blood donation.

1.3. Research objectives

1.3.1General objective

To establish the factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone from May to June, 2017.

1.3.2Specific objectives

- 1) To assess the prevalence of practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone from May to June, 2017.
- 2) To determine the socio-cultural factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone from May to June, 2017.
- 3) To examine the individual factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone from May to June, 2017.

- 4) To examine the health-system factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone from May to June, 2017.

1.4. Research questions

- 1) What is the prevalence of practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone?
- 2) What are the socio-cultural factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone?
- 3) What are the individual factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone?
- 4) What are the health system factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone?

1.5. Justification/significance of the study

This research study is entitled as an assessment of the factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe, Kiggaga zone. This study will enable policy makers like the UBTS, MOH, DHO, the Red Cross and other concerned organizations/bodies to understand further the various factors associated with practice of voluntary blood donation, by providing them with information obtained during the study. This will lead to better interventions in order to promote safe, voluntary blood donation in the country, and also provide a basis for health education strategies regarding blood donation.

The results of the study will also enrich the community with better understanding of blood donation which will improve the people's attitude towards voluntary blood donation hence increasing practice of voluntary blood donation.

The findings of the study will also be used by other researchers from IHSU and other institutions as a reference while carrying out related studies.

So Kiggaga zone was considered for the study since it has the intended groups of people normally targeted by the blood collection agents in the country. These include the students, corporate class and market dwellers.

1.6 Narrative of conceptual framework

Practice of voluntary blood donation is the dependent variable; it depends on the various socio-cultural factors, individual factors, and health system factors which are the independent variables. This implies that, the socio-cultural factors; religion, culture/tribe, myths, and risks perception could affect turn up for voluntary blood donation. The individual factors; age, gender, knowledge about blood donation, awareness of the benefits of donating blood, attitude towards donating blood and fear could affect turn up for voluntary blood donation. Health system factors; availability of blood donation centers, accessibility of blood donation centers, conduciveness of blood donation centers, and health education of the public could also affect turn up for voluntary blood donation.

1.7. Conceptual framework

Figure 1: Conceptual framework



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter highlights the prevalence of voluntary blood donation, the individual factors associated with voluntary blood donation, socio-cultural factors associated with voluntary blood donation, and the health system factors associated with voluntary blood donation.

2.1. Prevalence of practice of voluntary blood donation

In the past years, it has been noted that few blood donation studies have been carried out in Europe and Australia in the 1980s and 1990s as compared to how it was in the earlier years of 1960s and 1970s (Sojka and Sojka, 2008).

Blood donation in most of European countries and Australia, is done by voluntary individuals. Only 4% of the France's total population voluntarily donated blood in 2005 (Bazin and Malet, 2006).

During a study in Australia, it was noted that areas with women of age between 20-29 years and men of 40-49 years had higher percentages of blood donors while those regions with men aged 20-29 years and those born overseas (naturalized Australians) had lower blood donor proportions. (Hollingsworth and Wildman, 2004).

Norway remains self sufficient and reliable in blood and its products since 1982, using only voluntary blood donors. There are fifty six (56) Norwegian blood banks around the entire country integrated within public hospitals and each has maintained its own donor pool (Solheim et al. 1996).

Among Brazilian post-graduates, 23.5% of the students were regular donors (Martinez et al, 2014).

In Trinidad and Tobago, a study revealed a prevalence of 81.2% non-donors and only 18.8% donors (Sampath et al, 2007).

According to a study among university students in Kenya, only 19.02% of the individuals were donors in comparison to the 80.98% who were non donors (Baig et al, 2013).

Among university level students in Bangladesh, a study revealed only 34.3% of donor participants and 73.3% of non-donor participants (Karim et al, 2012).

A study among the youth of Jammu city India reported a prevalence of only 13.95% blood donors (Kumari & Raina, 2015).

At a tertiary institution in Nigeria, more than three quarters (85%) of the respondents had never donated blood and of only the 15% that had donated, only 3% donated voluntarily (Salaudeen & Odeh, 2011).

Among university students in Kilimanjaro, Tanzania, a prevalence of 30% had ever donated blood and 55% of those were repeat donors (Elias et al, 2016).

In Nairobi, Kenya, it was found that 41% of the respondents had donated blood in the past as compared to the 59% who had not (Njuguna, 2012)

2.2. Socio-Cultural Factors influencing the practice of voluntary blood donation

2.2.1. Religion

During a study about knowledge, misconceptions and motivators towards blood donation among university students in Kenya, one of the major motivations for donors was religion (Baig et al; 2013).

Similarly, according to a study on attitudes towards blood donation in Saudi Arabia; 91% of the blood donors agreed that blood donation is a religious obligation (Gader et al; 2011).

In addition, a study investigating knowledge and attitudes of blood donors and barriers concerning blood donation in Jordan revealed a positive association between religion and attitudes related to blood donation (Abderrahman & Saleh, 2014).

A study among Brazilian postgraduate students from health related areas revealed that organizational religiousness was associated with attitudes related to blood donation. Regular blood donors have higher intrinsic religiousness than subjects who donate only once or do not return (Martinez et al; 2014).

2.2.2. Culture

During a study of knowledge, misconceptions and motivations towards blood donation among university students in KSA, altruism which is a core of many cultures was a major motivation for donors (Baig et al; 2013).

According to a study on voluntary blood donation among Indian adults, customs related to culture were associated with not donating blood (Sharma et al; 2016).

A study investigating the factors affecting blood donation among Israelis revealed an association between tribe and practice of blood donation. Ethiopian Jewish community displayed an extremely limited intention to donate blood (Merav et al; 2010).

2.2.3. Myths, misconceptions, and beliefs

According to a study on knowledge, attitudes and practices of blood donation in developing countries, myths and misconceptions were associated with failure to donate blood. Misinformation about blood donation was a major barrier to blood donation (Lownik et al; 2012).

Similarly, during a study to assess knowledge, attitude and beliefs of people in North India regarding blood donation, frequency of myths and misconceptions about blood donation was highest among non-donors, with most prevalent misconceptions being that blood donation is associated with infertility (Dubey et al; 2014).

A study regarding blood donation in a Northwestern Chinese city, misconceptions about the effects of blood donation was an inhibiting factor towards blood donation (Zaller et al; 2005).

In addition, according to a study on knowledge, misconceptions and motivations towards blood donation among university students in Kenya, misconceptions that one can contract HIV or Hepatitis B&C from blood donation was a major barrier to blood donation (Baig et al, 2013). Another study among blood donors in Lagos, Nigeria revealed that 52.4% believed that they can contract HIV and Hepatitis infection from blood donation (Olaiya et al, 2004).

Consistent with the above studies, a study on voluntary blood donation among adults in India cited beliefs as a factor associated with not donating blood (Sharma et al; 2016).

Among the urban population of Yazd, Iran, 98% of them believed that blood donation is a moral duty with a spiritual reward, and this motivated many to donate blood (Shahshahani et al; 2004).

2.2.4 Risks perception

During a study among university students in Bangladesh, fear of the outcomes of donating blood and risks that could arise was the major barrier to blood donation (Karim et al; 2012).

Similarly, during a study regarding blood donation in a Northwestern Chinese city, fear of contracting an infection and other adverse health effects, including loss of vitality were inhibiting factors to blood donation (Zaller et al; 2005).

A study on voluntary blood donation among Indian adults revealed pain related to needle prick, anemia, and weakness after donating as the major factors associated to not donating blood (Sharma et al, 2016).

Consistent with these studies, according to a study among blood donors in Lagos, Nigeria, many were afraid of what they regarded as side effects of blood donation such as weight loss, sexual failure, high blood pressure, sudden death and convulsions (Olaiya et al; 2014).

In addition, according to a study among university students at the University of Nairobi, one of the main reasons for not donating blood among students was fear of pain and disease conditions (Kemboi et al; 2013).

2.3. Individual Factors associated with the practice of voluntary blood donation

2.3.1 Age

During a study carried out among university students in Bangladesh, maturity level of the students was a major influence for one to donate blood (karim et al; 2012).

Similarly, during a study on blood donation in the urban population of Yazd, Iran, it was revealed that young people had low levels of knowledge and performance regarding blood donation (Shahshahani et al, 2004).

In addition, a study among adults in Debre Markos town, Northwest Ethiopia revealed that the practice of blood donation was higher among respondents who were older (Jemberu et al, 2016).

In contrast, according to a study on voluntary blood donation among adults in India, there was a statistically significant association ($P=0.021$) of age and willingness to donate blood. The younger individuals were more willing to donate blood as compared to the older ones (Sharma et al, 2016).

2.3.2 Gender

During a study carried out among university students in Bangladesh, sex of the students was found to be associated with blood donation (Karim et al, 2012).

Similarly, during a study about blood donation in the urban population of Yazd, Iran, women had the least levels of knowledge and performance in accordance to blood donation (Shahshahani et al, 2004).

In addition, according to a study among students of a tertiary institution in Nigeria, gender of students was associated with turn up for blood donation. Among those that had ever donated blood, males were more than females (Salaudeen & Odeh, 2011).

Consistent with the above findings, a study among adults in Debre Markos town, Northwest Ethiopia revealed that male sex was significantly associated with knowledge of blood donation and practice of blood donation (Jemberu et al, 2016).

According to another study among healthcare providers in Adis Ababa health facilities, Ethiopia, being male was associated with favorable attitude towards blood donation (Bantayehu, 2015).

2.3.3. Knowledge about donating blood

According to a meta-analytic review of self-reported motivators and deterrents of donating blood, lack of knowledge about donating is a barrier to blood donation (Bednall et al, 2011).

During a study conducted among university students in Bangladesh, knowledge about blood donation was associated with turn up for blood donation (Karim et al, 2012).

Similarly, during a study in Trinidad and Tribago, the majority (71.3%) of non-donors cited lack of information about blood donation as a major reason for not donating (Sampath et al, 2007).

Consistent with the above study, according to a study on knowledge, attitude, and beliefs regarding blood donation of people in North India, blood donation knowledge scores of non-donors were lower than those of donors (Dubey et al, 2014).

In addition, according to a study among students of a tertiary institution in Nigeria, inadequate knowledge about blood donation was a major reason given by majority of those who did not donate blood (Salaudeen & Odeh, 2011).

According to another study among blood donors in Lagos, Nigeria, majority of the donors reported to have heard about blood donation before (Olaiya et al, 2004).

Similarly, according to a study conducted in South-East Botswana, having ever heard about blood transfusion was significantly associated with participating in blood donation (Pule et al, 2014). Also a study among adults in Debre Markos town, Northwest Ethiopia showed an

association between knowledge of blood donation with practice of blood donation (Jemberu et al, 2016).

2.3.4. Attitude towards blood donation

During a study conducted among university students in Bangladesh, majority of the students (73.3%) who had never donated blood had positive attitude towards blood donation (Karim et al, 2012).

In Trinidad and Tobago, majority of non-donors expressed a willingness to donate if access to information and donation facilities were improved (Sampath et al, 2007).

During a study among the urban population of Yazd, Iran, women reported high attitudes towards blood donation but their performance was low (Shahshahani et al, 2004).

According to a study on attitude to blood donation in Saudi Arabia, 99% of the respondents showed positive attitude towards blood donations and its importance for patient care (Gader et al, 2011).

A study among adults in Debre Markos town, Northwest Ethiopia revealed that positive attitude was associated with practice of blood donation (Jemberu et al, 2016).

2.3.5. Awareness of the benefits of blood donation

During a study among university students in Bangladesh, awareness of the benefits of donating blood was a major influence to blood donation (Karin et al, 2012).

Similarly, according to a study among university students in KSA, knowledge of the benefits of donating blood was associated with donating blood. Donors donated blood because they know it can help family or friends, and saves lives (Baig et al, 2013).

Consistent with the above studies, during a study on attitude towards blood donation in Saudi Arabia, majority could donated blood because of its importance for patients care (Gader et al, 2011).

In addition, according to a study in South-East Botswana, being informed about the life saving benefits of blood donation was associated with positive intention to donate blood (Pule et al, 2014).

Also according to a study among blood donors in Lagos, Nigeria, a large number (92.1%) of the donors donated because of the benefits that could be obtained as a result of blood donation e.g. saving lives of relations (Olaiya et al, 2014).

2.3.6. Fear

According to a meta-analysis review of self-reported motivators and deterrents of blood donation, fear was cited as one of the deterrents to blood donations (Bednall et al, 2011).

Similarly, according to knowledge, attitudes and practices surveys of blood donation in developing countries, fear of blood donation emerged as an inhibiting factor to blood donation (Lownik et al, 2012).

Consistent with the above studies, a study on attitude to blood donation in Saudi Arabia cited fear as a major deterrent to blood donation (Gader et al, 2011).

In addition, during a study to assess factors influencing blood donation behavior of university level students in Bangladesh, the only factor that was a barrier to blood donation was fear (Karim et al, 2012).

Among Indian adults, fear of donating was cited as one of the major factors associated with not donating blood (Sharma et al, 2016).

2.4. Health System Factors associated with the practice of voluntary blood donation

2.4.1. Availability of blood donation centers

A study assessing factors influencing blood donation among university students of Nairobi revealed an association between availability of blood donation sites in campus and not donating blood. They reported lack of opportunity to donate blood because of unavailability of blood donation centers at the university (Kemboi et al, 2013).

Another study among health care providers in Adis Ababa health facilities, Ethiopia revealed that availability of blood transfusion services within the facility was one of the factors which affect the level of knowledge regarding blood donation, and practice of blood donation (Bantayehu, 2015).

2.4.2 Accessibility to blood donation centers

According to a study on factors associated with repeat blood donation at the northern zone blood transfusion center in Tanzania, it was revealed that repeat blood donation is affected by the accessibility of the donating site (Mauka et al, 2015).

It was noted that the physical proximity from homes to the blood donation facilities was not favorable. Blood donation facilities were too far from the people's home thus making them walk too long distances which people never enjoyed thus affecting the turn up for voluntary repeat donations.

2.4.3 Conduciveness of blood donation center

During a study in Trinidad and Tobago, majority of non-donors cited poor condition of donation facilities as a barrier to blood donation (Sampath et al, 2007).

It was observed that the environment at the blood donation facilities was not favoring privacy and confidentiality of the blood donors which kept on making donors shy away from blood donation practices. This in turn affected the voluntary blood donation practices.

2.4.4. Health education of the public

During a study of knowledge, attitude and beliefs of people in North India regarding blood donation, television was found to be the most effecting medium of communication for raising awareness about blood donation (Dubey et al, 2014).

According to a study on voluntary blood donation among adults in India, mass media played a crucial role in motivating people to donate blood. It was found that people will donate blood, if called upon to donate (Sharma et al, 2016).

Similarly, a research done in Lithuania revealed that people donated blood if they were requested to do it or informed of somebody's need for blood (Buciuniene et al, 2006).

A study among adults in Debre Markos town, Northwest Ethiopia revealed that health education of the public was associated with participation in blood donation. Listening to radio broadcasts was found to be a predictor of knowledge on blood donation (Jemberu et al, 2016).

In addition, according to a study among university students at the University of Nairobi, lack of health education of the students was associated with not donating blood. Students reported never being approached before as one of the main reasons for not donating blood (Kemboi et al, 2013).

A study investigating knowledge and attitudes of blood donors and barriers concerning blood donation in Jordan revealed a positive association between health education of the public and practice of blood donation. Encouraging media was found influential to practice of blood donation (Abderrahman & Saleh, 2014).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the methodology that was used in this study. It focuses on; the research study design, study area, data sources, study population, sample size determination, sampling techniques, study variable, methods and instruments for data collection, data analysis procedures, quality control issues, ethical considerations and limitations of the study.

3.1 Study design

The researcher used a cross-sectional study design. The reason for choosing this study design was to analyze the factors associated with practice of voluntary blood donation among community members in Kiggaga zone aged 15-50 years

3.2 Study area

The study was conducted in Kiggaga zone. Kiggaga zone is found in Mutundwe parish, Lubaga division in Kampala district. Kiggaga zone is a Kampala suburb with both a trading centre and a residence part which accommodates high and low class citizens. Mutundwe Kiggaga zone is a densely populated area.

The area has one tertiary institution; Kampala University (School of Nursing and Health Sciences)

This study was carried out from three different sites, namely;

Kampala University (School of Nursing and Health Sciences): This University has its main campus in Ggaba. It has a campus in Mutundwe for only the training of health professionals like nurses and midwives, and it's the only existing university in the area

Kampala University boda-boda stage: This is the biggest boda-boda stage in the area. It was named after the existence and popularity of the university and has around thirty motor cyclists including both the educated and uneducated. It's the stage which is commonly used by the university students and most of the clients who happen to visit this institution. However, it also serves other people of the area including other schooling children market vendors and others.

Dwellers' market: This is a small and busy market which is the only one found within this area. It has about fifty vendors including men and women. This market serves the University students, boda-boda stage and other residents of the area.

This study area was chosen because it has all the categories of people targeted by the blood collection agencies as the reliable blood donors including the students, corporate class and those in the inform sector like market vendors and boda-boda cyclists.

3.3 Sources of data

In this study, the primary data was directly obtained from community members (aged 15-50years) using questionnaires.

Secondary data was obtained from journals, public reports and documents of other researchers.

3.4. Study population

Accessible population was all community members in Kiggaga zone.

The target population was the students, and business personnel of Kiggaga zone aged 15-50 years.

This was the study population of choice because the above groups are normally the targets of UBTS to collect blood from.

3.5. Inclusion and exclusion criteria

Inclusion criteria

The study included only community members aged 15-50years who; study at Kampala University, work at the Kampala University boda-boda stage, market vendors at the dwellers market, and those that were willing to participate in the study.

Exclusion criteria

The study excluded those who were not willing to take part in the study, those who were sick, not around, and those who were mentally sick.

3.6 Sample size determination

Kish and Leslie formula was used to calculate the sample size (N) of residents of Kiggaga zone expected to participate in the study (BIRCH,2005).

$$N = \frac{Z^2 P(1-P)}{D^2}$$

Where;

N is the required sample size

Z is 1.96 (standard deviation of confidence at 95%)

P is prevalence of voluntary blood donation according to a study done in Taiwan which is 7.86% (Debora Kuo, 2009).

D is the margin error at 5% (standard of +/-0.05)

$$N = \frac{1.96^2 \times 0.35 (1-0.35)}{0.05^2}$$

$$N = \frac{3.8416 \times 0.0786 \times 0.914}{0.0025}$$

N=111.286 which is approximately 111

Therefore;

N=111 participants.

3.7 Sampling technique

Stratified random sampling technique was used, in order to obtain a sample population that best represents the entire population being studied because it minimizes sample selection bias and ensures certain segments of the population are not over represented or under represented. Simple random sampling was also used. It is a fair way of selecting a sample from a larger population, since every member of the population has an equal chance of getting selected.

3.8. Sampling procedure

Three (3) strata were made. They include; Kampala University (School of Nursing and Health Sciences), Kampala University boda-boda stage, and Dwellers market.

Within each stratum, simple random sampling was used to obtain the required sample size of 37 respondents per stratum. The lottery method was applied. Each of the population members in a stratum was assigned a unique number. The numbers were placed in a bowl and thoroughly mixed. The members were then requested to pick out one number each. 37 members who picked out a number that falls within 1 to 37 were selected.

3.9. Study variables

The study variables included three independent variables and one dependent variable.

The dependent variable was practice of voluntary blood donation

Independent variables included;

Socio-cultural factors of the residents; myths and misconceptions, beliefs, risk perception, culture/tribe, and religion.

Individual factors of the residents such as; age, gender, knowledge about donating blood, awareness of the blood donation centers, attitude towards blood donation and awareness of the benefits of donating blood.

Health system factors such as; availability of blood donation centers, accessibility of the blood donation centers, conduciveness of the blood donation site, counseling and guidance by blood bank staff, and health education of the public.

3.10. Data collection techniques

Data collection was by use of self-administered questionnaires for respondents who can read and write and researcher-guided questionnaires for those who can't read and write. They were used to collect data on; individual factors, socio-cultural factors, and health-system factors associated with practice of voluntary blood donation. Section A of the questionnaire contained socio-demographic characteristics of the respondents, Section B: socio-cultural factors, section C; practice of voluntary blood donation, section D; individual factors, and section E; health system factors.

3.11. Data analysis and presentation

The data collected at the end of the study was analyzed by the researcher.

The research responses were classified and summarized basing on the information provided to the researcher by the respondents. Data analysis was done using quantitative data analysis tools. Quantitative data from questionnaires was entered and analyzed using SPSS version 16.0

Data was run in percentages and frequencies and results were presented using bar graphs, pie charts, and frequency tables for univariate analysis.

With the bi-variate data analysis, Pearson's chi-square tests were run and results presented in tables showing the level of relationship between the dependent and independent variables with P values <0.05 considered statistically significant and P values >0.05 not statistically significant.

3.12. Quality control issues

Data was collected with the help of two research assistants who were trained on the various tools to be used during data collection. The research assistants were proficient in English and Luganda languages as they are the common languages spoken and understood by the residents of Kiggaga zone.

The questionnaires were also pre-tested on a few members (aged 15-50 years) in Namuwongo town in order to find out if majority of the respondents were able to answer the questions in the questionnaire correctly. Pretesting helps determine the strengths and weaknesses of the questionnaire so that the questionnaire can have a reliable question format, good wording and order, hence yield better results.

3.13. Data validity and reliability

Reliability of variables was done to assess whether variables measured the intended outcome. The questionnaire was translated into Luganda to cater for language barrier, this was done due to the fact that most people in Kiggaga zone are able to understand this language. Variables with a Cronbach's alpha of above 75% were considered. For purposes of consistency, accuracy, legibility and completeness; the data collected was checked by the researcher at the end of the data collection to ensure completeness of every questionnaire. Questionnaires were kept under lock and key for further reference.

3.14. Ethical considerations

The research was only done after obtaining approval from the research committee of International Health Sciences University, whereby the researcher was issued an introductory letter that introduces the researcher to the study area. The introduction letter was presented to LC1 of Kiggaga zone to seek permission to conduct a study in Kiggaga zone.

Respondent's consent was sought and a consent form signed before getting involved in the study. Respondents were interviewed on a one-on-one basis and questionnaires were anonymous to ensure a high degree of confidentiality and privacy.

All data collected was strictly used for academic purposes and findings were not discussed in public. There was voluntary entry into the study and all participants had the right to drop out of the study if they wished to at any time.

3.15. Plan for dissemination

Results from the study were presented to International Health Sciences University for further use by those who will conduct similar studies, and copies distributed to Kampala University and health centers in Kiggaga zone

CHAPTER FOUR

RESULTS

4.0. Introduction

This chapter presents data analysis, presentation of results and interpretation of results. Data analysis is the systematic organization and synthesis of research data and testing the research hypothesis using those data (Polit et al, 2001).

Data was collected using semi-structured questionnaires. Chi-square test was used to compare proportions, the confidence interval set at 95%. A result yielding a P value of less than 0.05 was considered to be statistically significant. The data was presented using frequency tables, cross tabulations, bar charts and pie charts which are effective ways of communicating research results.

4.1 Socio-demographic characteristics of the respondents

*Table 1: socio-demographic factors contributing to practice of voluntary blood donation
N=111*

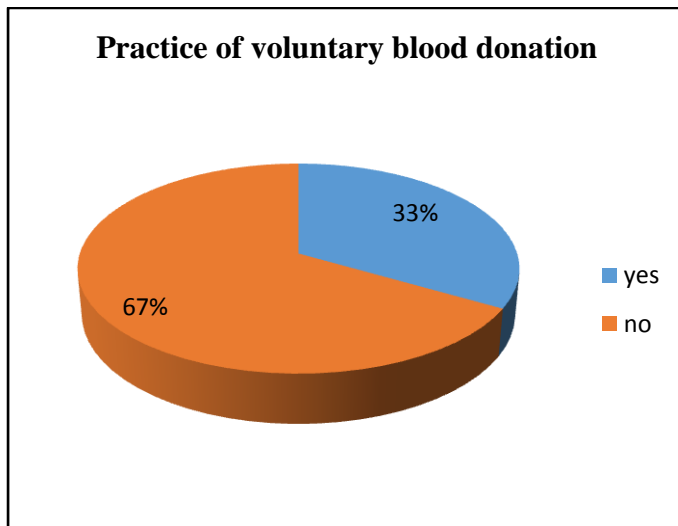
Variable	Frequency	Percentage (%)
Age		
15-25	54	48.6
26-36	36	32.4
37-50	21	18.9
Gender		
Male	48	43.2
Female	63	56.8
Religion		
Christian	83	55.0
Muslim	28	45.0
Occupation status		
Employed	61	55.0
Unemployed	50	45.0

Table 1 above shows the socio-demographic characteristics of the respondents. The study considered 111 respondents aged 15-50years who participated in the study. The analysis

indicated that half 54(48.6%) of the respondents were in the age group 15-25 years, more than half 63(56.4%) were female, majority 83(74.8%) of them were Christians and majority 61(55.0%) were employed.

4.2. Practice of voluntary blood donation

Figure 2: Practice of voluntary blood donation



The study assessed the practice of blood donation of the respondents. Figure 2 above shows the practice of voluntary blood donation by the respondents.

Respondents were asked if they had ever donated blood. Of the 111 respondents, only 37(33.3%) had ever donated blood while the majority 74(66.7%) had never donated blood.

Reasons for not donating blood

Figure 3: Reasons for not donating blood

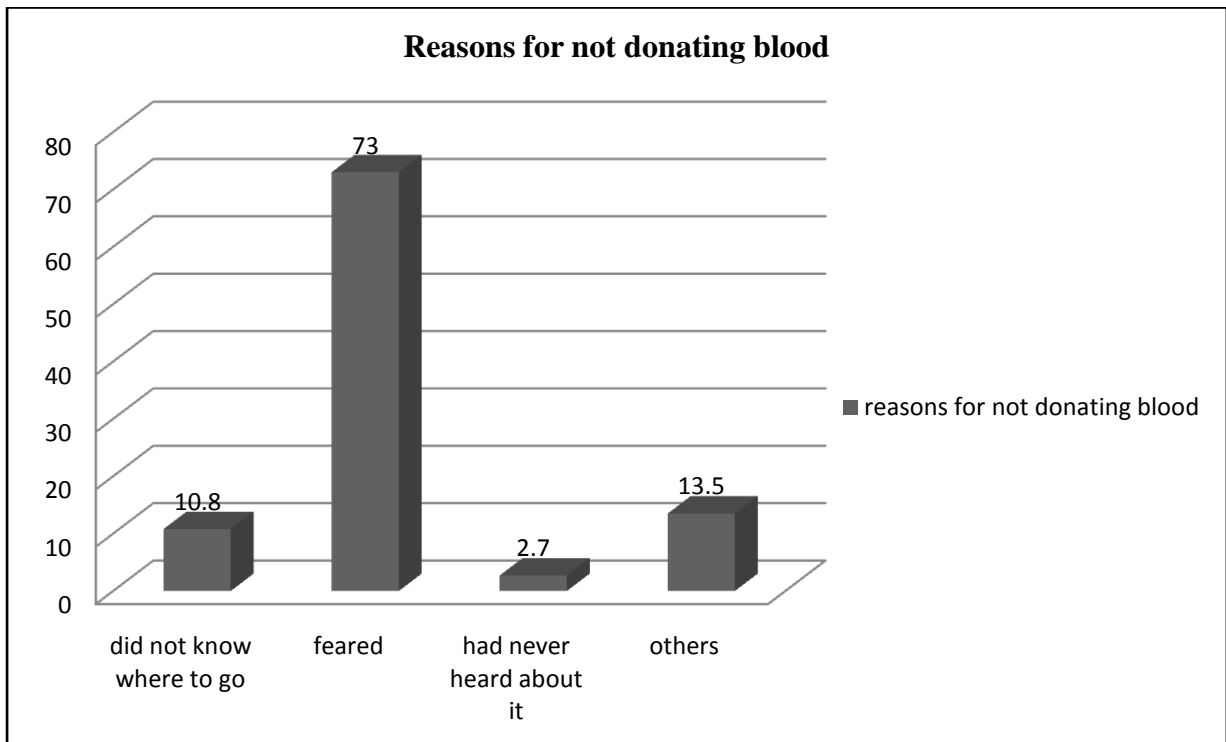


Figure 3 above shows the reasons for not donating blood. Out of the 74 respondents who reported never having donated blood, majority 54(73.0%) reported fear as the reason for not donating blood.

Number of times of donating blood

Figure 4: Number of times of blood donation

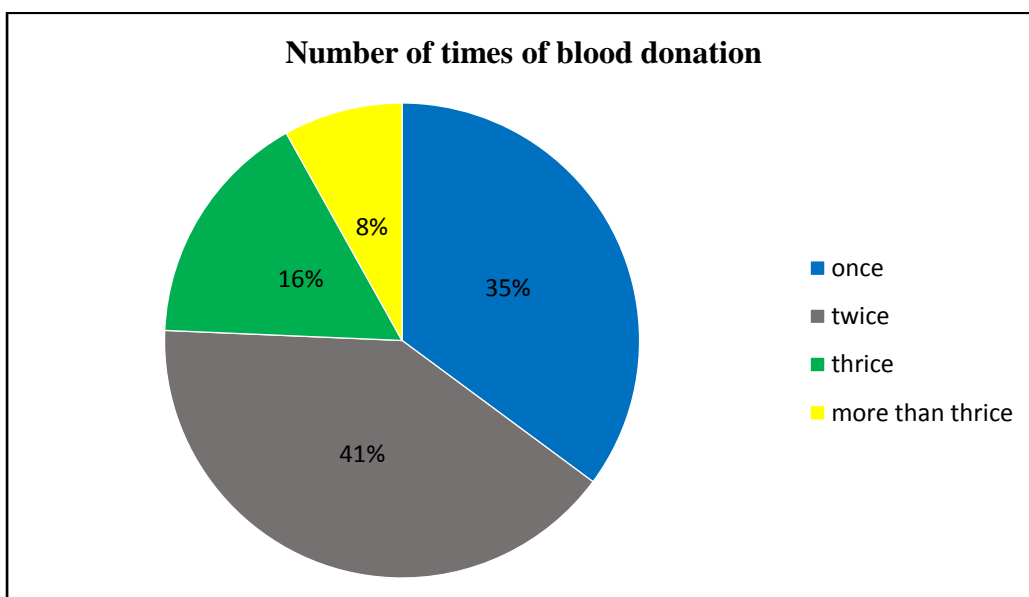


Figure 4 above shows the number of times one has ever donated blood. For those who had ever donated blood, many had donated twice 15(40.5%) and once 13(35.1%).

Reasons for donating blood

Table 2: Reasons for donating blood

Why did you donate blood?	frequency	Percentage (%)
Free will	33	89.2
Influence from others	1	2.7
Expecting something in return	3	8.1
Total	37	100

Table 2 above shows the reasons given for having donated blood. Most of the respondents who had ever donated blood donated out of free will 33(89.2%).

4.3. Univariate analysis of the socio-cultural factors contributing to practice of voluntary blood donation

Table 3: Socio-cultural factors contributing to practice of voluntary blood donation

N=111

Variable	Frequency	Percentage (%)
Does your religion accept blood donation?		
Yes	107	96.4
No	4	3.6
Are there any cultural traits/taboo regarding blood donation?		
Yes	19	17.1
No	92	82.9
Are there any myths & misconceptions regarding blood donation?		

Yes	49	44.1
No	62	55.9
Myths & misconceptions		
Death	12	24.5
Transfer of genetic diseases	9	18.4
Loss of all blood	10	20.4
The blood could be used for sacrifice	6	12.2
It is against the spirits	7	14.3
One can get addicted to donating	5	10.2
Are there any risks/adverse effects regarding blood donation?		
Yes	55	49.5
No	56	50.5
Risks/adverse effects		
Death	6	10.9
Anaemia	15	27.3
Fainting	15	27.3
Body weakness	3	5.5
Transmission of diseases	16	29.1

Majority 107(96.4%) of the respondents reported that their religions accept blood donation, 92(82.9%) reported that there are no cultural traits/taboo regarding blood donation. More than half of the respondents 62(55.9%) reported that there are no myths and misconceptions regarding blood donation, and among those, many reported death 12(24.5%), loss of all the blood 10(20.4%) and transmission of genetic diseases 9(18.4%).

When asked if there are risks/adverse effects regarding blood donation, half of the respondents 56(50.5%) reported that there are risks/adverse effects regarding blood donation, and out of those, 16(29.1%) reported transmission of diseases as a risk/adverse effect, 15(27.3%) reported anaemia and 15(27.3%) reported fainting.

4.4. Univariate analysis of the individual factors contributing to practice of voluntary blood donation

Table 4: Individual factors contributing to practice of voluntary blood donation

N=111

Variable	Frequency	Percentage (%)
Are you aware that you can donate blood?		
Yes	106	95.5
No	5	4.5
Do you think blood donation is necessary?		
Yes	106	95.5
No	5	4.4
Why is blood donation necessary?		
Saves lives	96	90.6
It is the only source of blood	8	7.5
Shortage of blood in hospitals	2	1.9
Do you fear donating blood?		
Yes	52	46.8
No	59	53.4
If yes, why?		
I don't have enough blood	11	20.0
Transmission of diseases	2	3.6
It's painful	22	40.0
Fainting	6	10.9
I think I might lose a lot of blood	14	25.5

Regarding knowledge about blood donation, majority of the respondents 106(95.5%) were aware that they can donate blood to another person.

Regarding attitude towards blood donation, most of the respondents 106(95.5%) reported that blood donation is necessary, and majority of those, 96(90.6%) think it is necessary to donate blood because it saves lives.

Less than half of the respondents 52(46.8%) fear donating blood. Out of the 52 respondents, 22 fear donating blood because it is painful.

4.5. Univariate analysis of health system factors contributing to practice of voluntary blood donation

*Table 5: Health system factors contributing to practice of voluntary blood donation
N=111*

Variable	Frequency	Percentage (%)
Are there any blood donation centers in kiggaga zone?		
Yes	14	12.6
No	34	30.6
Do not know	63	56.8
Is it easy to access blood donation centers?		
Yes	39	35.1
No	72	64.9
If not accessible, why		
Transport insufficiency	13	18.1
Donation centers are far	17	23.6
No donation center	42	58.3
Is the environment at the donation centers conducive?		
Yes	60	54.1
No	13	11.7
Do not know	38	34.2
If not conducive, why?		
Dirty	2	15.4
Crowded	10	76.9
Other reasons	1	7.7
Have you ever seen or heard messages about blood donation?		
Yes	106	95.5
No	5	4.5
Source of information		
Health workers	41	38.7
TV/radio	46	43.4
Teacher/lecturer	8	7.5
Friends	10	9.4
Others	1	0.9

Only 14(12.6%) of the respondents knew a blood donation center in Kiggaga zone. Majority, 72(64.9%) reported that the blood donation centers are not accessible and out of those,

42(58.3%) reported that the donation centers are not accessible because there are no nearby donation centers.

More than half of the respondents 60(54.1%) reported that the environment at the blood donation centers is conducive while 13(11.7%) reported that the environment is not conducive, out of these, 10 respondents reported being crowded as the reason for not being conducive.

106(95.5%) of the respondents had ever seen or heard messages about blood donation and the main source of information was TV/radio and health workers as reported by 46(43.4%) and 41(38.7%) respondents respectively.

4.6. Bivariate analysis of the socio-cultural factors contributing to practice of voluntary blood donation

Table 6: Association of individual factors with practice of voluntary blood donation

Socio-cultural factors	Practice of blood donation		chi-square	P value
Does your religion accept blood donation?	Yes	No	0.719	0.720
Yes	36	71		
No	1	3		
Are there any cultural traits regarding blood donation?	Yes	No	0.013	0.015
Yes	11	8		
No	26	66		
Are there any myths and misconceptions regarding blood donation?	Yes	No	0.003	0.003
Yes	18	31		
No	19	43		
Are there any risks or adverse effects regarding blood donation?	Yes	No	0.788	0.789
Yes	19	36		
No	18	38		

Table 6 above shows association between socio-cultural factors and practice of voluntary blood donation. There was a significant association between culture and practice of blood donation (P=0.015). There was no significant association between practice of blood donation and religion (P=0.720), myths and misconceptions (P=0.501), and risks perception (P=0.789)

4.7. Bivariate analysis of the individual factors contributing to practice of voluntary blood donation

Table 7: Association of individual factors with practice of voluntary blood donation

Individual factors	Practice of blood donation		Chi-square	P value
	Yes	No		
Age			0.048	0.019
15-25	12	42		
26-36	15	21		
37-49	10	11		
Gender	Yes	No	0.104	0.106
Male	20	28		
Female	17	46		
Are you aware that you can donate blood?	Yes	No	0.106	0.107
Yes	37	69		
No	0	5		
Do you think that blood donation is necessary?	Yes	No	0.106	0.107
Yes	37	69		
No	0	5		
Do you fear donating blood?	Yes	No	0.001	0.001
Yes	3	49		
No	34	25		

Table 7 shows association between individual factors and practice of voluntary blood donation. Age (P=0.019) and fear (P=0.001) had significant association with practice of blood donation while gender (P=0.106), knowledge regarding blood donation (P=0.107) and attitude towards blood donation (P=0.107) had no significant association with practice of blood donation.

4.8. Bivariate analysis of health system factors contributing to practice of voluntary blood donation

Table 8: Association of health system factors with practice of voluntary blood donation

Health system factors	Practice of blood donation		Chi-square	P value
Are there any blood donation centers in kigagga zone?	Yes	No	0.011	0.003
Yes	9	5		
No	13	21		
Do not know	15	48		
Is it easy to access blood donation centers?	Yes	No	0.011	0.012
Yes	19	20		
No	18	54		
Is the environment at the blood donation centers conducive?	Yes	No	0.005	0.003
Yes	28	32		
No	2	11		
Do not know	7	31		
Have you ever heard or seen messages about blood donation?	Yes	No	0.746	0.747
Yes	35	71		
No	2	3		

Table 8 shows association between health system factors and practice of blood donation. Practice of blood donation had significant association with availability of blood donation centers (P=0.003), accessibility to blood donation centers (P=0.012) and conduciveness of blood donation centers (P=0.003) while health education of the public had no significant association with practice of blood donation (P=0.747).

CHAPTER FIVE

DISCUSSION OF RESULTS

5.0. Introduction

In this section, the findings of the study are discussed in relation to the literature and the aims and objectives of the study.

The aim of this study was to determine the practice of voluntary blood donation and the factors affecting it.

5.1. Practice of voluntary blood donation

Voluntary, unpaid blood donors are the base of a safe, sustainable blood supply. Without a health system based on regular voluntary non-remunerative blood donation, no country can be able to provide sufficient blood for all the patients who require transfusion (WHO, 2017).

In this study, less than half of the respondents 37(33.3%) had ever donated blood while 74(66.7%) had never donated blood. This implies that the practice of voluntary blood donation in kiggaga zone is still low because the majority have never donated blood. But the occurrence of repeat donation is satisfactory because 15(40.5%) have donated twice, 6(16.2%) have donated thrice and 3(8.1%) have donated more than three times.

Similar to the findings of this study, among university level students in Bangladesh, a study revealed only 34.3% of donor participants and 73.3% of non-donor participants (Karim et al, 2012). In addition, among university students in Kilimanjaro, Tanzania, a prevalence of 30% had ever donated blood and 55% of those were repeat donors (Elias et al, 2016).

5.2. Socio-cultural factors

In this study, religion had no significant association with practice of voluntary blood donation ($P=0.720$). This implies that whether one's religion accepts blood donation or not does not affect the practice of blood donation among the residents of Kiggaga zone.

Contrary to these findings, during a study about knowledge, misconceptions and motivators towards blood donation among university students in KSA, one of the major motivations for donors was religion (Baig et al, 2013). In addition, a study investigating knowledge and attitudes of blood donors and barriers concerning blood donation in Jordan revealed a positive association between religion and attitudes related to blood donation (Abderrahman & Saleh, 2014).

In this study, culture was significantly associated with practice of blood donation ($P=0.013$). Majority (11 out of 26) of the respondents who had ever donated blood reported that there are no cultural traits/taboo regarding blood donation. These findings imply that culture positively influences the practice of voluntary blood donation among residents of Kiggaga zone. Similarly, According to a study on voluntary blood donation among Indian adults, customs related to culture/tribe were associated with not donating blood (Sharma et al, 2016). In addition, during a study of knowledge, misconceptions and motivations towards blood donation among university students in KSA, altruism which is a core of many cultures was a major motivation for donors (Baig et al, 2013).

In the current study, myths, misconceptions and beliefs was not significantly associated with practice of voluntary blood donation ($P=0.501$). this implies that myths, misconceptions and beliefs do not affect the practice of blood donation among residents of Kiggaga zone. Contrary to the findings of the current study, during a study to assess knowledge, attitude and beliefs of people in North India regarding blood donation, frequency of myths and

misconceptions about blood donation was highest among non-donors, with most prevalent misconceptions being that blood donation is associated with infertility (Dubey et al, 2014). Furthermore, a study regarding blood donation in a Northwestern Chinese city, misconceptions about the effects of blood donation was an inhibiting factor towards blood donation (Zaller et al, 2005).

The findings of the study also revealed no significant association between risks perception and practice of voluntary blood donation ($P=0.789$). These findings imply that risks/adverse effects regarding blood donation do not affect the practice of blood donation among residents of kiggaga zone. The findings of this study differ from those of Sharma et al, 2016 and Olaiya et al, 2014 where many adults revealed pain related to needle prick, anemia, and weakness after donating as the major factors associated to not donating blood.

5.3. Individual factors

In this study, age had a significant association with practice of voluntary blood donation ($P=0.019$). Majority (42 respondents) of those who had never donated blood were in the age group 15-25. This implies that the practice of blood donation among residents of kiggaga zone is lower among the young residents hence young age is a barrier to blood donation in Kiggaga zone. Similarly, during a study on blood donation in the urban population of Yazd, Iran, it was revealed that young people had low levels of knowledge and performance regarding blood donation (Shahshahani et al, 2004). In contrast, according to a study on voluntary blood donation among adults in India, there was a statistically significant association ($P=0.021$) of age and willingness to donate blood. The younger individuals were more willing to donate blood as compared to the older ones (Sharma et al, 2016).

The study revealed that gender of the residents was not significantly associated with practice of voluntary blood donation ($P=0.106$). This implies that whether one is male or female does not determine their participation in blood donation. Contrary to the findings of this study, Karim et al, 2012; Shahshahani et al, 2004; Salaudeen & Odeh, 2011; and Jemberu et al, 2016 reported that gender was found to be associated with blood donation.

In this study, knowledge about donating blood had no significant association with practice of voluntary blood donation ($P=0.107$). This implies that knowledge about blood donation does not affect practice of blood donation among residents of Kiggaga zone. Contrary to the findings of this study, according to a meta-analytic review of self-reported motivators and deterrents of donating blood, lack of knowledge about donating is a barrier to blood donation (Bednall et al, 2011). In addition, a study among adults in Debre Markos town, Northwest Ethiopia showed an association between knowledge of blood donation with practice of blood donation (Jemberu et al, 2016).

The study revealed an insignificant association between attitude towards blood donation and practice of voluntary blood donation among residents of kiggaga zone ($P=0.107$). Implication is that attitude of the residents of Kiggaga zone towards blood donation does not affect their practice of blood donation. Contrary to these findings, a study among adults in Debre Markos town, Northwest Ethiopia revealed that positive attitude was associated with practice of blood donation (Jemberu et al, 2016). In addition, During a study conducted among university students in Bangladesh, majority of the students (73.3%) who had never donated blood had positive attitude towards blood donation (Karim et al, 2012).

This study also revealed that fear of donating blood had a significant association with practice of voluntary blood donation ($P=0.001$). Almost all respondents (49 Of 52) who fear donating

blood have never donated blood. This implies that fear of donating blood negatively affects practice of blood donation in Kiggaga zone. Fear of donating blood is a barrier to blood donation among residents of Kiggaga zone. Similar to these findings, Bednall et al, 2011; Gader et al, 2011; and Karim et al, 2012 fear was cited as one of the deterrents to blood donations.

5.4 Health system factors

According to this study, availability of blood donation centers was significantly associated with practice of voluntary blood donation ($P=0.003$). Many (21 Of 74) respondents who had never donated blood reported there was no blood donation center in Kiggaga zone and majority (48 Of 74) did not know if there was a blood donation center in Kiggaga zone. This implies that absence of blood donation centers and not knowing where the blood donation centers are, is a barrier to practice of blood donation. Consistent with these findings, a study assessing factors influencing blood donation among university students of Nairobi revealed an association between availability of blood donation sites in campus and not donating blood. They reported lack of opportunity to donate blood because of unavailability of blood donation centers at the university (Kemboi et al, 2013).

In this study, accessibility to blood donation centers was also significantly associated with practice of voluntary blood donation ($P=0.012$). Majority of the respondents (54 of 72) who didn't have easy accessibility to blood donation centers had never donated blood. This implies that lack of easy accessibility to blood donation centers is a barrier to blood donation. Similarly, according to a study on factors associated with repeat blood donation at the northern zone blood transfusion center in Tanzania, it was revealed that repeat blood donation is affected by the accessibility of the donating site (Mauka et al, 2015).

The study also revealed significant association between conduciveness of the blood donation center and practice of voluntary blood donation ($P=0.003$). Almost all the respondents (11 of 13) who reported that the environment at the blood donation center is not conducive had never donated blood. This implies that the blood donation center not being conducive is a barrier to blood donation among residents of Kiggaga zone. Consistent with these findings, during a study in Trinidad and Tobago, majority of non-donors cited poor condition of donation facilities as a barrier to blood donation (Sampath et al, 2007).

The findings of this study cited no significant association between health education of the public and practice of voluntary blood donation ($P=0.747$). Implication is that health education of the public does not influence the practice of blood donation among residents of Kiggaga zone. Contrary to these findings, according to Dubey et al, 2014; Sharma et al, 2016; and Jemberu et al, 2016, health education of the public was associated with participation in blood donation. Listening to radio broadcasts was found to be a predictor of knowledge on blood donation.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0. Introduction

This chapter presents the conclusion and a set of recommendations for the study.

6.1. Conclusions

The prevalence of practice of voluntary blood donation was low, 37(33.3%) while majority 74(66.7%) had never donated blood and most of them did not donate because they feared.

The socio-cultural factors that contribute to practice of voluntary blood donation include; culture; and myths, misconceptions and beliefs while religion and risks perception do not contribute to practice of voluntary blood donation.

Individual factors that contribute to practice of voluntary blood donation include; age and fear while those that don't contribute include; gender, knowledge regarding blood donation and attitude towards blood donation.

Health system factors that contribute to practice of voluntary blood donation include; availability of blood donation centers, accessibility to blood donation centers and conduciveness of the blood donation center while those that don't contribute to practice of voluntary blood donation include; health education of the public

6.2. Recommendations

To the community;

- More education on voluntary blood donation should be done, emphasizing the benefits and risks related to blood donation.

- Link up with religious based organizations such as Christians and Muslims to address blood donation in their respective areas of worship.
- Work together with community elders to dispel myths, misconceptions and beliefs regarding blood donation.
- More resources should be spent on creating awareness of blood donation among younger residents.

To the government;

- To carry out more sensitization of blood donation and strengthen campaigns for practice of voluntary blood donation based on clearly defined medical benefits of blood donation. This can be done through mass media, with use of local languages.
- Finding ways to overcome the commonly perceived barriers to donating blood like fear of donating blood and fear of risks/adverse effects should be priority.
- To commission more research on this area of voluntary blood donation especially on its impact among those who benefit from the services.

REFERENCES

Abderrahman, B.H. and Saleh, M.Y, (2014). Investigating knowledge and attitudes of blood donors and barriers concerning blood donation in Jordan. *Procedia-Social and Behavioral Sciences*, 116, pp.2146-2154.

American Red cross. (2017). Blood facts and statistics

Baig, M., Habib, H., Haji, A.H., Alsharief, F.T., Noor, A.M. and Makki, R.G., 2013. Knowledge, misconceptions and motivations towards blood donation among university students in KSA. *Pakistan journal of medical sciences*, 29(6), p.1295.

Bantayehu, D., (2015). Knowledge, Attitude, and Practice of Voluntary Blood Donation and Associated Factors among Health Care Providers in Addis Ababa health Facilities, Ethiopia. *Occupational Medicine & Health Affairs*

Bednall, T.C. and Bove, L.L., (2011). Donating blood: a meta-analytic review of self-reported motivators and deterrents. *Transfusion medicine reviews*, 25(4), pp.317-334.

Buciuniene I, Stonienė L, Blazeviciene A, Kazlauskaitė R, Skudienė V (2006) Blood donors' motivation and attitude to non-remunerated blood donation in Lithuania. *BMC* 6: 166

D. Kimani et al. (2010). Blood donors in Kenya: a comparison of voluntary and family replacement donors based on a population based survey.

Daily mornitor, (2013). Only 170,000 Ugandans donate blood.

Deborah Kuo, (2009). Taiwan's blood donation rate highest in Asia.

Dubey, A., Sonker, A., Chaurasia, R. and Chaudhary, R., 2014. Knowledge, attitude and beliefs of people in North India regarding blood donation. *Blood Transfusion*, 12(Suppl 1), p.s21.

Edson Zangiaconi Martinez, Rodrigo Guimaraes, Antonio Carlos. 2014. Association between religiousness and blood donation among Brazilian postgraduate students from health-related areas.

Elioma Elias, Wilhellmuss Mauka, Rune.N.Philemon, Damian J.Damian, Micheal. J. Mahanda and Sia E. Msuya. 2016. Knowledge, attitudes, practices, and factors associated with voluntary blood donation among university students in Kilimanjaro, Tanzania.

Gader, A.G.M.A., Osman, A.M.A., Al Gahtani, F.H., Farghali, M.N., Ramadan, A.H. and Al-Momen, A.K.M., 2011. Attitude to blood donation in Saudi Arabia. *Asian journal of transfusion science*, 5(2), p.121

Global Blood Fund. (2016). Encouraging voluntary blood donation

Javadzadeh Shahshahani, H., Yavari, M.T., Attar, M. and Ahmadiyeh, M.H., 2006. Knowledge, attitude and practice study about blood donation in the urban population of Yazd, Iran, 2004. *Transfusion Medicine*, 16(6), pp.403-409.

Jemberu, Y.A., Esmael, A. and Ahmed, K.Y., 2016. Knowledge, attitude and practice towards blood donation and associated factors among adults in Debre Markos town, Northwest Ethiopia. *BMC hematology*, 16(1), p.23.

Job Kipkoech Kemboi, Maiyo Adams, Mulwa Tabitha, Wairimu Charles.2013. factors influencing blood donation among university students. a case study of the college of health sciences, university of Nairobi

Karim, M.R., Alam, M., Farazi, M.M.R. and Labone, R.J., 2012. Factors influencing blood donation behavior of university level students in Bangladesh. *Journal of Information Technology*, 1(1), pp.35-40.

Kassahun Chanie. 2015. Ethiopia: Blood donation, its use and means to do.

Lownik, E., Riley, E., Konstenius, T., Riley, W. and McCullough, J., 2012. Knowledge, attitudes and practices surveys of blood donation in developing countries. *Vox sanguinis*, 103(1), pp.64-74.

M. S. Chevalier, Mikuehnert, S. V. Basavaraju, A Bjork, and J.P. Pitman.2014. Progress towards strengthening national blood transfusion services-14 countries.

Mauka, W.I., Mahande, M.J., Msuya, S.E. and Philemon, R.N., 2015. Factors associated with repeat blood donation at the Northern Zone Blood Transfusion Centre in Tanzania. *Journal of blood transfusion*, 2015.

Merav, B.N. and Lena, G., 2011. Investigating the factors affecting blood donation among Israelis. *International Emergency Nursing*, 19(1), pp.37-43.

NSSF. 2015. NSSF, UBTS Blood donation drive targets 1800 units of blood.

Njambi Njuguna. 2012. Factors influencing blood donation at selected sites in Nairobi, Kenya.

Olaiya, M.A., Alakija, W., Ajala, A. and Olatunji, R.O., 2004. Knowledge, attitudes, beliefs and motivations towards blood donations among blood donors in Lagos, Nigeria. *Transfusion Medicine*, 14(1), pp.13-17.

Pule, P.I., Rachaba, B., Magafu, M.G.M.D. and Habte, D., 2014. Factors associated with intention to donate blood: sociodemographic and past experience variables. *Journal of blood transfusion*, 2014.

Sampath, S., Ramsaran, V., Parasram, S., Mohammed, S., Latchman, S., Khunja, R., Budhoo, D., Poon King, C. and Charles, K.S., 2007. Attitudes towards blood donation in Trinidad and Tobago. *Transfusion Medicine*, 17(2), pp.83-87.

Salaudeen, A.G. and Odeh, E., 2011. Knowledge and behavior towards voluntary blood donation among students of a tertiary institution in Nigeria. *Nigerian journal of clinical practice*, 14(3), pp.303-307.

Sharma R. 2000. South East Asia faces severe shortage of safe blood. *British Journal*.

Sharma RK, Verma S, Sharma M, Pugazhendi S (2016) Voluntary Blood Donation: Attitude and Practice among Indian Adults. *J Community Med Health* 3:436. doi:10.4172/2161-0711.1000436

Sonam Kumari1, Tilak Raj Raina. 2015. A comprehensive analysis of factors that motivate and hinder the blood donation decision among the younger population

Tapko JB, Mainuka P, Dairra-Nama AJ. 2006. Status of blood safety in the WHO African Region.

The Monitor. 2016. Uganda: low response to donation drive causes blood shortage.

UBTS. 2011. Uganda Blood Transfusion Strategy 2011-2015.

WHO. 2016. Blood safety and availability.

WHO. 2008. Blood safety indicators, 2007. Geneva

WHO. 2017. Towards 100% voluntary blood donation. A global framework for action.

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 Northwestern Chinese city. *Transfusion Medicine*, 15(4), pp.277-286.

APPENDIX 1: CONSENT FORM

I am Jjemba Alex a final year student at International Health Sciences University pursuing a Bachelor's degree on Nursing Science. I am conducting a research study entitled "factors associated with practice of voluntary blood donation among community members aged 15-50 years in Mutundwe Kiggaga zone, Lubaga division in Kampala."

You are kindly requested to spare some few minutes to fill this questionnaire. Your participation is voluntary and if you feel that you do not want to continue, you can drop out at any time. All the information you provide shall be confidential and your identity will not be revealed to anyone. There is no harm that you will sustain by participating in this study.

The benefit of this study is that it will generate information that may be needed to improve turn up for voluntary blood donation. The information generated from this study shall be used for academic purposes only and not for commercial purpose.

If you accept to participate in this study, then you can continue by signing below.

Signature of the participant..... Date.....

Signature of the interviewer..... Date.....

APPENDIX II: QUESTIONNAIRE

SECTION A: SOCIO-DEMOGRAPHIC CHARACTERISTICS

Q.1. How old are you?

15-25

26-36

37-50

Q.2. What is your gender?

Male

Female

Q.3. What is your religion?

Christian

Muslim

Others (specify).....

Q.4. What is your occupation status?

Employed

Unemployed

SECTION B: SOCIO-CULTURAL FACTORS

Q.5. Does your religion accept blood donation?

Yes

No

Q.6. Do you think there are myths, misconceptions and beliefs regarding blood donation?

Yes

No

Q.7. If yes, explain.

.....
.....
.....

Q.8. In your opinion are there any culture traits or taboos regarding blood donation?

Yes

No

Q.9. If yes, list any two positive cultural factors influencing blood donation

.....
.....
.....

Q.10. list any two negative cultural factors affecting blood donation

.....
.....
.....

Q.11. In your opinion are there any risks/ adverse effects regarding blood donation?

Yes
No

Q.12. If yes, explain

.....
.....
.....

SECTION C: PRACTICE OF BLOOD DONATION

Q.13. Have you ever donated blood?

Yes
No

Q.14. If no, why?

Did not know where to go
Feared
Had never heard about it
Others(specify).....

Q.15. If yes, how many times?

Once
Twice
Thrice
More (specify).....

Q.16. why did you donate blood?

A friend needed it
Free will
Relative needed it

Influence from others

Expecting something in return

Others (specify).....

SECTION D: INDIVIDUAL FACTORS

Q.17. Are you aware that you can donate blood to another person?

Yes

No

Q.18. Give reason to your answer

.....
.....
.....

Q.19. Do you think that blood donation is necessary?

Yes

No

Q.20. Give an explanation for your answer

.....
.....
.....

Q.21. Do you fear donating blood?

Yes

No

Q.22. Explain your answer

.....
.....
.....

SECTION E: HEALTH SYSTEM FACTORS

Q.23. Are there any blood donation centers in Kiggaga zone?

Yes

No

Do not know

Q.24. Is it easy to reach the blood donation center from your home?

Yes

No

Q.25. If no, what is the problem

.....
.....
.....

Q.26. Is the environment at the blood donation center conducive?

Yes

No

Q.27. If no, why

Dirty

Crowded

Others (specify).....

Q.28. Have you ever seen or heard messages about blood donation?

Yes

No

Q.29. If yes, where did you receive that information from?

Health workers

TV/ Radio

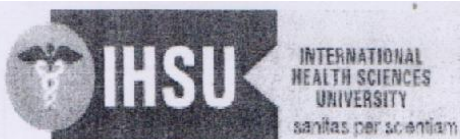
Teachers/ Lecturers

Friends

Others (specify).....

Thank you very much

APPENDIX III: RESEARCH APPROVAL LETTER



making a difference in health care

Office of the Dean, School of Nursing

Kampala, 10th October 2017

Note: Jemba Alex is allowed to conduct research from my area.

*MUTUNDWE KIGGAGA ZONE
DATE: 11/10/2017
LUBAGA*

Dear Sir/Madam,

RE: ASSISTANCE FOR RESEARCH

Greetings from International Health Sciences University.

This is to introduce to you **Jjemba Alex**, Reg. No. **2013-BNS-FT-003** who is a student of our University. As part of the requirements for the award of a Bachelors degree in Nursing of our University, the student is required to carry out research in partial fulfillment of the award.

The topic of research is: **Factors Associated With Practice of Voluntary Blood Donation Among Community Members Aged 15-50 Years in Mutundwe Kiggaga Zone, Lubaga Division in Kampala.**

This therefore is to kindly request you to render the student assistance as may be necessary for the research.

I, and indeed the entire University are grateful in advance for all assistance that will be accorded to our student.

Sincerely Yours,

Ms. Agwang Agnes
Dean, School of Nursing

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APPENDIX V: MAP OF KAMPALA SHOWING MUTUNDWE KIGGAGA ZONE

