ASSESSING FACTORS INFLUENCING VOLUNTARY BLOOD DONATION AMONG HIGH SCHOOL STUDENTS IN TANZANIA: A CASE OF SELECTED SCHOOL IN MWANZA CITY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF HUMANITARIAN ACTION, COOPERATION AND DEVELOPMENT (MHACD)

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Open University of Tanzania a dissertation entitled: **"*Assessing factors influencing voluntary blood donation among high school students in Tanzania: A Case of selected high schools in the Mwanza Region*",** in partial fulfillment of the requirements for the Degree of Master of Humanitarian Action, Cooperation and Development (MHACD) of the Open University of Tanzania.

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Date

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DECLARATION

I, **Salehe Nuhu,** declared that this dissertation is my own work, and it has not been presented, and will not be presented to any other University or Institution for a similar or any other degree award. It is hereby presented in partial fulfillment of the requirements for the Degree of Master of Humanitarian Action, Cooperation and Development (MHACD) of the Open University of Tanzania.

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Signature

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Date

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ABSTRACT

This study examined factors influencing voluntary blood donation among high school students in Mwanza City. Specifically, the study investigated knowledge level, attitude and scrutinized practices among high school students toward voluntary blood donation in Mwanza City. The study used a positivist philosophy, descriptive research design, and quantitative approach, with 318 respondents from 1553 high school students in Mwanza City, Data was collected through questionnaires and analyzed using SPSS. The results revealed that most of the respondents (over 57.1%), were not aware of their blood group category. This implies that most of the high school students in Mwanza City have never donated blood. In terms of attitude among the high school students toward voluntary blood donation, most students (over 82.5%), said that they are ready to donate blood in the future. These results imply that most high school students in Mwanza City had a positive attitude toward voluntary blood donations. A study reveals that 84.1% of high school students have never donated blood, but are willing to do so in the future, while 17.9% have never donated blood except for payment. These results imply that the government needs to put more efforts in motivating high school students in voluntary blood donation. The study suggests that the National Blood Transfusion Services should enhance awareness and understanding of voluntary blood especially in high schools.

Keywords: *Voluntary Blood donation, National Blood Transfusion Services, High School Students, Mwanza Region.*

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LIST OF ABBREVIATIONS

DAS	District Administrative Secretary
IRDP	Institute of Rural Development Planning
KAP	Knowledge, Attitude and Practice
NBTS	National Blood Transfusion Service
PO-RALG	President's Office-Regional Administration and Local Government
PSPAHP	Political Science, Public Administration, History, and Philosophy
RAS	Regional Administrative Secretary
SPSS	Statistical Package for Social Science
UK	United Kingdom
WSUTRH	Wolaita Sodo University Teaching and Referral Hospital

CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Chapter Overview

Factors influencing voluntary blood donations among high school students still need to be clarified by conducting more research on this influential group of blood donors to address critical blood shortage. This introduction covers the background to the study, a statement of the problem, general and specific objectives, and research questions. This chapter has a section discussing the study's significance as well as the section on organization of the dissertation.

1.2 Background to the Study

Blood, a vital fluid in the body, plays a crucial role in modern healthcare by transporting nutrients and oxygen to cells and removing metabolic waste (Malako et al., 2019). Infusions from donors are vital for saving lives and improving health. However, transferring infectious agents poses risks to recipients, necessitating special attention. Global health leaders recognize the importance of voluntary blood donation, with the World Health Organization estimating that 1% of the population is required to meet critical blood needs. However, the average donation rate is 15 times higher in developing countries (Salaudeen et al., 2019). Factors contributing to blood donation include knowledge, positive attitudes, and good practices.

In the European Region, the average number of blood donations per 1000 persons is between 6 and 67.6; an estimated nation must have a minimum of 20–25 frequent donors per 1000 people to be self-sufficient in blood supplies (Gorleer et al., 2020).

Europe has reported a rise in voluntary and unpaid blood donations of 10.7 million between 2008 and 2018. However, there are some barriers to voluntary blood donation in Europe, such as changes in the demographics and donor motivations and barriers. The aging demographics of Europe mean that more people need greater medical attention (Wittocket *et al*., 2017). To overcome that challenge, there is a need to encourage more people to engage in voluntary blood donation, especially the young generation, to maintain the blood supply for the future and to expand the campaign for voluntarily donating blood.

In Asia, the availability of voluntary and unpaid blood donors is a serious concern due to a significant shortage of safe blood supply relative to anticipated demand (Hossain et al., 2020). Common reasons for people not donating blood were mentioned as a lack of knowledge about blood donation and the opportunity to do so. According to Alharkan et al. (2023), other reasons include poor beliefs about donating blood and limited knowledge about blood donation. In some places, such as Gaza in Palestine, the unavailability of blood is attributed to frequent wars and crashes (Alsarafandi, 2023). An increase in the number of people encouraged to donate their blood voluntarily could result from spreading knowledge about voluntary blood donation, educating the public to dispel misconceptions about blood donation, and preventing frequent wars and disasters (*Ibid*).

In northern America, blood and blood components are essential to helping people survive several severe health conditions, medical procedures, complex surgeries, childbirth, and injuries from accidents and humanitarian disasters (Harrellet et al.,

2022). 2021 there were over 6.5 million blood donors, an 11% decrease from the nearly 7.3 million donors in 2019. Almost 3% of the population donates blood annually (Fogarty et al., 2024). A blood shortage becomes evident due to the aging population, unimproved public healthcare access, and the complexity of medical treatments (Allain, 2019). To practice blood donation, education programs that disseminate knowledge and choose willing donors from a young population, especially high school students who are low-risk individuals, are therefore necessary.

In Latin America, voluntary blood donation is the safest blood collection method, providing 45% of transfusions. By 2019, the World Health Organisation aimed to get 100% of the blood from voluntary donors (World Health Organisation, 2022). However, by 2021, over 8.2 million units of blood had been collected, a 20% decrease from 2017 (García-Otálora *et al.,* 2021). This situation includes a lack of awareness about voluntary non-paid blood donors, reliance on replacement blood, and political instability in countries like Guatemala and Haiti (Pan American Health Association, 2016). Knowledge dissemination on voluntary blood donation, particularly among high school students, is crucial to address these challenges and ensure peace in politically unstable nations like Guatemala and Haiti (García-Otálora et al., 2021).

The Australian Red Cross is urging people to donate blood to avoid a blood shortage in the country. Hospitals need 830 daily donations to meet patient demand, with a minimum of 1000 needed annually (Masser et al., 2020). However, Red Cross Lifeblood receives over 1.5 million blood donations annually to assist patients with

blood-required conditions (Musel-Winn, 2019). The flu, cold season, and humanitarian crises like COVID-19 contribute to the shortage. To overcome this, improving knowledge of voluntary blood donation among younger generations is the best way to meet demand and increase blood donations (Ibid).

In sub-Saharan Africa, WHO data from 2022 revealed that the annual blood donation requirement is less than five units per 1000 people, with only 10% of the nation's blood collected through voluntary, non-reimbursed donations. To ensure voluntary blood donation, strategies such as National Blood Transfusion Services Centres have been implemented (Ugwu *et al*., 2021). However, many Africans have never donated blood before, primarily due to fear of illness, loss of blood, anemia, and lack of awareness about their health (Burzynski et al., 2016). To ensure sufficient blood reserves, sub-Saharan countries must promote voluntary blood donation by educating people on its importance and encouraging young and potential blood donors, such as high school students. This will help ensure the country has sufficient blood reserves and support its citizens (World Bank, 2022).

In East Africa, seven people need a blood transfusion every ten minutes, but only 16% of the required blood is collected, contributing to the nation's blood shortage (World Bank, 2022). The Kenya National Bureau of Statistics (2020) shows that 60% of Kenyans are between the ages of 15 and 64, with 48.25% being blood group O negative. This universal donor group could increase blood banks if educated on voluntary blood donation. Factors contributing to the blood shortage include inadequate knowledge of voluntary blood donation, excessive reliance on family

replacement donors, and poor knowledge of voluntary blood donation (Dei-Adomakohet al., 2021). To ensure a sufficient supply of blood for humanitarian emergencies, increase the number of voluntary donors, educate young and safe blood donors, and adhere to national blood donor policies that prioritize voluntary donations.

1.2.1 Blood Donation in Tanzania

In Tanzania, like many parts of the world, voluntary blood donation is necessary to address the blood scarcity. Tanzania had a population of 62 million people in 2022, and 620,000 units of blood were required. However, in 2022, less than 331,279 bottles were collected, creating a shortage of more than 288,721 bottles of the nation's demand (Ministry of Health, 2022). Safe blood supply is one of the most complex problems facing the humanitarian field, especially in Tanzania's healthcare emergencies. Blood must travel quickly and economically between the donation site, the blood bank, and the final customer because it is a highly perishable good (Mishra, 2022). The Tanzanian government recently established the NBTS, the centrally managed blood transfusion system. NBTS runs a nationwide network of seven blood centers: Tanzania People Defence Forces, Lake Zone, Northern Zone, Southern, Eastern, and Southern Zone. To guarantee a sufficient and safe blood supply, NBTS must overcome several obstacles, such as a lack of blood donors, insufficient staff, infrastructure, and finances (Finda *et al*., 2022).

According to literature (Elias et al., 2016; Mramba., 2017) on knowledge, attitudes, practices, and factors associated with voluntary blood donation, all the studies show

that well-knowledgeable people are willing to donate and have a positive attitude towards it. However, we find that all available studies were conducted among university students and other different population categories, unlike the current study that will assess factors influencing voluntary blood donation among high school students in Mwanza City.

1.3 Statement of Problem

Even though in Tanzania there is an increasing awareness of voluntary blood donation to satisfy the World Health Organization's requirement of 1% of the population to address critical blood requirements (Elias et al., 2016), Tanzania still had a 40% blood shortage in 2022 compared to national demand (Ministry of Health, 2022). Factors influencing voluntary blood donations among high school students still need to be clarified due to the need for more research on this influential group of blood donors. As indicated, studies must continue to be conducted in various groups to encourage voluntary blood donation after studies have shown that 1/3 of the university students are the ones who have already donated blood (Ogundeji et al., 2021).

Existing literature, for example, according to Enawgaw et al. (2019), Elias et al. (2016), Mramba (2017), and Shaaban et al. (2021), showed that the critical source for dealing with blood shortages is encouraging voluntary blood donation from various groups to bridge the gap of the blood shortage to be used in multiple humanitarian emergencies. However, this important group of high school students still needs studies showing factors influencing voluntary blood donation. Also, according to the

NBTS, this low-risk group can increase the blood bank. Further study (Moore et al., 2020; Mahfouz et al., 2021) indicates that understanding factors influencing blood donation might result in a sufficient blood supply. The desire to conduct this study originated from a slight focus on the significance of determining the link between high school students' voluntary blood donation and their knowledge, attitudes, and behaviors about voluntary blood donation. Therefore, this study aimed to assess factors influencing voluntary blood donation among high school students.

1.4 Objectives of the Study

Study objectives are divided into two parts, which are general objectives and specific objectives:

1.4.1 General Objective

The study's general objective is to assess factors influencing voluntary blood donation among high school students in Mwanza City.

1.4.2 Specific Objectives

i. To investigate high school students' knowledge of voluntary blood donation in Mwanza City.
ii. To examine the attitude of high school students towards voluntary blood donation in Mwanza City.
iii. To examine blood donation practices among high school students in Mwanza City towards blood donation.

1.5 Research Questions

i. What is the level of awareness among high school students in Mwanza City about voluntary blood donation?
ii. What is the attitude of high school students in Mwanza City towards voluntary blood donation?
iii. What are the practices of blood donation among high school students in Mwanza City?

1.6 Significance of the Study

Understanding blood donation patterns helps policymakers prepare for emergencies and disasters where there might be a sudden surge in the demand for blood. Policies can be developed to mobilize blood supplies rapidly during crises. Policymakers can use the findings of blood donation studies to inform public awareness campaigns and educational initiatives. This can help dispel traditions about blood donation, encourage regular contributions, and build a culture of voluntary, altruistic blood donation.

An investigation into voluntary blood donation can assist in determining the factors that encourage people to give blood freely, as well as the obstacles that might deter prospective donors. By being aware of these elements, the NBTS is better equipped to customize outreach initiatives, respond to issues, and foster an atmosphere encouraging voluntary contributions. The NBTS can enhance and optimize its approaches for enlisting new donors by examining blood donation study results. This entails determining the target audience, creating persuasive marketing campaigns,

and choosing distribution channels that appeal to possible voluntary contributors. The results of blood donation studies will open up new avenues for investigation into public health, epidemiology, psychology, sociology, and medicine.

Scholars can investigate several topics, such as the reasons behind donations, the effects on health, public opinion, and the efficacy of fundraising efforts. Blood donation studies provide academics working in medical education with helpful case studies and practical illustrations to help students understand the significance of blood transfusions. Also, the study will allow the researcher to contribute to the existing knowledge on voluntary blood donation. By generating new findings or validating existing theories, the researcher plays a role in advancing the understanding of this critical aspect of public health. Once the research is completed, it will help the researcher fulfill the requirement for a degree award from the university.

1.7 Organization of the Dissertation

The study is organized into five chapters. Chapter one presents the background information regarding the problem under study. Also, this chapter covers the statement of the problem, the study's objectives, its research questions, and its significance. Chapter one ends with the organization of the Dissertation. The remaining section was arranged as follows: Chapter two entails with definitions of key terms, review of relevant literature was covered, along with theoretical and empirical reviews, a research gap, and a conceptual framework. Chapter three covers in detail research design, study population, sampling design, sample size, data

collection methods, and data analysis techniques. Chapter four presents' data findings and discussion of those findings. Chapter five provides a summary of the stud findings, conclusions and recommendations to various stakeholders covered in the study. The chapter also offers space for further study if one needs to carry the same topic.

CHAPTER TWO

LITERATURE REVIEW

2.1 Chapter Overview

This chapter covers literature review, including Conceptualization of key Terms, theoretical literature review, empirical literature review, conceptual framework, and research (knowledge) gap for the study.

2.2 Conceptualization of key Terms

This section discusses critical terms such as blood donation, voluntary blood donation, and knowledge and attitudes related to voluntary blood donation.

2.2.1 Blood

According to Appiahet et al. (2018), blood is a reddish fluid in living organisms containing proteins, platelets, and red and white blood cells. The circulatory system circulates it throughout the body. Blood is vital to humans because it can save the lives of those with blood-content deficiencies. In the context of this study, *blood* can be defined as a fluid connective tissue made up of platelets, plasma, and blood cells. It flows throughout our body, supplying different cells and tissues with oxygen and nourishment.

2.2.2 Blood Donation

Blood donation involves donating a portion of one's blood for medical purposes while receiving a blood transfusion involves injecting blood from one person into another for medical procedures (Guglielmetti et al., 2021). In the study, blood

donation refers to the voluntary consent of someone to have their blood extracted for medical purposes.

2.2.3 Voluntary Blood Donation

A voluntary blood donor donates blood, plasma, or other biological components without expecting payment in kind, which can be seen as a form of payment in money (Aschale et al., 2021). In this study, voluntary blood donation can be defined as the process where a person donates blood and voluntarily agrees to have it drawn for medical use by another person without expecting payment in kind, which could be seen as a form of payment of money.

2.2.4 Knowledge of Voluntary Blood Donation

Knowledge of voluntary blood donation refers to an individual's understanding and skills in giving blood, plasma, or other biological components without expecting payment in kind (Rashmi et al., 2020). In the context of this study, knowledge of voluntary blood donation can be defined as the level of awareness among people about the procedure where a person who donates blood freely consents to have it taken for medical purposes by another individual without anticipating payment in kind, which might be viewed as a type of payment in of money.

2.2.5 Attitude on Voluntary Blood Donation

Attitudes toward voluntary blood donation refer to a willing blood donor's opinions, feelings, and views about having their blood drawn for medical purposes without expecting payment (Javaeed et al., 2020). In this study, *attitudes* toward voluntary

blood donation can be defined as opinions, feelings, and views regarding the procedure whereby a willing blood donor accepts to have their blood extracted by someone else for medical purposes without demanding money.

2.3 Theoretical Literature Review

Theory is a set of concepts and principles that explain a certain occurrence. It enables researchers to find connections between the abstract and tangible. The theoretical review also includes identifying, scrutinizing, and comparing distinct theoretical frameworks and concepts to clarify and establish their relevance, application, or contribution to the issue under consideration (Rossi & Sorensen, 2022).

2.3.1 Social Exchange Theory

In 1958, George Homans introduced the social exchange theory, which emphasizes sharing activities within a society or group (Davlembayeva & Alamnos, 2023). He argued that social interaction acts as reinforcement, shaping future behaviors by determining the cost or benefit of actions based on past experiences. According to Homans, social exchange is the sharing of activities that can be material or immaterial, profitable, or not, and involve at least two people. People choose interactions with favorable outcomes over time.

2.3.1.1 Key Arguments of the Theory

Social exchange theory is a framework for understanding human behavior in social relationships, focusing on maximizing rewards and minimizing costs. It suggests that individuals make decisions based on perceived outcomes, such as the benefits of

Voluntary blood donation. Blood donation centers often offer incentives to enhance perceived rewards and offset costs (Cook et al., 2021). Blood donors consider the costs of time, discomfort, and potential side effects, and effective campaigns aim to minimize these perceived costs. This theory can be applied to analyzing voluntary blood donation decisions.

2.3.2 Relevance of the Theory

The Social Exchange Theory emphasizes the importance of knowledge in social exchanges, understanding blood donation's benefits processes, and significantly influencing voluntary participation (Cook et al., 2021). In the context of this study, accurate and positive knowledge about blood donation's safety and importance increases its perceived value as a beneficial social exchange. Campaigns can improve high school students' understanding and foster a positive environment for blood donation-related social exchanges.

The Social Exchange Theory emphasizes the significance of positive attitudes, including beliefs, feelings, and perceptions, in decision-making in social exchanges (Ahmad et al., 2023). Attitudes contribute to the consistency of these exchanges, as individuals may act in ways that align with their positive attitudes to maintain internal consistency. High school students who hold a positive attitude towards the idea that donating blood saves lives and is a socially responsible act are more likely to participate in blood donation activities. The Social Exchange Theory suggests that rewards and costs play a significant role in social interactions, including individual practices (Cook et al., 2021). This study examines how factors such as time spent,

past experiences, frequency of donation, participation in drives, and involvement in promoting blood donation can influence high school students' perceptions of voluntary blood donation, including benefits and costs. Moreover, the researcher decided to adopt only this theory because it considers the interactive acts and social behaviors which influence individuals to be aware and having positive attitudes towards practices of voluntary blood donation to help others who need the service of blood transmission in the public hospitals.

2.4 Empirical Literature Review

This part presents empirical studies on the factors influencing voluntary blood donation, as elaborated below.

2.4.1 Knowledge Level Towards Voluntary Blood Donation

A study was done by Alsarafandi et al. (2023) on knowledge, attitude, and practice among medical students in the Gaza Strip toward voluntary blood donation. This cross-sectional study used a stratified sample technique to survey medical students from Al-Azhar and Islamic Universities, the two medical institutions in Gaza, during March and April 2022. The study included a 35-item self-administered questionnaire with four sections—practice, knowledge, attitude, and demographics. The data were statistically analyzed using SPSS version 25. An 89.6% response rate was obtained from a survey that had 329 students in total. The result shows that 54.7% were found to have good knowledge about VBD, 68.1% did not know the time-to-wait between each whole blood donation, and in terms of blood donation criteria, only 30.7% and 25.2% were aware of the appropriate age and weight for donating. The results

suggest that there were gaps in their understanding of the requirements for blood donation, and the majority had never donated blood. Sufficient awareness-raising initiatives are needed to raise awareness of this globally and locally significant issue.

A study was done by Adgoy et al. (2021) on a cross-sectional survey of knowledge, attitude, and practice of voluntary blood donation among nursing staff at Orotta National Referral Teaching Hospital Asmara, Eritrea. A total of 142 nurse staff were recruited. Structured questionnaires were used to collect data and analyze using SPSS version 22. The study's findings demonstrated positive knowledge regarding blood donation. Nonetheless, it was discovered that very little blood donation practice existed. There is a strong correlation between male gender and blood donation. However, it was found that there was no meaningful correlation between blood donation and age, education, or professional standing. As a result, the study suggests that the National Blood Bank, the Ministry of Health, and the Colleges of Health Sciences and Medicine develop policies and plans that encourage and motivate students and healthcare professionals to give blood and shift public opinion in favor of voluntary blood donation.

A study by Kalyani et al. (2020) on knowledge, attitude, and practice followed by Indian blood donors. Two hundred healthy individuals visiting different outpatient departments of the All-India Institute of Medical Sciences, Rishikesh, participated in the cross-sectional descriptive study. Non-probability purposive sampling was employed in the current investigation. Most donors were found to be male (66%) and between the ages of 18 and 27 (48.5%). Merely 19% of the participants knew enough

about blood donation—the public's understanding of blood donation needed to be improved. Participants from the public abstained from giving blood and were vehemently opposed to it. We can close this knowledge, attitude, and practice gap by raising awareness of blood donation in the media, schools, and colleges.

A cross-sectional study by Malako et al. (2019) within an institution involving 218 healthcare workers at WSUTRH. A self-administered survey was used to gather information on participants' sociodemographic traits and KAP levels. Logistic regression analyses, both bivariate and multivariate, were performed using version 20 of the statistical package for social sciences to evaluate the variables related to blood donation with a p-value of less than 0.05 for statistical significance. The study included two hundred and eighteen healthcare professionals. 180 (82.6%) of the study participants had good knowledge, with 126 (57.8%) reporting that the best source of blood donation is voluntary. Unfortunately, only 47 respondents, or 21.6% of the total, reported having yet to donate blood at some point. The overall average level of knowledge was satisfactory. Hospitals, blood banks, and healthcare professionals must devise strategies for updating knowledge, enhancing its psychological benefits, and improving accessibility to services.

Almutairi et al. (2018) studied a cross-sectional community survey design with 500 adult Saudi subjects interviewed in Riyadh City shopping malls between May and July 2017. The questionnaire asked questions about the respondents' demographics, knowledge, attitudes, and practices around blood donation. Each participant knew much about the significance of blood donation and their blood group. Additionally,

most respondents knew enough about the most popular location for blood donations, the unique characteristics of different blood types, and the risks associated with giving blood to an infected individual. Additionally, it was discovered that most respondents had good knowledge of the procedures, risks, and time involved in blood donation. Regarding blood donation, 71% of respondents felt their KAP was sufficient, and there was a strong correlation between those with good KAP and younger age, male gender, and higher educational attainment.

A self-administered questionnaire was used in a cross-sectional study by Elnajeh et al. (2017) among 679 university students. The four main components of the questionnaires are sociodemographic information, knowledge (10 questions), attitude (6 questions), and practice (1 question) regarding blood donation. While most respondents (97.1%) and 88.8% have good knowledge and attitudes, most (70.3%) have poor practices. Knowledge was related to gender ($p = 0.001$), attitude, field of study, and blood group ($p<0.001$, 0.001, respectively). Regression analysis revealed that gender, with an adjusted OR of 5.2, was the only variable linked to knowledge. Most students are knowledgeable, but they donate blood sparingly. More advertising and instruction are required to inspire students to donate more blood in the future.

Logambal and Bhavani (2018) conducted a study on knowledge and attitudes toward blood donation among adults. The study adopted a non-experimental descriptive survey research design. Five hundred participants were selected using convenience sampling methods. The study found that, regarding blood donation, the adults' knowledge and attitudes were both moderate. Knowledge and attitude showed a

highly significant correlation with certain variables and a moderately positive correlation with one another. The study recommends that there should be a regularly scheduled awareness creation among the public to gain an in-depth insight into the importance of blood donation to save human lives.

2.4.2 Attitude towards Voluntary Blood Donation

A study was done by Adgoy et al. (2021) on a cross-sectional survey of knowledge, attitude, and practice of voluntary blood donation among nursing staff at Orotta National Referral Teaching Hospital Asmara, Eritrea. A total of 142 nursing staff were recruited. Structured questionnaires were used to collect data and analyze using SPSS version 22. The study findings show that an average number of people have a positive attitude towards blood donation. The study also found a strong correlation between male gender and blood donation. However, it was discovered that there was no meaningful correlation between blood donation and age, education, or professional standing. As a result, the study suggests that the National Blood Bank, the Ministry of Health, and the Colleges of Health Sciences and Medicine develop policies and plans that encourage and motivate students and healthcare professionals to give blood and shift public opinion in favor of voluntary blood donation.

Elias et al. (2016) studied knowledge, attitude, practice, and factors associated with voluntary blood donation among university students in Kilimanjaro, Tanzania. The study used a cross-sectional survey with a self-administered questionnaire. 30 percent of the 422 participants have ever given blood. Of those who donated blood, 55% had done so more than once. Many participants (93%) had positive attitudes

about giving blood, and 88% said they would be willing to do so in the future. The likelihood of donating blood was significantly correlated with the following factors: Being a man, knowing someone who has donated, being aware of the volume of blood donated, Being willing to donate again and not anticipating any benefits after the donation. The study recommends that high awareness, a positive outlook, and a strong desire to donate blood in the future be used to emphasize the importance of educating young people about the importance of blood donation in saving lives and providing accurate information about the requirements for blood donation in general.

A cross-sectional study by Malako et al. (2019) within an institution involving 218 healthcare workers at WSUTRH. A self-administered survey was used to gather information on participants' sociodemographic traits and KAP levels. Logistic regression analyses, both bivariate and multivariate, were performed using version 20 of the statistical package for social sciences to evaluate the variables related to blood donation with a p-value of less than 0.05 for statistical significance. The study included two hundred and eighteen healthcare professionals. 128 (58.7%) were found to have a positive attitude, with 126 (57.8%) reporting that the best source of blood donation is voluntary. Unfortunately, only 47 respondents. The degree of attitude towards blood donation was surprising. It was discovered that female respondents practiced blood donation less frequently than male respondents. Hospitals, blood banks, and healthcare professionals must devise strategies for updating knowledge, enhancing its psychological benefits, and improving accessibility to services.

Almutairi et al. (2018) studied a cross-sectional community survey design with 500 adult Saudi subjects interviewed in Riyadh City shopping malls between May and

July 2017. The questionnaire asked questions about the respondents' demographics, knowledge, attitudes, and practices around blood donation. Each participant knew much about the significance of blood donation and their blood group. Additionally, many respondents knew enough about the most popular location for blood donations, the unique characteristics of different blood types, and the risks associated with giving blood to an infected individual. Most of the participants were favorable toward voluntary blood donation. Regarding blood donation, 71% of respondents felt their KAP was sufficient, and there was a strong correlation between those with good KAP and younger age, male gender, and higher educational attainment. Many Saudi subjects had good KAPs, indicating a high frequency of blood donation and a positive attitude toward blood donation.

A cross-sectional study was conducted between March 01 and April 01, 2017, on the Assessment of Knowledge, Attitude, and Practice of Voluntary Blood Donation among Undergraduate Students in Awada Campus, Hawassa University, Southern Ethiopia, by Shamebo et al. (2020). A self-administered, structured, and standardized questionnaire was used to collect the data, and SPSS version 20.0 software was used for analysis. 237 (68.5%) and 109 (31.5%) of the 346 students who took part in the study were males. Of the respondents, 237 (59.8%) demonstrated a good understanding of common blood group types, whereas only 132 (38.14%) were aware of their blood group. Of those polled, 288 (83.4%) said they thought blood donation was a good idea, 7 (2.02%) said they did not know, and 51 (14.7%) said they did not know. Of the respondents, 295 (85.3%) had never donated blood before, and 51 (14.7%) had done so at some point. Though the practice of voluntary blood

donation was surprisingly low, many study participants (59.8%) had good knowledge, and more than half (83.4%) had a favorable attitude toward it. Thus, university students should know the importance of blood donation to reinforce the knowledge already in place.

Logambal and Bhavani (2018) conducted a study on adults' knowledge and attitudes toward blood donation. The study adopted a non-experimental descriptive survey research design. Five hundred participants were selected using convenience sampling methods. The study found that, regarding blood donation, the adults' knowledge and attitudes were both moderate. Knowledge and attitude showed a highly significant correlation with certain variables and a moderately positive correlation with one another. The study recommends that there should be a regularly scheduled awareness creation among the public to gain an in-depth insight into the importance of blood donation to save human lives.

A study by Samanta et al. (2021) regarding the perception and practice of blood donation among medical students in southern Rajasthan, India. The study adopted a cross-sectional study research design using a semi-structured questionnaire. The cross-sectional study was conducted in May-June 2021 using a pre-tested semi-structured questionnaire through Google Forms among 346 medical students representing first, second, and third year MBBS. The blood donation by students was significantly associated with sex, age, and phases of the MBBS curriculum ($p<0.05$). The mean attitude score of female students (6.90) was higher than male students (6.60). There was a significant correlation ($r = 0.371$) between students' overall

knowledge and attitude scores toward blood donation. The higher attitude of female students could not be transformed into the actual blood donation practice. The study recommends that special efforts be made to encourage medical students, in general, and female students, in particular, to donate blood.

2.4.3 Practice Towards Voluntary Blood Donation

A study was done by Adgoy et al. (2021) on a cross-sectional survey of knowledge, attitude, and practice of voluntary blood donation among nursing staff at Orotta National Referral Teaching Hospital Asmara, Eritrea. A total of 142 nurse staff were recruited. Structured questionnaires were used to collect data and analyze using SPSS version 22. The study findings discovered that few people practiced blood donation. This may be due to a poor level of knowledge among donors. There is a strong correlation between male gender and blood donation. However, it was discovered that there was no meaningful correlation between blood donation and age, education, or professional standing. As a result, the study suggests that the National Blood Bank, the Ministry of Health, and the Colleges of Health Sciences and Medicine develop policies and plans that encourage and motivate students and healthcare professionals to give blood and shift public opinion in favor of voluntary blood donation.

A study by Kalyani et al. (2020) on knowledge, attitude, and practice followed by Indian blood donors. Two hundred healthy individuals visiting the All-India Institute of Medical Sciences outpatient departments in Rishikesh participated in the cross-sectional descriptive study. Non-probability purposive sampling was employed in the

current investigation. Many donors were found to be male (66%) and between the ages of 18 and 27 (48.5%). Just 0.5% of respondents agreed with blood donation, indicating a disapproval of the practice. The majority (83%) had yet to experience blood donation and had lousy blood donation practices—the public's understanding of blood donation needed to be improved. Participants from the public abstained from giving blood and were vehemently opposed to it. We can close this knowledge, attitude, and practice gap by raising awareness of blood donation in the media, schools, and colleges.

Girma et al. (2021) did a study on assessing factors affecting willingness to make blood donations among the Hawassa town population in southern Ethiopia. The study found that 77.4 percent of the participants are willing to participate in blood donation in the future, and 22.9 percent of the population had a donation practice in the past. The most prominent factors that affected the participants' willingness to donate blood were unfit, fear of needle prick, and not being approached to donate (45.2%, 38.5%, and 11.7%, respectively). Most respondents (382 (60.3%) reported that a voluntary donor is the best source of protected blood. Desire to aid others and age of study.Participants' ages more than 25 years are significantly associated with increased willingness to donate blood.

Malako et al. (2019) carried out a cross-sectional study within an institution involving 218 healthcare workers at WSUTRH. The researchers used a self-administered survey to gather information on participants' sociodemographic traits and KAP levels. Logistic regression analyses, both bivariate and multivariate, were

performed using version 20 of the statistical package for social sciences to evaluate the variables related to blood donation with a p-value of less than 0.05 for statistical significance. The study included two hundred and eighteen healthcare professionals. Unfortunately, only 47 respondents or 21.6% of the total, reported having yet to donate blood at some point. The degree of practice was surprisingly low.

A cross-sectional study was conducted between March 01 and April 01, 2017, on the Assessment of Knowledge, Attitude, and Practice of Voluntary Blood Donation among Undergraduate Students in Awada Campus, Hawassa University, and Southern Ethiopia by Shamebo et al. (2020). A self-administered, structured, and standardized questionnaire was used to collect the data, and SPSS version 20.0 software was used for analysis. 237 (68.5%) and 109 (31.5%) of the 346 students who took part in the study were males. Of the respondents, 237 (59.8%) demonstrated a good understanding of common blood group types, whereas only 132 (38.14%) were aware of their blood group. Of those polled, 288 (83.4%) said they thought blood donation was a good idea, 7 (2.02%) said they did not know, and 51 (14.7%) said they did not know. Of the respondents, 295 (85.3%) had never donated blood before, and 51 (14.7%) had done so at some point. Though the practice of voluntary blood donation was surprisingly low, most study participants (59.8%) had good knowledge, and more than half (83.4%) had a favorable attitude toward it. Thus, university students should know the importance of blood donation to reinforce the knowledge already in place.

According to Csákvári et al. (2016), who assessed the blood donation patterns of undergraduates, discovered that 54% of respondents never donated blood, 17%

donated blood just once, and 28% donated blood regularly. The primary restriction to blood donation was fear of the procedure (needles, fainting, and infection), but the wish to donate included the desire to assist others and be recognized. Also, it was found that knowledge among donors was significantly better. The study concluded that more efforts in publicizing donation activity would increase voluntary blood donors. To encourage people to donate blood, it is strongly advised to highlight the importance that blood plays in helping people and saving lives, complimenting them on their donation, and assisting them in overcoming their fears. The study was done in Hungary; therefore, its conclusions could not be applied directly to Tanzania's circumstances, specifically Mwanza City. As a result, the study's scope and substance were constrained. Furthermore, the study did not take into trouble other factors that may contribute to blood donation, like knowledge, perceptions, and attitudes.

A cross-sectional study on undergraduate medical students' attitudes and knowledge about blood donation was carried out by Mohan et al. (2024). A baseline and end-line survey were conducted using a pre-structured, validated questionnaire that adopted a convenient sampling approach; 414 undergraduate students were recruited. The study's main result was that 45 students, or 10.9% of the total, had never given blood. This study demonstrates that medical students had bad practices toward voluntary blood donation, and the study suggests that building capacity and leadership in volunteers is considered the best approach for behavior change toward voluntary blood donation.

A study by Beyene (2020) examined adult Ethiopian blood donors' knowledge, attitudes, and practices. Four hundred twenty-one adult residents of Adama Town participated in a cross-sectional study. Data was gathered using a questionnaire, and SPSS version 25 was applied for data analysis. According to the findings, just 17% of the study participants had donated blood; 14.6% donated it as a replacement, and less than 2% donated it voluntarily. The results show that a higher level of blood donation needs to be performed. Therefore, raising awareness and changing attitudes about blood donation campaigns are crucial to increasing voluntary blood donation.

2.5 Research (knowledge) Gap

A cross-sectional study by Shamebo et al. (2020) assessed voluntary blood donation knowledge, attitudes, and practices among undergraduate students at Hawassa University in southern Ethiopia. The study found that voluntary blood donation practice was low, with 59.8% having good knowledge and 84.4% having a favorable attitude. The study had a contextual gap, as it was conducted among university students and in different geographical locations, unlike the current study assessing factors influencing voluntary blood donation among high school students in Mwanza City.

Elias et al.'s (2016) study of university students in Kilimanjaro, Tanzania, found that 55% of those who had donated blood had positive attitudes, and 88% would be willing to do so again. However, the study had a contextual gap due to its focus on the Kilimanjaro region and needed to be guided by a theory. The study aims to assess factors influencing voluntary blood donation among high school students in Mwanza City.

The study by Girma et al. (2021) revealed that 77.4% of the Hawassa town population in southern Ethiopia is willing to donate blood in the future, with 22.9% having a past donation practice. Factors affecting willingness include unfitness, needle prick fear, and not being approached. Most respondents believe voluntary donors are the best source of protected blood. The research was conducted using structured questionnaires and SPSS version 22. The study aims to address this geographical and methodological gap by assessing factors influencing voluntary blood donation among high school students in Mwanza City, using updated SPSS 25 for data analysis.

2.6 Conceptual Framework

A conceptual framework is a study tool that explains relationships between key concepts, variables, and factors (Kent et al., 2020). In this study, Figure 2.1 provides the conceptual framework, which is the researcher's position on the problem and directs the study. It provides the relationship between dependent, intermediate, and independent variables. The dependent variable is voluntary blood donation; the intermediate variables are knowledge dissemination and perceived norm, while the independent variables include knowledge level on voluntary blood donation, attitude on voluntary blood donation, and practice on voluntary blood donation. By examining these relationships, the study can provide insights into the factors influencing high school student's knowledge, attitudes, and practices toward voluntary blood donation in Mwanza City.

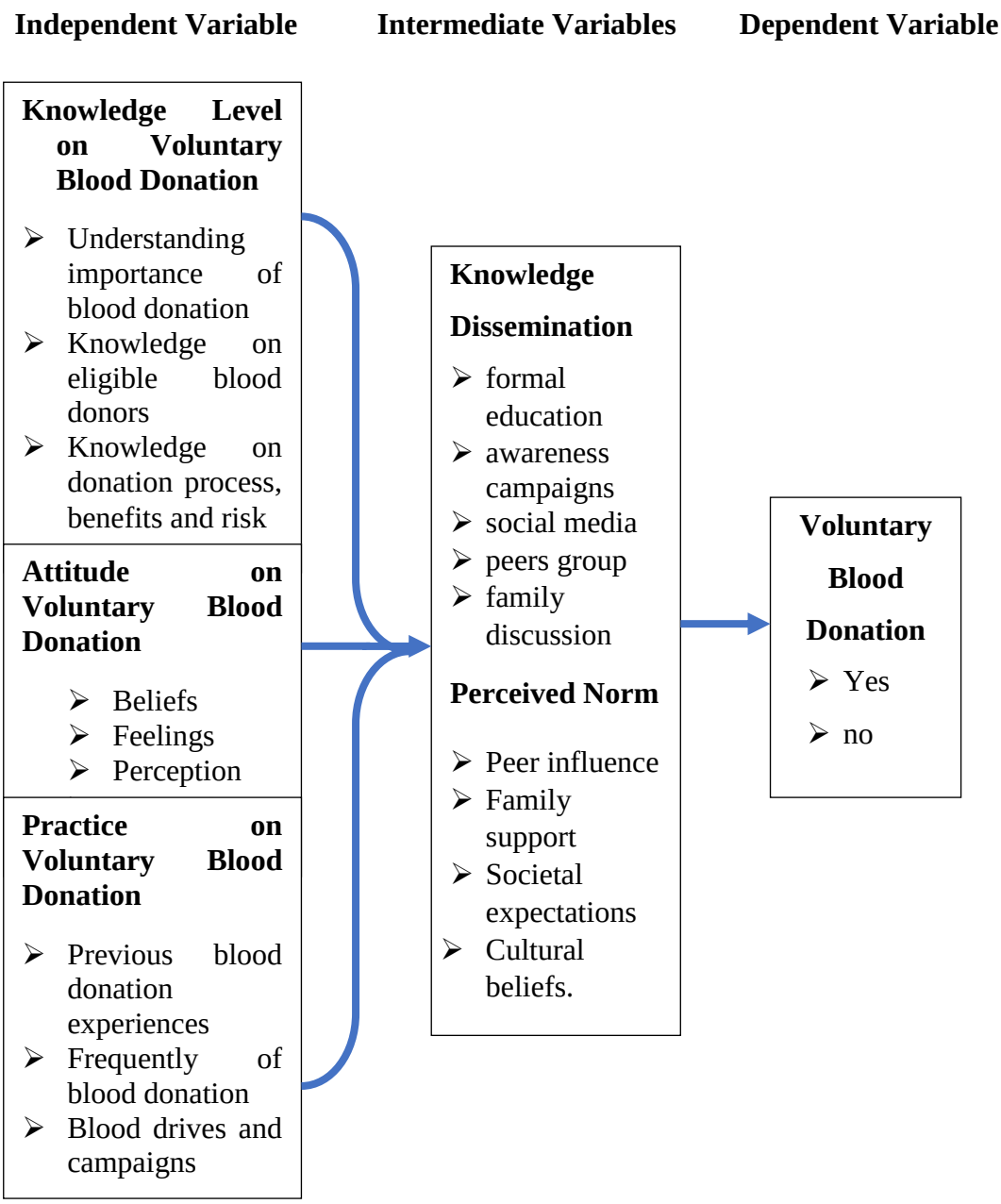


Figure 2.1: Conceptual Framework

Source: Researcher (2024)

CHAPTER THREE

RESERCH METHODOLOGY

3.1 Chapter Overview

This chapter covers research philosophy, research design, research approach, study area, study population, sample and sample size, data collection tools, data analysis, quantitative data reliability and validity, and research ethics concerning this study.

3.2 Research Philosophy

Research philosophy is a crucial aspect of any research project. It guides collecting, examining, and applying information about a phenomenon; it forms the basis for research design, methodology, and techniques (Padilla-Daz, 2015). This study used positivism to investigate the knowledge level, attitude, and practices influencing voluntary blood donation among high school students. The researcher decided to use positivism research philosophy because it considers the factual knowledge gained through existing bodies of knowledge and observation (Park et al., 2020). This philosophy focuses on reality. It asserts that the research challenge largely influences the choice of research philosophy (Kumar, 2019).

3.2.1 Research Design

The research design is a crucial aspect of the research process, providing a framework for gathering, evaluating, and interpreting data to answer research questions or verify theories (Leavy, 2022). It is considered valid when the conclusions are true or accurate (Akhtar et al., 2016). This study employed a descriptive research design to investigate the relationship between voluntary blood

donation factors and high school students. Descriptive studies are powerful tools for understanding specific populations or phenomena, providing a comprehensive and accurate picture of the characteristics and behaviors of a specific group or subject; as a result, this approach helps researchers gain a deeper understanding of the subject matter (Park et al., 2020).

3.2.2. Research Approach

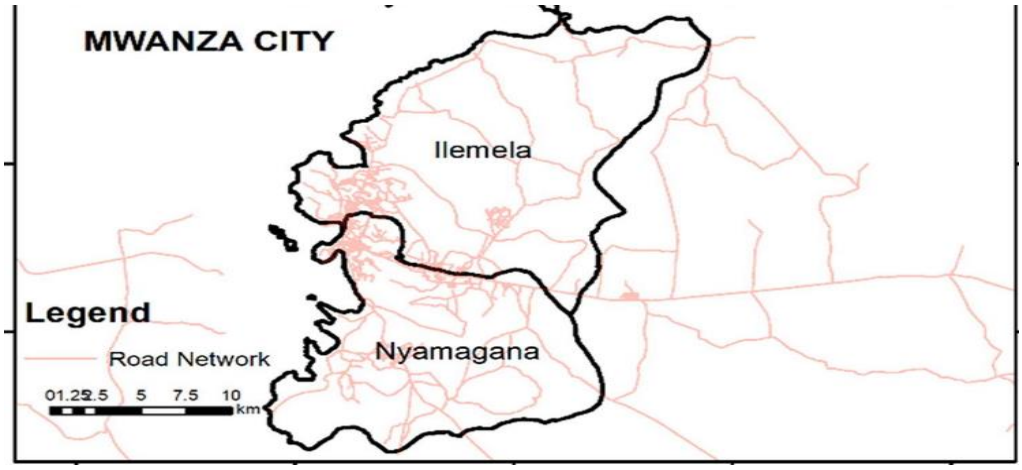
A research approach is a plan and procedure that consists of broad assumptions that focus on how social realities or phenomena can be studied (Kothari, 2019). It can either be a qualitative, quantitative, or mixed approach (Antwiet al., 2015). In this study, the researcher employed quantitative approach to address the problem and gather intensive information about it. A quantitative approach was used to collect numerical information (Kumar, 2019). This approach was chosen as it enables the researcher to measure the attitudes and orientations of larger populations (Kothari, 2019). In addition, quantitative research uses numerical data to test relationships between independent and dependent variables, emphasizing objectivity (Pandey & Pandey, 2015).

3.3 Study Area

The research was conducted in Mwanza City to fill a gap in the literature on factors influencing voluntary blood donation among high school students. The researcher decided to conduct research in Mwanza City because of the presence of the Lake Zone Blood Collection Centre, which serves six regions: Kagera region, Mara region, Simiyu region, Mwanza region, Geita region, and Shinyanga region (Sifueli

et al., 2023). Lake Zone Blood Collection Centre operates in many regions compared to the other blood collection centres, like Eastern Blood Collection Centres as well as Western Blood Collection Centres. So, understanding blood donation patterns among high schools in Mwanza city can help to increase the availability of safe blood to address critical blood needs.

Further, Mwanza City located on the southern shores of Lake Victoria in Tanzania, covers 1337 km2 and has undergone several administrative changes since its formation as a town council in 1953, a municipal council in 1980, and a city council in 2000 (Mwanza City Council Report, 2017). On October 1, 2012, the Mwanza City Council was divided into two entities under Local Government Act No. 7 of 1982, forming the new Mwanza City Council (Nyamagana) and the Ilemela Municipal Council (Mwanza City Council Report, 2017).



Source: (Mwanza City Council Report, 2017)

3.4 Study Population

Shukla (2020) defines the term "population" as the collection or grouping of all the units to which the research's conclusions are to be applied. According to reliable data

from the National Bureau of Statistics in Tanzania (2022), the population of Mwanza city was 1,104,521 in 2022. PO-RALG (2024) reported that, for the academic year 2023-2024, Mwanza city had 1553 male high school students enrolled in both form five and form six across four high schools: Pamba, Nsumba, Mkolani and Mwanza Secondary Schools as indicated in the Table 3.1 below.

Table 3.1: Population of male Students from Four Secondary Schools for the year 2023-2024

School Name	Number of male students
Pamba Secondary	406
Nsumba Secondary	853
Mkolani Secondary	60
Mwanza secondary	234
Total	**1,553**

Source: President's Office-Regional Administration and Local Government, (2024)

3.5 Sampling Procedures

The study applied purposive sampling techniques to select respondents to be included in the sample. The sampling frame (male high school students enrolled in both Form 5 and Form 6 across four high schools) was prepared. The selection of participants most relevant to the study subject was made possible by purposeful sampling. This focused strategy guarantees that the information gathered is rich and directly relevant to the goals of the research, producing conclusions that are more insightful and narrowly focused (Sarker et al., 2022).

3.5.1 Purposive Sampling

Purposive sampling is a collection of non-probability sampling methods where units are chosen based on characteristics that you need in your sample (Sarker et al.,

2022). The study applied purposive sampling techniques to select specific respondent qualities needed for investigation and those over 18 years old who are allowed to donate blood according to the blood donation rules.

3.5.2 Sample Size

A sample is a subset of individuals or things taken from a larger population for measurement (Charan et al., 2021). According to PO-RALG (2024) data, for the academic year 2023-2024, Mwanza City had 1553 male high school students enrolled in both Form 5 and Form 6 across four high schools: Pamba Secondary School, Nsumba Secondary School, Mkolani Secondary School, and Mwanza Secondary School. Yamane's formula was used to determine the sample size needed for a given population, and it is expressed as:

$$n=\frac{N}{1+Ne2}$$

Where:

n is the sample size.

N is the population size.

e= is probability of error

Now,

N = population of sample (1553).

n= size of the sample.

e= is probability of error (0.05).

Therefore; -

n =1553)/(1+1553×(0.05)2)

n= (1553)/(1+1553×(0.0025)

n= 1553)/(1+ 3.8825)

n = (1553)

4.8825

n = 318.075

now n≈318

Therefore, the study employed the sample size of 318 for a population of 1553 students with the probability of error of 0.05.

Table 3.2: Sample Size Distribution of Male Students from Four Secondary Schools

School Name	Number of students	Sample size
Pamba Secondary	406	83
Nsumba Secondary	853	175
Mkolani Secondary	60	12
Mwanza secondary	234	48
Total	**1,553**	**318**

Source: (Field data, 2024)

Note: The sample size from the figure above from each category was obtained by taking the population divided by the total population times the total sample size.

3.6 Population Inclusion and Exclusion

The study population included high school students from selected advanced secondary schools in Mwanza City. According to the 2015 Tanzania National Blood Transfusion Service (NBTS), the requirements for blood donation in Tanzania

include an age limit where the eligible age is between 18 and 65 years, a weight of 50 kg and above, and Female donors were excluded since they are deferred during pregnancy and lactation. However, also female they should be deferred for six months after lactation, abortion, or miscarriage to provide sufficient time to allow the recovery of iron stores. In the context of this study, the researcher included only male high school students because they meet weight requirement criteria and are free from other growth challenges that include pregnancy, lactation, and menstruation compared to female high school students and it is difficult to ask them to know who is legible or not.

3.7 Sources of Data

The study used data from primary sources. These are data that the researcher either directly obtains from the respondent to address the research question or gathers from the respondent for the first time to address the research issue (Mazhar et al., 2021). Primary data were gathered directly from the male high school students. Male high school students were the only ones the researcher included since they met the weight requirements and did not have any growth issues, such as pregnancy, breastfeeding, or menstruation, unlike female high school students, who are difficult to enquire about eligibility. The study used primary data because it is more reliable and accurate, comes from a direct source, and is easily updated (Taherdoost, 2021).

3.8 Data Collection Tools

Data collection tools are essential for researchers to gather information from participants or sources for analysis and interpretation; the choice of tools depends on

the research objectives, study nature, and data type (Taherdoost, 2021). One popular tool is questionnaires, which are organized instruments with questions and secure answers; questionnaires are used for statistical data collection and measuring facts, preferences, and behaviors (Ahmad et al., 2019). In this study, a questionnaire was used to collect data from the selected sample size of male students across four selected high schools in Mwanza City to assess factors influencing voluntary blood donation among high school students.

3.9 Validity and Reliability of Data Collection Instruments

This part presents the researcher's Reliability and validity of the data used in the study.

3.9.1 Validity

Validity is the accuracy of an instrument in measuring its intended purpose, ensuring the validity of research findings (Sürücü et al., 2020). Validity is trying to explain the truth of research findings. Ensuring that the study genuinely evaluates the construct or concept of interest is a crucial component of research design. To ensure validity the questionnaires were translated in Swahili in order for the respondents to be easily understand the questions. Also, in order to reduce the threat to content validity, the researcher consulted the supervisor, who also gave his opinions on the instrument to judge its appropriateness. In addition, the expert's opinions on voluntary blood donation were considered to confirm to the researcher that the content's depth and breadth are suitable for the study.

3.9.2 Reliability

Reliability is the consistency or stability of measurement, ensuring the validity and credibility of research findings; it involves internal consistency, which measures the correlation between items within a tool or questionnaire (Bragg et al., 2018). Data reliability must be guaranteed for research findings to be legitimate and credible. Reliability involves a measure of internal consistency. Internal consistency measures the degree to which items within a measurement tool or questionnaire correlate with each other. Standard measures of internal consistency include Cronbach's and Cronbach's Alpha for scales. Higher internal consistency indicates greater Reliability (Livingstone et al., 2018).

Cronbach's Alpha was used to determine the instrument's Reliability by establishing how the study variables relate. The Cronbach Alpha Values obtained for the four independent variables ranged from 0.835 to 0.896, meaning that they were above the critical value of 0.8, and hence all questions were retained in the study. Specifically, the average values for each variable were 0.878 for Knowledge Level on Voluntary Blood Donation, 0.896 for Attitude on Voluntary Blood Donation, and 0.835 for Practice on Voluntary Blood Donation, as shown in Table 3.3. According to the findings, all variables satisfied the Cronbach Alpha value requirement of more than 0.7, as Fraenkel and Wallen (2006) suggested, and were therefore considered for further analysis.

Table 3.3: Reliability Test

Variables	Number of items	Cronbach's Alpha (α)
Knowledge Level on Voluntary Blood Donation	10	0.878
Attitude	10	0.896
Practice on Voluntary Blood Donation	10	0.835

Source: (Field data, 2024)

3.10 Data Analysis and Presentation

Data analysis is the process of turning the collected data into insightful knowledge. Various methods in this process identify patterns and relationships and conclude to address the decision-making process (Taherdoost, 2020). The collected data was transformed, interpreted, and arranged during the crucial data analysis stage of the research process to obtain significant insights, make inferences, and respond to research questions. Quantitative data was collected using questionnaire tools and analyzed through statistical techniques. In the context of this study of the factors influencing voluntary blood donation among high school students, data was presented through tabulation, charts, and diagrams. Tabulation charts and diagrams help the researcher understand the relationships between variables since charts and diagrams have a quick visual impression (Hudson, 2015).

3.11 Ethical Consideration

Research ethics involves participant protection, rights, and integrity (Edwards, 2020). Adhering to ethical standards is essential for maintaining the trust of participants, the public, and the scientific community.

3.11.1University Clearance

In this study, the Open University Ethical Review Committee and the Mwanza administrative secretary were consulted for permission before collecting data. After giving their consent, each participant was thoroughly informed of the goals and purpose of the study.

3.11.2 Confidentiality

Confidentiality refers to the agreement between the researcher and participants about the handling, managing, and distributing of their personal identifiable information (Bani Issa et al., 2020). In this case, the researcher hid the information they had gathered from the respondent. The respondent's willingness to answer questions increases when the researcher and they reach an agreement regarding the confidentiality of their information, including not writing their names in the questionnaire before a question is asked. Even years after the study's final analysis, all data gathered from respondents will be kept secret.

3.11.3 Anonymity

Anonymity is crucial to data collection, ensuring participants' identities are kept private and secure (Kang et al., 2023). Anonymizing data is crucial for minimizing potential harm or risks to participants. Through this study, through statistical techniques or response pattern analysis, the researcher took precautions against any attempt to identify individuals indirectly. Participants' privacy was safeguarded, and the researcher's continued anonymity guaranteed their confidence in expressing their ideas and opinions without fear of consequences.

3.11.4 Participant Consent

Consent is a state of mind or will that indicates doing as requested or requesting what is desired (Katz et al., 2016). This study involved only high school boys aged 18 and above. The researchers provided comprehensive Information about the research purpose, procedures, potential risks, and benefits. Participants were given the freedom to ask questions and withdraw at any time to obtain their consent, and there was a consent form for the participants.

CHAPTER FOUR

FINDING PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Chapter Overview

This chapter presents and discusses the findings of the study. Through the lenses of social exchange theory, statistics on the factors that influence voluntary blood donation among high school students in Mwanza City are presented and interpreted. The findings were obtained based on primary data sources. Based on the study objectives and study questions the data results are shown and evaluated using frequency tables and percentages. According to social exchange theory, individuals make decisions based on perceived outcomes, such as the benefits of voluntary blood donation. Blood donation centers often offer incentives to enhance perceived rewards and offset costs (Cook et al., 2021).

4.2 Demographic Information

This section discusses how respondents from the study area participated in the study and explains their demographic characteristics, including gender, age, and religion.

4.2.1 Response Rate

In this study, 308 respondents from the sample of 318 completed and returned the questionnaires, yielding a response rate of 96.7%. This was consistent with researchers, among them Babbie (1990), who observed that a response rate of above 50% is adequate for analysis in descriptive research.

4.2.2 Demographic Information of the Study Respondents

The researcher required respondents to provide social-demographic data, which was

utilized to identify their sex, age, and religion. These data are related to their Awareness of voluntary blood donation and social exchange theory, as these data were needed to clearly identify sources of data for this study. Furthermore, this sort of data was crucial for analyzing and interpreting findings on the study's major variables. Table 4.1 summarizes the Information.

Table 4.1: Cross Tabulation of Association Between Participants' Socio demographic Characteristics Against Awareness on Voluntary Blood Donation (n=308)

Demographic characteristics		**Awareness of voluntary blood donation**		
		Aware (%)	Not aware (%)	Percent (%)
Age	18	16.6	18.1	34.7
	19	10.4	21.1	31.5
	20	6.5	18.5	25
	21	3.9	0	3.9
	22	1.6	3.2	4.9
Total		**39**	**61**	**100**
Sex	Male	39	61	100
Religion	Muslim	14.6	16.2	30.8
	Cristian	24	44.8	68.8
	Pagan	0.3	0	0.3
Total		**39**	**61**	**100**

Source: Field data (2024)

Findings revealed that most of the respondents (over 18.1%) who were in the 18-age group were not aware of voluntary blood donation, 21.1% in the age group of 19 years old were not aware of voluntary blood donation, 18.5% in the 20-age group were not aware of voluntary blood donation, 3.2% in the age group of 22 years old were not aware on voluntary blood donation. While only 3.9% of those in the age group of 21 were mindful of voluntary blood donation. These findings suggest that

most of the respondents, about 61% of high school students in Mwanza, were unaware of voluntary blood donation.

Surprisingly, the study revealed a significant difference in awareness levels among different religions. While 44.8% of Christians were not aware of voluntary blood donation, only 16.2% of Muslims were found to be in the same category. These results challenge the common perception and are quite different from those of Gader et al. (2019), who argued that voluntary blood donation is a religious obligation in Saudi Arabia.

The Social Exchange Theory underscores the crucial role of awareness in social exchanges, including voluntary blood donation. Understanding the advantages, procedures, and other elements that influence the choice to donate is key. As Kagoya, Gavamukulya, and Jonah (2024) found, students in Ugandan universities are more likely to volunteer for blood donation events because they are aware of and have positive attitudes toward volunteering. This knowledge can empower us to promote voluntary blood donation, as more than 50.4% of respondents in our survey indicated they have sufficient awareness about blood donation.

4.3 Knowledge Level among High School student's Towards Voluntary Blood Donation

The first objective was to investigate the knowledge level of high school students regarding voluntary blood donation in Mwanza City. The questionnaire was used to solicit this information. This part measured the knowledge and awareness of high school students on voluntary blood donation.

4.3.1 Awareness About Blood Group

The respondents were asked how aware they were of their blood group category. The findings revealed that most of the respondents, more than half (57.1%), said "no," meaning they were unaware of their blood group category. While 42.9% said "Yes," they somewhat know their blood group category.

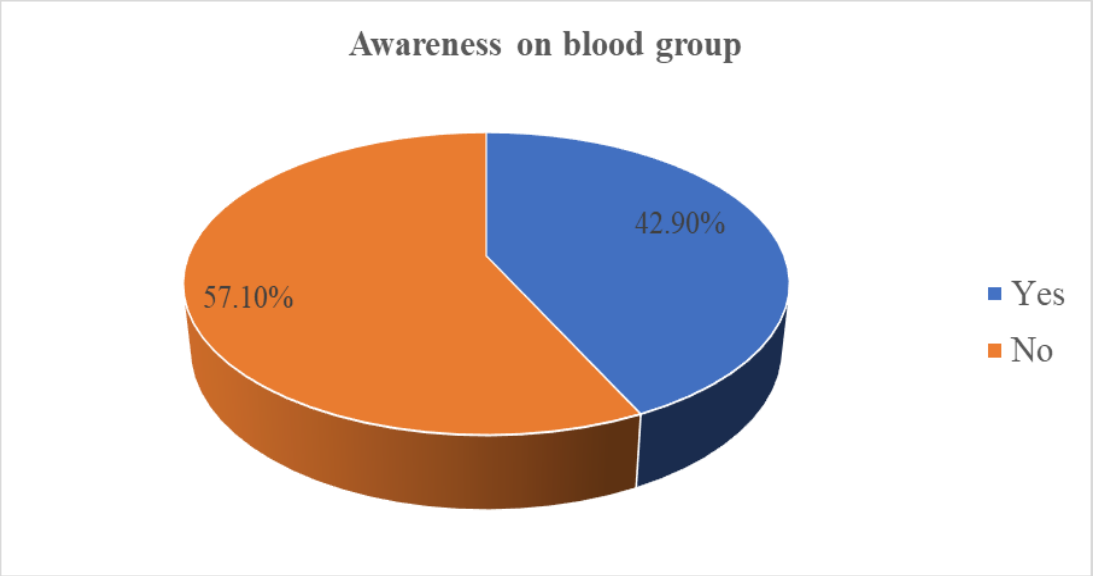


Figure 4.1: Awareness on Blood Group

Source: Field data (2024)

The results revealed that most of the respondents, more than half, needed to be made aware of their blood group category. This implies that many high school students in Mwanza City have never donated blood, and they had low knowledge about voluntary blood donation. These results are quite different from other studies on the African continent. The study by Elias et al. (2016) on voluntary blood donation among university students in Kilimanjaro, Tanzania, noted that 31% of the surveyed participants had never donated blood, while 55% had done so multiple times. This

indicates the need for more high school efforts to encourage students' voluntary participation in blood donation activities to help others. This is particularly significant in the context of social exchange theory by George Homans (1958), which assumes that the sharing of material or non-material things for nonprofits by two or more people is a powerful factor that can increase good social interaction and, in this case, promote blood donation.

4.3.2 Blood Group among High School Students

The respondents were asked to indicate their blood group. The findings revealed that most (over 57.1%) didn't know their blood group.

Table 4.2: Blood Group of Selected Respondents

Blood Group	Frequency	Percent
A POSITIVE	16	5.2
A NEGATIVE	0	0
B POSITIVE	10	3.2
B NEGATIVE	1	0.3
AB POSITIVE	10	3.2
AB NEGATIVE	6	1.9
0 POSITIVE	66	21.4
0 NEGATIVE	23	7.5
DO NOT KNOW	176	57.1
Total	**308**	**100.0**

Source: Field data (2024)

This implies that voluntary blood donation among secondary students is at a low average. While few of them about 21.4% and 7.5% were having 0 positive and O negative respectively. These findings contrast greatly with those of Diyab et al. (2018), who conducted a study on the Assessment of Blood Group Awareness among the Omani Population, and the finding revealed that most of the participants (95.2%)

were found to be familiar with their own blood groups. These contrasting findings highlight the need for further research on blood donation trends among secondary students.

The Social Exchange Theory highlights how crucial it is to be aware of the advantages, procedures, and other factors that majorly impact voluntary involvement in social exchanges like voluntary blood donation (Cook et al., 2021). According to Ciepiela et al. (2017), students at the Medical University of Warsaw engage in voluntary blood donation activities because they are aware of their blood groups, more than 86.8% of respondents to the research said they knew enough about their blood group, and they practice blood donation.

4.3.3 Source of Blood in Hospitals

The respondents were asked to indicate the source of blood in the hospital. The results revealed that most of the respondents, about 39%, said voluntary blood donation was the primary source of blood in the hospitals, followed by 38.9% who said they didn't know. While 15.6 respondents said self-donor means blood donated by patients' relatives, 5.2% said they replaced donors**.**

Table 4.3: Source of Blood

Statement	Frequency	Per cent
Voluntary Donor	120	39
Replacement Donors	16	5.2
Self-Donor	48	15.6
Don't Know	120	38.9
Remunerated Donor	4	1.3
Total	**308**	**100**

Source: Field data (2024)

Our study aimed to assess the knowledge of voluntary blood donation among high school students in Mwanza City. The findings revealed that most respondents (about 39%) identified voluntary blood donation as the main source of blood in hospitals. These findings are consistent with the work of Allain (2011), which also concluded that voluntary blood donation is the best source of blood in hospitals.

4.3.4 Ages of Eligibility for Blood Donation

The respondents were asked to indicate the ages of people eligible for blood donation. The findings are well shown in Figure 4.2. The findings revealed that most of the respondents, more than half (59.1%), said 18 years old and above are eligible for voluntary blood donation, followed by 37.3% who mentioned 18 to 65 years old. While few of them, about 3.2%, said 15% years old. These findings contrast significantly with the blood donation requirement of the 2015 Tanzania National Blood Transfusion Service (NBTS), where the criteria for blood donation in Tanzania include an age limit where the eligible age is between 18 and 65.

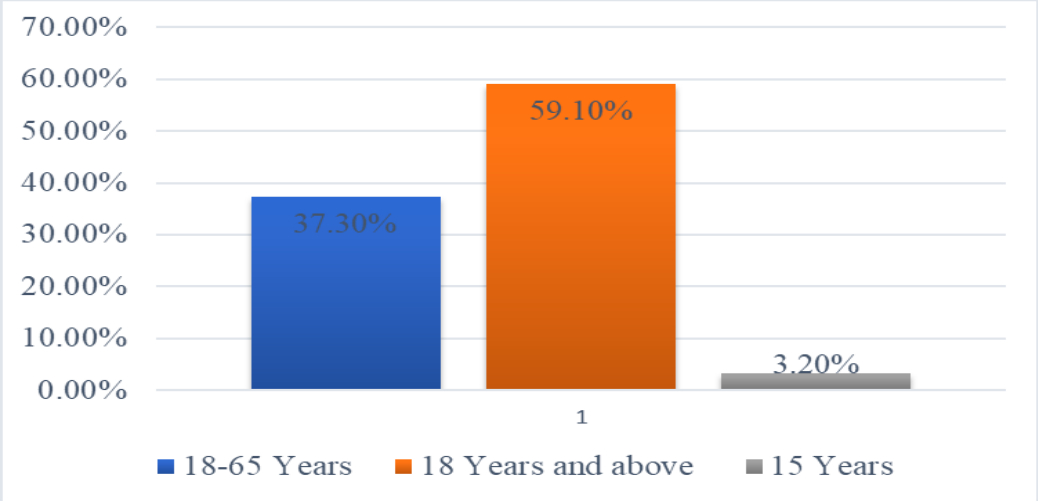


Figure 4.2: Ages of Eligibility for Blood Donation

Source: Field data (2024)

4.3.5 Minimum Weight for the Eligible Blood Donor

The respondents were asked to indicate the minimum weight required for the eligible blood donor. The findings are well shown in Figure 4.3. The findings revealed that most of the respondents, more than half (76%), said 50 kg and above are eligible for voluntary blood donation. At the same time, 16.2% of the respondents mentioned 30kg, and 7.8% mentioned 60 kilograms. These findings align with the blood donation requirement of the 2015 Tanzania National Blood Transfusion Service (NBTS), where the criteria for blood donation in Tanzania include that a person must weigh 50 kg and above.

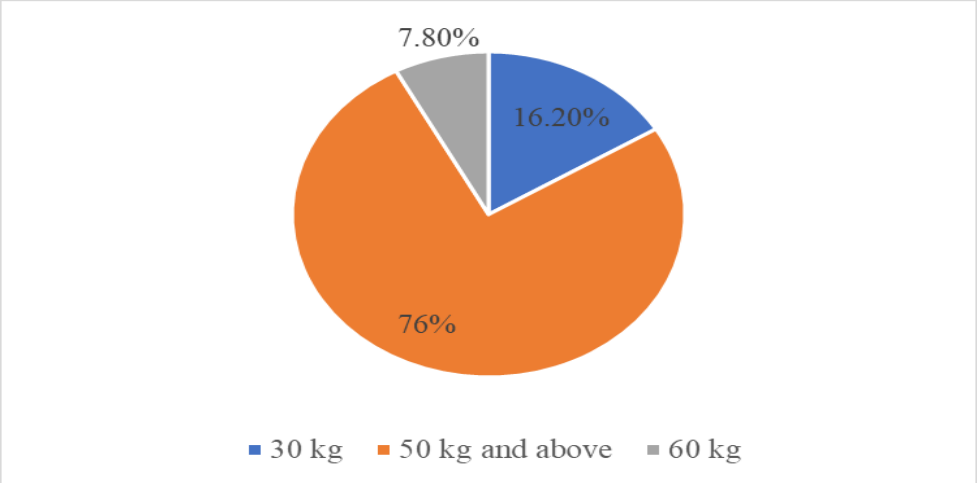


Figure 4.3: Minimum Weight for the Eligible Blood Donor

Source: Field data (2024)

4.3.6 Perception on Something Harmful Happen to a Blood Donor

The respondents were asked how they perceived that blood donors may experience something harmful after blood donation. The results from Figure 4.4 indicate that most of the respondents (68.2%) said yes to this statement, meaning that the majority of the people in the community have the notion that if you donate blood, you may experience something harmful in your body.

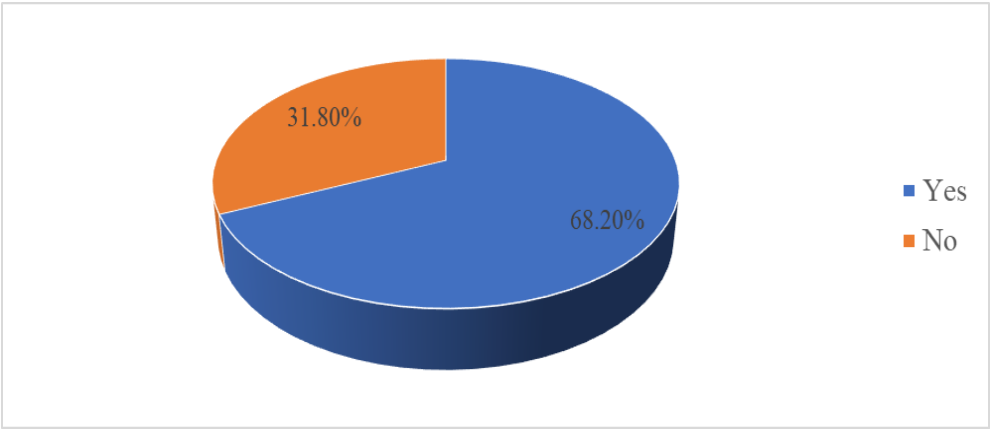


Figure 4.4: Perception of People After Blood Donation

Source: Field data (2024)

4.3.7 Situations Happening to a Blood Donor During or After Donation.

The respondents were asked to indicate the situations that happened to the blood donors during or after the blood donation. The findings are well shown in Table 4.4. The findings revealed that most of the respondents, more than half (7,5%), said they experienced temporary weakness after voluntary blood donation, followed by 17.9% who said that they felt normal, 4.2% contracted an infection, and 2.9% who mentioned falling sick.

Table 4.4: Situations Happening During or After Blood Donation.

Statement	Frequency	Per cent
Temporary weakness	231	75
contract infection	13	4.2
Fall sick	9	2.9
Being normal	55	17.9
Total	**308**	**100**

Source: Field data (2024)

4.4 Attitude of High School Students Towards Voluntary Blood Donation

The second objective study aimed to examine the attitude of high school students toward voluntary blood donation. The attitude of blood donation was measured by beliefs, feelings, and perception, where participants were asked to state whether the attitude of high school students influences blood donation. As presented in Table 4.5, most students (over 82.5%) stated that they are ready to donate blood in the future. In addition, more than half of high school students (60.7%) said blood donation is suitable. The participants also stated other attitudes and perceptions of high school students towards voluntary blood donation, such as those who believe donating blood takes too much time (27.3%), donating blood is too much of an inconvenience (24.4%), and blood donation reduces the immunity of the blood donor (10.7%).

Table 4.5: Attitude of High School Students Towards Voluntary Blood Donation

Statement		Frequency (%)	
		Yes	No
Valid	What do you think about donating blood? It is good	60.7	39.3
	I believe donating blood takes too much time.	27.3	72.7
	I believe donating blood is too much of an inconvenience.	24.4	75.6
	Do you think that blood donation reduces the immunity of the blood donor	10.7	89.3
	Are you ready to donate blood in the future	82.5	17.5
	Average	**41.1**	**58.9**

Source: Field data (2024)

4.5 Practices of High School Students Towards Voluntary Blood Donation

The third objective of this study is to scrutinize blood donation practices among high school students in Mwanza City regarding blood donation. Blood donation practices were measured by previous blood donation experiences, frequent blood donation, and blood drives, and campaigns were asked among high school students to state whether. As presented in Table 4.6, most students (over 84.1%) said that if appropriate, they may donate in the future, followed by 69.8% of the respondents who stated they donate blood voluntarily. In addition, most high school students, more than half (61.0%), said they donate blood when asked to do so, (77.5%) said they have never donated blood, (27.3%) said they have donated blood only once in a life, (22.4%) said they donated blood many times, (17.9%) said they never donate blood except when there is payment.

Table 4.6: Practices of High School Students Towards Voluntary Blood Donation

Statement		Frequency (%)	
		Yes	**No**
Valid	I donate blood voluntary.	69.8	30.2
	I donate blood when asked to do so.	61.0	39.0
	I never donate blood except when there is payment.	17.9	82.1
	I have never donated blood.	77.5	22.5
	I have donated blood only once in my life.	27.3	72.7
	I donate blood many times.	22.4	77.6
	I f appropriate, I may donate in future.	84.1	15.9
	Average	**48.7**	**48.6**

Source: Field data (2024)

4.6 Discussion of Findings

4.6.1 Knowledge Level among High School Students Towards Voluntary Blood Donation

The results revealed that most of the respondents, more than half, were not aware of their blood group category; the respondents were asked to indicate their blood group, but the findings revealed that the majority of the respondents (over 57.1%) said they do not know their blood group. The respondents were also asked how they perceived that those blood donors might experience something harmful after blood donation. The result revealed that the majority of the respondents (68.2%) said yes to the statement, meaning that the majority of the people in the community have the notion that if you donate blood, you may experience something harmful in your body. These results are different from other studies on the African continent. The study by Elias et al. (2016) on voluntary blood donation among university students in Kilimanjaro,

Tanzania, noted that 31% of the surveyed participants had never donated blood, while 55% had done so multiple times. This indicates the need for more effort in high schools to encourage students to volunteer in blood donation activities to help others. This is in line with the social exchange theory by George Homans (1958), which assumes that sharing material or non-material things for nonprofits by two or more people increases good social interaction.

In addition, two studies in Ethiopia by Misganaw et al. (2014) and Devi et al. (2012) reported that 5 to 23% of the students at two different universities have ever donated blood. While in Nigeria, Salaudeen & Odeh (2011) noted that the proportion was 15%. However, this proportion of blood donation is low compared to the results from university students in Nepal (43%) and the USA (56%), respectively. The difference between our setting and the latter proportions might be that blood donation activities in the country are highly dependent on secondary schools due to the ease of organizing logistics. This implies that the healthcare experts from the blood donation department should encourage awareness among secondary school students to be willing to participate in voluntary blood donation campaigns. According to Cook et al. (2021), accurate and significant awareness of voluntary blood donation's safety and importance increases its perceived value as a beneficial social exchange. Campaigns can improve high school students' understanding and foster a positive environment for blood donation-related social exchanges.

The Social Exchange Theory emphasizes the importance of knowledge in social exchanges such as voluntary blood donation by knowing the benefits, processes, and

other aspects that significantly influence voluntary participation (Cook et al., 2021). Kagoya, Gavamukulya, and Jonah (2024) argued that good knowledge and positive perceptions towards voluntary typically make blood students in Ugandan universities willing to participate in voluntary blood donation activities. The study revealed that over 50.4% had enough knowledge about blood donation.

4.6.2 Attitude of High School Students Towards Voluntary Blood Donation

In terms of attitude among the high school students toward voluntary blood donation, most students, more than third quarters (over 82.5%), said that they are ready to donate blood in the future. In addition, more than half of high school students (60.7%) said blood donation is suitable. While few of them, less than half (27.3%) believe that blood donation takes too much time, and (10.7%) of the high school students said it reduces the immunity of the blood donor. These results imply that most high school students in Mwanza City had a positive attitude toward voluntary blood donations.

According to the social exchange theory, individuals' attitudes and beliefs sometimes hinder the exchange of materials and resources with the community, including voluntary blood donations. Davlembayeva and Alamnos (2023) argued that social interaction acts as reinforcement, shaping future behaviors of the people in the community to have positive attitudes and willingness to participate in voluntary blood donation activities.

These results are relevant to those of Elias et al. (2016) in their study on voluntary blood donation among university students in Kilimanjaro, Tanzania. Most

respondents had positive attitudes toward blood donation, and more than a third quarter (88%) stated that they were willing to participate in it in the future. This highly positive attitude may be due to the methods of participants that were selected based on volunteerism, which is like the ones done by Sabu et al. (2011), whereby in Ethiopia, participants were selected based on checklist random sampling.

In addition, two studies in Ethiopia by Misganaw et al. (2014) and Devi et al. (2012) reported that 5 to 23% of the students at two different universities have ever donated blood. While in Nigeria, Salaudeen & Odeh (2011) noted that the proportion was 15%. However, this proportion of blood donation is low compared to the results from university students in Nepal (43%) and the USA (56%), respectively. The difference from our setting with the latter proportions might be that blood donation activities in the country are highly dependent on secondary schools due to the ease of organizing logistics.

However, sometimes voluntary blood donation campaigns are hindered by negative attitudes and some misconceptions. According to a study by Baig et al. (2019), knowledge, misconceptions, and motivators towards blood donation among university students in Kenya are among the limitations of voluntary blood donation in the community. Similarly, in Brazil, Martinez et al. (2019) argued that some religious people in the community have negative attitudes toward blood donation. Some people in the community have higher intrinsic religiousness and do not allow them to donate blood regularly; they donate only once or not at all.

4.6.3 Practices of High School Students Towards Voluntary Blood Donation

In terms of the practices of high school students towards voluntary blood donation. Few respondents (17.9%) mentioned that they had never donated blood except when there was payment. In comparison, most students (over 84.1%) who had never donated blood said they were willing to donate in the future. These findings are aligned with other studies like that of Sabu et al. (2017) on knowledge, attitude, and practice of blood donation among health science students on a university campus in South India, who pointed out that most of the respondents are willing to participate in voluntary blood donation programs. Therefore, the National Blood Transfusion Services (NTBS) in Tanzania should use this opportunity to develop tailored strategies to target this group and increase their proportion of voluntary blood donations. The Social Exchange Theory assumes that rewards such as payments play a significant role in social interactions, including individual voluntary community activities.

The main activity that needs be prioritized is to increase information and education messages to high school students and packages with simple and short messages to address knowledge gaps identified in this study. Many (more than a third) of those who had never donated Devi et al. (2018) cited a lack of education on blood donation as a key reason for not donating blood. Similar findings have been reported in studies conducted in the USA, India, Pakistan, Iran, Ethiopia, and Nigeria, where in those studies, it was also found that many students did not donate blood because of a lack of knowledge. Other students reported that they have never been asked to donate blood, which is why they have never donated, like observations in Pakistan and

Nigeria (Mohammad et al., 2011; Nwogoh et al., 2019). Maintaining an adequate and safe blood supply is crucial among health planners to save lives and avert morbidity. Therefore, different models of delivering information to this group of young people who are vital and potential blood donors in the country should be developed.

A willingness to donate to a relative or anyone without expecting financial rewards was a factor significantly associated with an increased chance of blood donation. A study conducted in Serbia among medical students showed that those willing to donate blood to anyone had higher odds of donating blood (Gazibara et al., 2016). This type of altruistic behavior needs to be cultivated as it has been shown to influence voluntary blood donation and retention of blood donors (Csákvári et al., 2016)). This was contrary to the results observed in Pakistan, where 58% of the students had a negative attitude toward blood donation (Mohammad et al., 2018).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Chapter Overview

This chapter provides a description of factors influencing voluntary blood donation among high school students in Mwanza City based on specific objectives, which are to investigate high school students' knowledge of voluntary blood donation in Mwanza City, to examine the attitude of high school students towards voluntary blood donation in Mwanza City, and to examine blood donation practices among high school students in Mwanza City towards blood donation. It also suggests recommendations for research on improvements and areas for further improvement.

5.2 Summary of the Key Findings

The study aimed to examine factors influencing voluntary blood donation among high school students in Mwanza City. Specifically, the study investigated knowledge level and attitude and scrutinized practices among high school students toward voluntary blood donation in Mwanza City. This study employed a descriptive research design together with a quantitative approach. The target population in this study was high school students from selected secondary schools in Mwanza City. 318 was chosen as the sample size; however, only 308 effectively participated in the study during data collection. Questionnaires were used to collect data from the field. The descriptive analysis method was used to analyze the data collected. The Statistical Package of Social Sciences (SPSS) (version 25.0) tool was used as the data analysis tool. The summary of the findings is as follows:

5.2.1 Knowledge Level Among High School Students Towards Voluntary Blood Donation

For the first objective regarding knowledge level among the high school students on voluntary blood donation, the study's findings revealed that most of the respondents, more than half (over 57.1%), needed to be made aware of their blood group category. Also, the results revealed that most of the respondents, about 39%, said voluntary blood donation was the primary source of blood in the hospitals. For the age group eligible for blood donors, the findings revealed most of the respondents mentioned 18 years old and above as the most recommended age for voluntary blood donation, which is not valid. Also, regarding the perception of high school students regarding blood donation, most of them said that after blood donation, they may experience something harmful. These results indicate that most high school students have a low knowledge level of voluntary blood donation.

5.2.2 Attitude of High School Students Towards Voluntary Blood Donation

For the second objective regarding attitude among the high school students on voluntary blood donation, the majority of the respondents, more than third quarters (over 82.5%), said that they are ready to donate blood in the future. Also, more than half of high school students (60.7%) said blood donation suits them. While few of them (27.3%) believe that blood donation takes too much time, and (10.7%) of the high school students said voluntary blood donation reduces the immunity of the blood donor. These results indicate that most high school students in Mwanza City had a positive attitude toward voluntary blood donation.

5.2.3 Practices of High School Students Toward Voluntary Blood Donation

The third objective concerns the practices of high school students regarding voluntary blood donation. A few respondents (17.9%) mentioned that they had never donated blood except when there was payment; while most students (over 84.1%) who had never donated blood said they were willing to do so in the future. Therefore, the National Blood Transfusion Services (NTBS) in Tanzania should use this opportunity to develop tailored strategies to target this group and increase their voluntary blood donation proportion.

5.3 Conclusions

The study revealed that almost one-third of the high school students in Mwanza City had donated blood, and most of them were willing to donate in the future. High awareness of blood donation and a positive attitude should be taken as an opportunity to give these young and potential blood donors correct information on the process of blood donation and on the frequency of blood donation, as well as the knowledge on the value of blood in saving lives. Different models should be developed, piloted, and tested in the high school community, and people should be encouraged to donate blood voluntarily and regularly to achieve a sustainable voluntary (non-remunerated and regular) blood donor panel for low-risk populations by 2025. Finally, female-tailored education messages should be developed to encourage more female students to donate blood in high school settings.

5.4 Recommendations

The findings pointed out that the majority of the surveyed high school students were not aware of their blood group category meaning that they have never engaging in

voluntary blood donation activities. Therefore, periodic awareness programs for voluntary blood donation are also needed, even among health workers, to motivate people so they can donate blood. Moreover, the Tanzania National Blood Transfusion Service (NBTS) should also come up with some gifts and other incentives that will motivate high school students to accept voluntary blood donations. Other incentives proposed included public recognition for blood donors and preferential treatment at healthcare facilities. Finally, to improve voluntary blood donations, the responsible institution should bring donation centers near the high school location.

Furthermore, during the survey some of the respondents said that blood donation takes too much time and others said that they had never donated blood except when they have been paid. Therefore, more efforts need to be made to sensitize and improve knowledge about the incentives of voluntary blood donations to clear misunderstandings and misconceptions and, hence, improve the practice of voluntary blood donations. In addition, regions with higher voluntary blood donation rates need to employ more strategies so that regions with moderate and lower voluntary donation rates can use them to improve and reach their blood demand collection targets, especially in high schools and higher learning institutions. Mass media and social media platforms can provide educational and motivational messages.

5.5 Limitations of the Study

The study was successfully done but with a few limitations, such as some respondents were reluctant to give information concerning the study for fear of

spoiling their personalities that they thought could be leaked to other students; however, the researcher assured the respondents that the information given was only for academic purposes and not otherwise. By then, the researcher confirmed this by giving an introduction letter from the open university of Tanzania, ensuring that the study was purposely for academic purposes. This enabled the respondents to react positively to the study.

5.6 Areas for Further Study

This study assessed factors influencing voluntary blood donation among Mwanza City, Tanzania, high school students. Since this study was done in high schools, other studies on the related topic should be done in the community or involving public organization employees. In addition, the study employed only primary data, a survey questionnaire, as the data collection tool. Other studies should include other data collection instruments, like interviews and other secondary data.

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APPENDICES

Appendix 1: *Work Plan*

	Years & Months													
	2023		2024											
ACTIVITY	**N**	**D**	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**
Proposal writing														
Data collection														
Data processing and analysis														
Report writing, presentation of the first draft. Working on the expected corrections, and final submission.														

Appendix 02: English Version Questionnaires

Part One: Demographic Data.

1. Age…… years

2. Sex …….

3. Religion…….

4. Address……

Part Two: Knowledge about Voluntary Blood Donation

Please tick on the appropriate box based on your correct answer.

1. Do you know about blood group? Yes……. No…….

2. What is your blood group?

a) A positive [ ]

b) A negative [ ]

c) B positive [ ]

c) B negative [ ]

d) AB positive [ ]

e) AB negative [ ]

f) O positive [ ]

g) O negative [ ]

h) Do not know [ ]

3. What do you think is the best source of blood?

a) Voluntary donor [ ]

b) Replacement donor [ ]

c) Self-donor [ ]

d) Do not know [ ]

e) Remunerated donor [ ]

4. Can blood be artificially manufactured?

a). Yes [ ]

b). No [ ]

5. What are the ages of eligibility for blood donation?

a) 18-65years [ ]

b) 18 years and above [ ]

c) at 15 years [ ]

6. The minimum weight for the eligible blood donor is?

a) 30kg [ ]

b) 50kg and above [ ]

c) 60kg [ ]

7. Can something harmful happen to a blood donor?

a) Yes [ ]

b) No [ ]

8. What can happen to a blood donor during or after donation?

a) Temporary Weakness [ ]

b) Contract Infection [ ]

c) Fall Sick [ ]

d) Being normal [ ]

Part Three: Attitude on Voluntary Blood Donation

Please tick on the appropriate box based on your correct answer.

1. What do you think about blood donation? It is good? Yes [ ] No [ ]

2. I believe donating blood takes too much time. Yes [ ] No [ ]

3. I believe donating blood is too much of an inconvenience. Yes [ ] No [ ]

4. Do you think that blood donation reduces the immunity of the blood donor? Yes [ ] No [ ]

5. Are you ready to donate blood in the future? Yes [ ] No [ ]

Part Four: Practice on Voluntary Blood Donation

Please tick on the appropriate box based on your correct answer.

1. I donate blood voluntary. Yes [ ] No [ ]

2. I donate blood when asked to do so. Yes [ ] No [ ]

3. I never donate blood except when there is payment. Yes [ ] No [ ]

4. I have never donated blood. Yes [ ] No [ ]

5. I have donated blood only once in my life. Yes [ ] No [ ]

6. I donate blood many times. Yes [ ] No [ ]

7. I f appropriate, I may donate in future. Yes [ ] No [ ]

Part Five: Knowledge, Attitude and Practice on Voluntary Blood Donation

Please tick on the appropriate box based on your correct answer.

1. Better knowledge about blood donation encourages voluntary blood donation. Yes [ ] No [ ]

2. Individual who have better knowledge about voluntary blood donation influence blood donation. Yes [ ] No [ ]

3. A positive attitude towards voluntary blood donation encourages more blood donation. Yes [ ] No [ ]

4. Negative beliefs about voluntary blood donation affect more blood donation.

Yes [ ] No [ ]

5. I donate blood voluntarily because it is important to save other people's lives.

Yes [ ] No [ ]

THANKS FOR PARTICIPATING

Appendices 03:

Swahili Version Questionnaires

HOJAJI

Sehemu ya Kwanza:

Takwimu za Idadi ya Watu.

1. Umri …… miaka

2. Jinsia …….

3. Dini…….

4. Anwani……

Sehemu ya Pili:

Maarifa kuhusu Uchangiaji wa Damu kwa Hiari

1. Je, unajua kuhusu kundi la damu? Ndiyo……. Hapana…….

2. Kundi lako la damu ni lipi?

   a) A chanya [ ]

   b) A hasi [ ]

   c) B chanya [ ]

   c) B hasi [ ]

   d) AB chanya [ ]

   e) AB hasi [ ]

   f) O chanya [ ]

   g) O hasi [ ]

   h) Sijui [ ]

3. Unafikiri ni chanzo gani bora cha damu?

a) Mchangiaji damu wa hiari [ ]

b) Mchangiaji damu mbadala [ ]

c) Mchangiaji damu binafsi [ ]

d) Sijui [ ]

e) Mchangiaji damu anayelipwa [ ]

4. Je, damu inaweza kutengenezwa kienyeji?

a). Ndiyo [ ]

b). Hapana [ ]

5. Ni umri gani wa kustahiki uchangiaji wa damu

a) Miaka 18 mpaka Miaka 65 [ ]

b) Miaka 18 na zaidi [ ]

c) Miaka 15 [ ]

6. Uzito wa chini kwa mtoaji damu anayestahiki ni?

a) 30kg [ ]

b) 50kg na zaidi [ ]

c) 60kg [ ]

7. Je, kitu chenye madhara kinaweza kutokea kwa mchangiaji wa damu?

a) Ndiyo [ ]

b) Hapana [ ]

8. Ni nini kinachoweza kutokea kwa mchangiaji damu wakati au baada ya mchangiaji?

a) Udhaifu wa Muda [ ]

b) Maambukizi ya Mkataba [ ]

c) Kuugua [ ]

d) Kuwa kawaida [ ]

Sehemu ya Tatu: Mtazamo Juu ya Uchangiaji wa Damu kwa Hiari

Tafadhali weka Alama ya Tiki kwenye Jibu Sahihi

1. Una maoni gani kuhusu mchangiaji wa damu? Je, ni nzuri? Ndiyo [ ] Hapana [ ]

2. Ninaamini kuchangia damu huchukua muda mwingi. Ndiyo [ ] Hapana [ ]

3. Ninaamini kuchangia damu ni usumbufu mkubwa sana. Ndiyo [ ] Hapana [ ]

4. Unafikiri kwamba mchango wa damu hupunguza kinga ya mchangiaji wa damu. Ndiyo [ ] Hapana [ ]

5. Uko tayari kuchangia damu katika siku zijazo. Ndiyo [ ] Hapana [ ]

Sehemu ya Nne: Mazoea Kuhusu Uchangiaji wa Damu kwa Hiari

Tafadhali weka Alama ya Tiki kwenye Jibu Sahihi

1. ninachangia damu kwa hiari. Ndiyo [ ] Hapana [ ]

2. Huwa ninatoa damu ninapoombwa kufanya hivyo. Ndiyo [ ] Hapana [ ]

3. Sitoi damu isipokuwa wakati kuna malipo. Ndiyo [ ] Hapana [ ]

4. Sijawahi kutoa damu. Ndiyo [ ] Hapana [ ]

5. Nimeshawahi kutoa damu mara moja tu. Ndiyo [ ] Hapana [ ]

6. Ninachangia damu mara nyingi. Ndiyo [ ] Hapana [ ]

7. Ikiwezekana, ninaweza kuchangia damu katika siku zijazo. Ndiyo [ ] Hapana [ ]

Sehemu ya Tano: Maarifa, mtazamo na Mazoea juu ya Uchangiaji wa Damu kwa Hiari

Tafadhali weka Alama ya Tiki kwenye Jibu Sahihi

1. Maarifa bora juu ya uchangiaji damu hushawishi utoaji wa damu kwa hiari. Ndiyo [ ] Hapana [ ]

2. Watu ambao wana maarifa bora juu ya faida za damu kwa hiari huchangia mara kwa mara. Ndiyo [ ] Hapana [ ]

3. Mtazamo mzuri juu ya uchangiaji damu wa hiari hushawishi uchangiaji wa damu kwa hiari. Ndiyo [ ] Hapana [ ]

4. Imani duni kuhusu uchangiaji damu wa hiarii huathiri mchango wa damu. Ndiyo [ ] Hapana [ ]

5. Ninachangia damu kwa hiari kwa sababu ni muhimu kuokoa maisha ya watu wengine. Ndiyo [ ] Hapana [ ]

ASANTE KWA KUSHIRIKI

Appendices 04: English Version Participant Consent Form

PARTICIPANT CONSENT FORM

This is agreement form between respondent and the researcher

RESEARCH TITLE:

ASSESSING FACTORS INFLUENCING VOLUNTARY BLOOD DONATION AMONG HIGH SCHOOL STUDENTS IN TANZANIA. A CASE OF SELECTED SCHOOLS IN MWANZA CITY

1. I, voluntarily agree to participate in this research study.
2. I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
3. I understand that I can withdraw permission to use data from my responses within two weeks after reply.
4. I understand that I will not benefit directly from participating in this research.
5. I understand that all information I provide for this study will be treated confidentially.
6. I understand that in any report on the results of this research my identity will remain anonymous. This will be done by changing my name and disguising any details which may reveal my identity or the identity of people I speak about.
7. I understand that under freedom of information legalization, I am entitled to access the information I have provided at any time while it is in storage as specified above.
8. I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Signature of research participant

---------- ----------

Signature of participant Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

---------- ----------

Signature of researcher Date

Appendices 05: Swahili Version Participant Consent Form

FOMU YA RIDHAA YA MSHIRIKI

Hii ni aina ya makubaliano kati ya mhojiwa na mtafiti

Kichwa cha Habari cha Utafiti:

Kutathmini mambo yanayoathiri uchangiaji wa damu kwa hiari miongoni mwa wanafunzi wa shule za upili nchini Tanzania. Kesi ya shule zilizochaguliwa katika jiji la Mwanza.

1. Ninakubali kwa hiari yangu kushiriki katika utafiti huu.

2. Ninaelewa kuwa hata nikikubali kushiriki sasa, ninaweza kujiondoa wakati wowote au kukataa kujibu swali lolote bila matokeo ya aina yoyote.

3. Ninaelewa kuwa ninaweza kuondoa ruhusa ya kutumia takwimu kutoka kwa majibu yangu ndani ya wiki mbili baada ya kujibu.

4. Ninaelewa kuwa sitafaidika moja kwa moja kwa kushiriki katika utafiti huu.

5. Ninaelewa kuwa taarifa zote nitakazotoa kwa ajili ya utafiti huu zitashughulikiwa kwa usiri.

6. Ninaelewa kuwa katika ripoti yoyote kuhusu matokeo ya utafiti huu utambulisho wangu hautajulikana. Hili litafanywa kwa kubadilisha jina langu na kuficha maelezo yoyote ambayo yanaweza kufichua utambulisho wangu au utambulisho wa watu ninaowazungumzia.

7. Ninaelewa kuwa chini ya uhuru wa kuhalalisha habari, nina haki ya kufikia maelezo ambayo nimetoa wakati wowote yakiwa katika hifadhi kama ilivyobainishwa hapo juu.

8. Ninaelewa kuwa niko huru kuwasiliana na yeyote kati ya watu wanaohusika katika utafiti ili kupata ufafanuzi na maelezo zaidi.

Mshiriki

…… ……

Saini ya mshiriki wa utafiti Tarehe

Mtafiti

Ninaamini kuwa mshiriki anatoa idhini ya ufahamu kushiriki katika utafiti huu

…… …….

Sahihi ya mtafiti Tarehe

APPENDIX 06: A LETTER FROM THE UNIVERSITY (OUT) FOR RESEARCH CLEARANCE AND ALLOWING DATA COLLECTION STAGE

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/PG20210167 **25th July, 2024**

RAS,
Mwanza City Council,
Mwanza.

Dear,

RE: Research Clearance For: NUHU, SALEHE PG20210167

1.The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1stMarch 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1stJanuary 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

2. To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **NUHU SALEHE PG20210167,** pursuing **Master of Arts Humanitarian Coorporate and Development.** We here by grant this clearance to conduct a research titled **'ASSESSING FACTORS INFLUENCING VOLUNTARY BLOOD DONATION AMONG HIGH SCHOOL STUDENTS IN TANZANIA. A CASE OF SELECTED SCHOOL IN MWANZA CITY'.** He will collect his data at your office from 25st July, 2024 to 30th October, 2024.

3.In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820.We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,

THE OPEN UNIVERSITY OF TANZANIA

Prof.Gwahula Raphael Kimamala

For: VICE CHANCELLOR

Kinondoni Biafra, Kawawa Road; P.O 23409; Dar es Salaam; Tel: +255 22 2668 445;
E-Mail:vc@out.ac.tz|| Website:www.out.ac.tz

APPENDIX 07: A PERMITION LETTER FROM MWANZA CITY

THE UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATIVE AND LOCAL GOVERNMENT AUTHORITIES

MWANZA REGION:
OFFICE,
TELEGRAM: "REGCOM"
Phone: 028-2501037/2500686
Fax: 028-2541242/2501057
Email: ras@mwanza.go.tz

REGIONAL COMMISSIONER'S

Mwanza Region,
2 Mkoani Street,
S. L. P 119,
33180 MWANZA.

Ref. No. MA.137/372/01A/

Date 26/07/2024

District Administrative Secretary,
P. O. Box.....,
.....NYAMAGANA.....

RE: PERMISSION TO UNDERTAKE DATA COLLECTION

Please refer to the captioned subject.

The Office received the letter Ref. No. OUT/PG202101167 from Open University.

On the base of the particular letter, the office has been granted the permission to Mr/ ~~Ms~~ NUHU, SALEHE..... (student) to collect the academic research data concern his/her Research title.....ASSESSING FACTORS INFLUENCIN VOLUNTARY BLOOD DONATION AMOUNG HIGH SCHOOL STUDENTS IN TANZANIA.....

A case study of .....NYAMAGANA..... District.

Please assist the mentioned researcher accordingly.

Zubeda A. Kimaro
For: REGIONAL ADMINISTRATIVE SECRETARY,
MWANZA

THE REGIONAL ADMINISTRATIVE SECRETARY NYAMAGANA MWANZA

Copy to: Mr/Ms .....
RESEARCHER.

APPENDIX 08: A LETTERS OF DATA COLLECTION FROM NYAMAGANA DISTRICIT

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS

TAWALA ZA MIKOA NA SERIKALI ZA MITAA

WILAYA YA NYAMAGANA
Anwani ya Simu: "ADMIN"
Simu na: 028-2983248
E-mail.das.nyamagana@mwanza.go.tz
Unapojibu tafadhali taja:

OFISI YA MKUU WA WILAYA
WILAYA YA NYAMAGANA
S.L.P 1148

MWANZA

Kumb. Na. DC/P.20/2/

Tarehe...29/07/2024.

Kwa:...MTENDAJI KATA
...PAMBA...
...NYAMAGANA

AFISA MTENDAJI WA KATA
KATA YA PAMBA
JIJI LA MWANZA
01/08/2024

YAH: KIBALI CHA KUFANYA UTAFITI WILAYANI NYAMAGANA
NDUGU.......NUHU, SALEHE.

Mtajwa hapo juu ni Mwanafunzi/Wanafunzi wa Chuo
...THE OPEN UNIVERSITY OF TANZANIA.

Ameruhusiwa/Wameruhusiwa kufanya utafiti kuhusu...ASSESSING FACTORS INFLUENCING VOLUNTARY BLOOD DONATION AMONG HIGH SCHOOL STUDENTS IN TANZANIA. A CASE OF SELECTED SCHOOLS IN MWANZA CITY
Wilayani Nyamagana.

Tafadhali apewe/wapewe msaada na ushirikiano atakaohitaji/watakaohitaji ili kufanikisha utafiti huo.

Kny: KATIBU TAWALA WILAYA
NYAMAGANA

K.n.y. KATIBU TAWALA WA WILAYA
NYAMAGANA.