



Exploring public perception of blood donation and assessment of its impact on health service delivery in Juba county of South Sudan

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Abstract

This study aims to explore public perception of blood donation and assessment of its impact on health service delivery in Juba County of South Sudan. A positivist and interpretivists philosophy were adopted, utilizing quantitative and qualitative data collection through questionnaires. A pilot study ensured questionnaire reliability. The study's population includes all blood donors in Juba County. Questionnaires and interviews were the main instruments for the data collection. The purposive and convenient sampling technique were adopted whilst the Krejcie and Morgan's (1970) [27] formula was used in calculating the sample size of 267 to represent the population. Data analysis was carried out by the use of Statistical Package for Social Science (SPSS) version 21 and thematic analysis. Findings of the study revealed mixed level of awareness and knowledge about blood donation among the public in South Sudan with low level of awareness and knowledge recorded a mean score range of 1.00-2.24, average level of awareness and knowledge recorded a mean score range of 2.25-3.49, a high level of awareness and knowledge recorded a mean score range of 3.50-4.74 and a very high level of awareness and knowledge recorded a mean score range of 4.75-6.00

The study also revealed that public perceptions and misconceptions regarding blood donation in South Sudan was a result of fear of the needle pain, anemic and unconsciousness, ability to contract infection such as HIV or Hepatitis B&C, fear of fainting/dizziness and obesity. Implications for health managers and policy makers as well as suggestions for future studies have been presented.

Keywords: Blood donation, health service delivery, perception, South Sudan

Introduction

Blood is a connective tissue composed of a liquid extracellular matrix called the blood plasma that dissolves and suspends various cells and cell fragments (Flynn, 2022) [18]. Blood is the river of life that surge within us, transporting nearly everything that must be carried from one place to another. Long before modern medicine, blood was viewed as magical and elixir that held the mystical force of life because when it is drained completely from the body, life departs as well (Schreier & Triampo, 20121). Clinicians examine it more often than any other tissue when trying to determine the cause of disease in their patients (Ferguson, 2022) [17]. On the average there is about 5-6 litres of blood present. Blood contains fluid called plasma in which there are suspended cellular elements. These are erythrocytes, thrombocytes (platelets) and leucocytes. Blood donation is the voluntary giving away of one's own blood to be transfused to another or same person in order to save life. Blood transfusion is the introduction of blood from the vein of a person (donor) or from a blood bank into the vein of another (recipient) in cases of severe loss of blood, trauma, and septicemia, among others (Drake, 2021) [13]. It is used to supplement the volume of blood and also to introduce constituents such as clotting factors and antibodies that are deficient in a patient. France & France (2020) [20, 21] view it as an act of freewill that a voluntary donor donates blood without expecting anything of monetary value from the blood bank or from patients' relatives or any other source at the time of donation or in future. Acceptance of voluntary blood donor certificate, badges or cards is permissible according to the law of the land; such recognition of the donor is universal (Perry, 2025) [32].

Generally, persons within age 17-60years with minimum body weight of 45kg having hemoglobin content of minimum 12.5g/dl is classified as a healthy donor (WHO, 2020). The procedure is done by skilled, trained technicians and it takes 3-8hours. Blood donation is when a person voluntarily has blood drawn and used for transfusions. Both men and women can donate. A donor with history of epilepsy, psychotic disorders, abnormal bleeding tendencies, severe asthma, cardiovascular disorders, and malignancy is permanently unfit for blood donation. Donors suffering from disease like hepatitis, malaria, measles, mumps, and syphilis may donate blood after full recovery with 3-6 months gap. Also, people who have undergone surgery, blood transfusion may safely donate blood after 6-12 months for woman donors who are pregnant or lactating blood is not taken as their iron reserves are already on the lower side (WHO, 2020). According to WHO (2020) there are three types of blood donors; voluntary or unpaid, family or replacement and paid donors. Voluntary or unpaid blood donors are vital for ensuring a sufficient, stable blood supply. The World Health Organization (WHO, 2020) [38] set a goal for all countries to obtain all blood supplies from voluntary unpaid donors by 2020. A well-established voluntary unpaid blood donor programme can contribute to a significant reduction in the risk for infections such as HIV, hepatitis B, hepatitis C and syphilis. WHO report shows a significant decrease of voluntary unpaid blood donations in low and middle-income countries from 9.70 million blood donations to 7.90 between 2018 to 2021 as reported by 156 countries. The highest increase of voluntary unpaid blood donations was observed in the South-East Asia (65%) and African (48%) regions. The maximum increase in absolute

numbers was reported in the Western Pacific Region. 71 countries collect more than 90% of their blood supply from voluntary unpaid blood donations, including 60 countries with 100% (or more than 99%) of their blood supply from voluntary unpaid blood donors (38 are high-income countries, 22 middle-income countries and 11 low-income countries). 15 countries of these 60 countries have achieved 70% (or less) voluntary unpaid donation in 2018 from a higher percentage reported in 2016; six of these 15 countries have achieved this target from a percentage lower than 65% reported in 2019: Cook Islands (from 80% to 70%), Kenya (from 80% to 70%), Nicaragua (from 100% to 75%), Turkey (from 100% to 80%), United Arab Emirates (from 100% to 75%) and Zambia (from 100% to 72%). In 73 countries, more than 50% of the blood supply is still dependent on family/replacement and paid blood donors (8 are high-income countries, 45 are middle-income countries and 20 are low-income countries). 22 countries still report collecting paid donations in 2018, around 800 000 donations in total.

Pernes (2020) attributed two main reasons for the low blood supply to the low participation of donor population and lack of motivation in the part of blood donors. Obviously, this will have dire consequences on modern healthcare as according to (Pernes, 2020), such shortages could lead to many preventable deaths.

In South Sudan, the blood bank of various health facilities has been running low and patients with injuries during accidents, pregnant women, and children need blood at several health facilities throughout the country. In 2019, it was reported that the national blood bank only had five liters in its reserves — an amount enough to assist five people in need. The slogan for 2023 World Blood Donor Day campaign is “Give blood, give plasma, share life, share often. Dr. Narik Wal, the Director of National Blood Transfusion Services, called on the public to become members of the large family of blood donors to support the work of the blood transfusion centre. Blood donated during 2023 World Blood Donor Day campaign was said to be woefully inadequate to meet the high demand for blood at the various health facilities in the country said Dr. Narik Wal. In spite of the efforts exerted to motivate citizens to voluntarily donate blood to save lives, patronage was not encouraging. Plethora of studies had been conducted on the motivations of voluntary blood donation (Gender Bhuiyea *et al.*, 2022; Piersma *et al.*, 2021) [22, 33]. However, few have shown the utility of the Theory of Planned Behaviour as a predictor of voluntary blood donation behaviours (Kassie *et al.*, 2020; White *et al.*, 2023) [25, 39].

Also, these previous studies, however, have limitations for current blood safety and blood donation campaigns. The first limitation is that most of the studies were conducted ten to twenty years ago. Second, most were conducted in developed, western countries, particularly in the United States. Third, most studies asked current donors to report the most important factors that motivate them to donate blood, and few have applied social psychological theories of behaviour and behavior change to help explain blood donation behaviours. Up-to-date blood safety and blood donation studies are needed that take into consideration recent changes in demographics, cultural values, public health and financial conditions. Studies in particular need to be conducted in non-western cultures. Finally, these studies

need to identify the underlying cognitive structures associated with voluntary, safe blood donations (Akulume, *et al.*, 2024) [3].

It is in line of these gaps the study is being conducted to investigate the voluntary and safe blood donation using an extended version of blood donation strategies which is Theory of Planned Behaviour (TPB), the Health Belief Model (HBM) and the Social Amplification of Risk Theory (SART) in South Sudan.

The outcome of the study should be significant to government, stakeholders and health policy makers to formulate a proper educative campaign to demystify the perception on blood donation. Blood donors will equally appreciate the reasons and importance to donate blood. The study will also bring to the fore major challenges which hinder the campaign of blood donation. This will serve as a guide in revising the available strategies to address these challenges.

Study Objectives

The study explores public perception of blood donation and assesses its impact on health service delivery in South Sudan. Specifically, the study aims to:

1. Assess the level of awareness and knowledge about blood donation among the public in South Sudan and;
2. Identify public perceptions and misconceptions regarding blood donation in South Sudan

Literature Review

The Theory of Planned Behavior

The Theory of Planned Behaviour (TPB; Ajzen, 1991) [2] is the dominant framework for modelling blood donation intentions and behaviour. In its most general form, the theory proposes that attitudes, subjective norms, and perceived behavioural control (PBC) positively influence intentions, which directly influence behaviour. Attitudes comprise evaluative judgments (cognitive attitudes) as well as emotional reactions (affective attitudes) to the behaviour, subjective norms involve perceptions of others' approval (injunctive norms) and the extent to which close others perform the behaviour (descriptive norms), and PBC comprises a person's perceived confidence in performing a behaviour (self-efficacy) and their perceptions of the extent to which the behaviour is under their control (controllability). A recent systematic review and meta-analysis concluded that TPB constructs explain a large proportion of the variance in intention to donate blood (Bednall *et al.*, 2013) [6].

Blood as a Therapeutic Agent

Blood is a complex fluid in which variety of cells RBCs, WBCs and platelets are suspended in plasma (Anyiam *et al.*, 2023) [5]. It is composed of a straw-coloured transparent fluid, plasma, in which different types of cells are suspended. Plasma constitutes about 55% and cells about 45% of blood volume. Blood circulate continuously through the heart and vascular system. Arterial blood is bright red owing to the mixture of oxygen with hemoglobin within the red blood cells whilst venous blood is dark red because of loss of oxygen from the reduced hemoglobin. Blood is three to four times more viscous (thick) than water. Blood is located inside blood vessels (arteries, veins and capillaries) and heart. Blood has a slightly salty taste and slightly alkaline reaction of pH 7.35 –7.45 (Ensminger &

Ensminger, 2023)^[15]. Blood varies in terms of volume with age and body composition. The less body fats, the more blood per kilogram of body weight is present. The average blood volume in a 75kg male is about 6.0L and may be less in women. Organs involved in formation of blood and its constituent cellular elements are the bone marrow, the spleen, liver, and lymph nodes. Cells produced by these organs include erythrocytes, leukocytes, thrombocytes, plasma cells and reticuloendothelial cells. There are many therapeutic functions of the blood to the human body which includes: supplying cells with oxygen from the lungs and absorbed nutrients from the gastro-intestinal (GI) tract, removing waste products from tissues to the kidney, skin, and lungs for excretion, transporting hormones from their origin in the endocrine gland to their target in other parts of the body and protecting the body from infectious microorganisms. The primary function of erythrocytes is to transport oxygen from the lungs to the tissues and also carbon dioxide from the tissues to the lungs (Chatzinikolaou *et al.*, 2024)^[9]. The leukocytes have an important function in defending the body against microbes and other foreign materials, promoting hemostasis (the arrest of bleeding), regulating body temperature by heat transfer. They contain a variety of substances that promote blood clotting which causes haemostasis (Chatzinikolaou *et al.*, 2024)^[9].

Blood Collection in South Sudan

Blood is collected from donors at the hospital's donor walk-in clinic, at mobile sites and public drives. Both volunteer and replacement donors visit the walk-in clinic, which is open twenty-four hours a day, seven days a week. Donors at the mobile sites and public drives, however, are volunteers, some of whom are repeat donors. Two teams of staff at the blood bank organise the mobile site visits. Each team is responsible for a given geographical area. Examples of mobile sites include schools, churches and mosques. Both teams work together to organise public drives, which are usually sponsored by FM stations and corporations.

Awareness in Blood Donation

Blood donations according to Guglielmetti Mugion *et al.*, (2021)^[24] play a crucial role in medical care; however, the global shortage of donors remains and has a serious impact on medical interventions. The challenges involved include the lack of public awareness of the importance of blood donation. Thus, unawareness becomes a major contributing factor that affects donation of blood. Majority of people are unaware of donation of blood and the vital role it plays in saving the life of people (Chandler *et al.*, 2021)^[8]. It is therefore important to know about the knowledge of voluntary blood donation. Beyene (2020)^[7] carried out a study in central Ethiopia entitled: Voluntary blood donation knowledge, attitudes, and practices. Results of the study showed that less than half, 47% (95% CI: 42–52%) of the study participants have above-average knowledge level about blood donation and 48% (95% CI: 43–53%) have favorable attitudes towards blood donation. Only 17% (95% CI: 13–21%) of study participants ever donated blood of which 14.6% of them donated for replacement and less than 2% (1.95%) are voluntary donors. Fogarty *et al.* (2022)^[19] also conducted a study entitled: motivators and barriers to blood donation among potential donors of African and Caucasian ethnicity. 387 respondents completed the survey, including 311 non-donors (median age 25 years, 67%

female). Ethnic backgrounds included: African or African-Irish (59%), White or Caucasian (25%), Asian (8%), Hispanic or Latino (3%), Middle Eastern (3%), Multiracial or Biracial (2%). The most commonly identified barrier overall was lack of information on blood donation. Similarly, the study of Thorpe, Masser, Coundouris, Hyde, Kruse & Davison (2024), found unawareness as the greatest barrier that prevent people from donating blood. Equally, the study of El Bilbeisi, Abuzerr & El Afifi (2023)^[14] entitled: Knowledge, attitudes, and practices toward blood donation in the Gaza Strip demonstrated that 260 (21.0%) of the study participants do not have information on when, where, and how to donate.

Public Perception and Misconceptions of Blood Donation

Blood donation according to Thusoo & Mishra (2024) is characterized by some misconception. The study of Ahmed *et al.* (2020)^[1] confirmed that people give various excuses for not donating blood. Equally, a plethora of studies has reported almost similar perception and misconception of people regarding blood donations. For instance, the study of Mishra (2022)^[29] reported that myths and misconceptions were more prevalent among non-blood donor students. Among the study respondents, the most prevalent misconception for not donating blood was contracting infection like HIV or Hepatitis B&C (26%). Also, non-blood donor students reported the fear of needle pain 137 (27.4%), followed by being not fit to donate blood 134 (26.8%) and the fear of becoming weak 95 (19%). Custer *et al.* (2020)^[12] also found the fear of HIV screening as a major perception and misconceptions hindrance and limitation to voluntary blood donation among respondents. Also,

France *et al.* (2022)^[20, 21] carried a study entitled: Blood donation motivators and barriers reported by young, first-time whole blood donors: examining the association of reported motivators and barriers with subsequent donation behavior and potential sex, race, and ethnic group differences. The study adopted the structured interviews conducted with 508 young, first-time whole blood donors. Among the perceptions and misconceptions of respondents for not donating blood were found to be fear of fainting/dizziness, fear of needles/pain, having personal commitments that conflict with donating, and perceiving oneself as unsuited to donate for health reasons.

Similarly, Chugtai *et al.* (2021)^[11] carried out a study on misconceptions about blood donation among cmh karain medical college employees. The descriptive cross-sectional study was employed. Data was collected by self-structured questionnaire through convenient sampling whilst data analysis was done by SPSS 20. The study results showed that 71.67% of the respondents perceived that they will become obese, unconscious and anemic for donating blood whilst 35% of the respondents perceived that they will catch infection.

Consistently, in a cross-sectional study conducted by Theodoratou *et al.* (2024)^[36] on understanding attitudes and perceptions towards blood donation in Greece, a self-administered questionnaire was distributed to a sample of Greek adults. The questionnaire was designed based on the constructs of the Health Belief Model and included questions related to perceived severity, vulnerability, self-efficacy, and barriers and facilitators to blood donation.

Descriptive statistics were used to analyse the responses, calculating means and standard deviations (SDs) for each variable. Fear of needles, health concerns, and fears of transmissible diseases acted as the major perception confronting participants in blood donation.

Study Area

South Sudan gained independence from Sudan on 9 July 2011 as the outcome of a 2005 agreement that ended Africa's longest-running civil war. The country is made up of the 10 southern-most states of Sudan, South Sudan is one of the most diverse countries in Africa. It is home to over 60 different major ethnic groups. Independence did not bring conflict in South Sudan to an end. Civil war broke out in 2013 when the president fell out with his then vice president, leading to a conflict that has displaced some four million people. A power-sharing agreement was signed between the warring parties in August 2018 in a bid to bring the five-year civil war to an end. Salva Kiir Mayardit became president of South Sudan - then still part of Sudan - and head of the Sudan People's Liberation Movement

(SPLM) in 2005, succeeding long-time rebel leader John Garang, who died in a helicopter crash. Mr Kiir was re-elected as president in multiparty polls in the south in April 2010. In July 2011, when South Sudan became independent, he became president of the new state.

Just two years later, however, the country was engulfed by civil war when Mr Kiir sacked his entire cabinet and accused Vice-President Riek Machar of instigating a failed coup.

In August 2018, after five years of civil war, Mr Kiir signed a power-sharing agreement with rebel leader Machar and other opposition groups in a bid to end the brutal conflict.

Constitutional guarantees of media freedom are not respected in practice, and journalists risk harassment and detention over reports deemed unfavourable by the authorities. Radio is the most popular medium. Private local stations, some of them with foreign funding, broadcast alongside the state-run national network. Figure 1 presents the graphical map of South Sudan.



Source: South Sudan Government Website

Methodology

Both the positivist and interpretivists philosophy underpin the study. Hence, the study made use of both quantitative and qualitative but largely quantitative. The study's population includes all blood donors in Juba County. Questionnaires and interviews were the main instruments for the data collection. The primary data was collected on the field. On the other hand, the secondary data were gathered from published academic journals, conference proceedings, academic books and other works of interest to aid the study. The purposive and convenient sampling technique were adopted whilst the Krejcie & Morgan's (1970)^[27] formula was used in calculating the sample size of 267 to represent the population. A pilot-test was conducted to ascertain the validity of the study instruments while the Cronbach alpha coefficient was used to ascertain the internal consistency of the responses received. The Statistical Package for Social Science version 21 and thermic analysis was used for data analysis. Respondents' confidentiality, anonymity and consent were considered.

Study Results

Demographic Characteristics of Respondents

The study ascertained demographic information of respondents to help understand the context and characteristics of the respondents who were the blood donors in Juba, County, South Sudan. The demographic

information obtained include the gender, educational level, age bracket, and the number of years which donors have been donating blood. The study administered 267 questionnaire instruments and there was a 100% response rate.

Based on the result obtained, 160 (59.90%) of the respondents were males and 107 (40.10%) were females. Clearly, the dataset depicts that majority of the blood donors in Juba County, South Sudan are males

In terms of age bracket of respondents, 30 (11.20%) of the respondents are in the age bracket 21-25 years. 67 (25.10%) of the respondents are in the age bracket 26-30 years. The dataset also shows that 100 (37.50%) of the respondents are in the age bracket 31-35. 25 (9.40%) of the respondents are in the age bracket 36-40 years. Additionally, 20 (7.50%) of the respondents are in the age bracket 41-45 years. More so, 15 (5.60%) of the respondents are in the age bracket 46-50 years whilst 10 (3.70%) of the respondents are in the age bracket 50 years and above. The statistics of the study showed that the age bracket 31-35 years is the fairly majority of blood donor group in Juba County, South Sudan. In the case of educational level of respondents, 27 (10.10%) have pre-tertiary education and 120 (44.90%) bachelor degrees. Additionally, 100 (37.50%) of the respondents' master's degree whilst 20 (7.50%) of the respondents have other certificates. The dataset demonstrates that respondents have attained education, albeit different levels with the

highest being bachelor degree. The attainment of education is good implying that respondents have general knowledge on the subject of investigation Regarding the marital status of respondents, 120 (44.90%) of the respondents are married and 20 (7.50%) of the respondents are divorced. Additionally, the dataset demonstrates that 127 (47.60%) of the respondents are single.

The study also sought to ascertain blood donation years of respondents. The statistics demonstrates that 70 (26.20%) have less than a year experience in blood donation, 81 (30.40%) of the respondents have 1-2 years of experience in blood donation. Additionally, 90 (33.70%) of the respondents have 3-4 years blood donation experience, 20 (7.50%) of the respondents have 5-6 years blood donation experience whilst 6 (2.20%) of the respondents have 7 and above years blood donation experience. The study statistics showed that respondents have varied years of blood donation experience with the highest years of experience being 3-4 years. Such varied years of experience are appropriate to enrich the discourse of the study

Objective One: Level of Awareness and Knowledge about Blood Donation among the Public in South Sudan

Objective one sought to assess level of awareness and knowledge about blood donation among the public in South Sudan. The Tasmin & Woods (2008) measurement was used to measure the responses of the respondents. A mean score range of 1.00-2.24 is considered low, 2.25-3.49 is considered average 3.50-4.74 is considered high and 4.75-6.00 is considered very high (Tasmin & Woods, 2008). Table 1 presents the extent of the mean score range.

Table 1: Extent Level of Mean

Mean Score Range	Level
2.25-3.49	Average
3.50-4.74	High
1.00-2.24	Low
4.75-6.00	Very High

Source: Tasmin & Woods, (2008)

The statistics shows the level of awareness and knowledge about blood donation among the public in Juba County, South Sudan. From the statistics, 85 of the respondents recorded a mean score range of 2.25-3.49 representing an average level of awareness and knowledge. 20 (7.50%) of the respondents recorded a mean score range of 3.50-4.74 representing a high level of awareness and knowledge. The statistics further showed that 150 (56.20%) of the respondents recorded a mean score range of 1.00-2.24 representing low level of awareness and knowledge about blood donation among the public in South Sudan while 12 (4.50%) of the respondents recorded a mean score range of 4.75-6.00 representing a very high level of awareness and knowledge about blood donation among the public in South Sudan. Table 2 presents the results.

Table 2: Level of Awareness and Knowledge about Blood Donation among the Public in South Sudan

Level of Awareness and Knowledge	Frequency	Percent	Mean Score Range
Average	85	31.80	2.25-3.49
High	20	7.50	3.50-4.74
Low	150	56.20	1.00-2.24
Very High	12	4.50	4.75-6.00
Total 267 100.00			

Source: Field Survey, 2025

Reliability Statistics

Internal consistency, according to Meeker *et al.* (2021)^[28] is vital to ascertain how the appropriate items on the test measure the same construct. As shared by Meeker *et al.* (2021)^[28], the Cronbach’s Alpha is said to be the appropriate tool for this measurement. Meeker *et al.* (2021)^[28] indicated that a scale with coefficient alpha values between 0.6 and 0.7 indicate fair reliability. However, Cronbach’s Alpha coefficient of 0.7 or above is considered acceptable and adequate to determine reliability in most social science research situations. This study recorded a reliability value between 0.720 and 0.860 which is above 0.7. As a result, the reliability values can be considered acceptable and adequate (Meeker *et al.*, 2021)^[28] Table 3 presents the results

Table: 3 Reliability Test

SN	Variables	Cronbach Alpha
1	Contracting infection like HIV or Hepatitis B&C,	.0780
2	Fear of needle pain	.0860
3	Fear of fainting/dizziness	.0750
4	Obesity	0.720
5	Unconscious and anemic	.0802

Source: Fieldwork, 2025

Objective Two: Identify public perceptions and misconceptions regarding blood donation in South Sudan

The study second objective sought to identify public perceptions and misconceptions regarding blood donation in South Sudan.

The opinion of the respondents was measured on a 5- point Likert scale rated as 1= *Strongly disagree*; 2= *Disagree*; 3=*Agree* 4= *Neither agree nor disagree* and 5=*Strongly agree*. Descriptive statistics such as mean and standard deviation were used for the analysis of the responses. According to Dess, Lumpkin & Mefarlin (2005), on a scale of 1-5, the midpoint is 2.9, hence any mean score below 2.9 denotes disagreement and any mean score above 2.9 represents Agreement from the statistics, the respondents perceived that blood donors contract infection like HIV or Hepatitis B&C ($M=3.44$; $SD=2.19$), blood donation is fearful because of the needle pain ($M=3.88$; $SD=1.25$), blood donation causes fainting/dizziness ($M=3.42$; $SD=2.29$). Further, the statistics shows that respondents perceived those who donate blood become obese ($M=3.40$; $SD=2.75$), I will become anemic and unconscious for donating blood ($M=3.72$; $SD=1.29$).

The findings showed a general agreement to the various perceptions and misconceptions of respondents regarding blood donation in South Sudan. This is because all the responses measured had a mean score above 3 showing agreement as indicated by Dess, Lumpkin & Mefarlin (2005). Table 4 presents the results

Table 4: Descriptive Statistics of Public Perceptions and Misconceptions regarding Blood Donation in South Sudan

SN	Statement	Mean	Standard Deviation
1	Blood donors contract infection like HIV or Hepatitis B&C	3.44	2.19
2	Blood donation is fearful because of the needle pain	3.88	1.25
3	The fear of fainting/dizziness is my major headache in donating blood	3.42	2.29
4	Those who donate blood become obese	3.40	2.75
5	I will become anemic and unconscious for donating blood	3.72	1.29

Source: Fieldwork, 2025

Public Perceptions and Misconceptions regarding Blood Donation in South Sudan

The study sought to identify public perceptions and misconceptions regarding blood donation in South Sudan qualitatively. The respondents provided several reasons but the most compelling public perceptions and misconceptions ones regarding blood donation includes but not limited to: fearful of needle pain, contract infection like HIV or Hepatitis B&C, anemic and unconscious for donating blood fainting/dizziness, obese

Fearful of Needle Pain

A blood donation needle is a specialized medical needle used to draw blood from a donor's vein for the purpose of blood donation or blood testing. These needles are designed to be sterile and disposable to ensure safety and prevent infection. They are typically attached to a thin plastic tube and a blood bag for collection. Many blood donors are apprehensive as the needle pierces the skin to the vein for the blood. To buttress this assertion, the majority of the donors have this to say;

Charity (all the names are pseudo)

"...It feels uncomfortable as the needle is thrust through the skin. Sometimes, the mere staring at the needle lone scares you. I sometimes close my eyes at this stage. Quite apart from that, there is also some pain after the needle is taken out of the skin." (Researcher's field work, February, 2025)

John opined;

"...This is one of the reasons why I feel reluctant to donate blood. The needle is intimidating and scurry. It looks bigger than the syringe and, sometimes they find it difficult locating a vein and try piercing several parts of the skin until they identify a vein, which causes pain. I for one do not feel motivated to donate blood as a result of the pain" (Researcher's field work, February 2025).

Contracting infection such as HIV or Hepatitis B&C

Another public perceptions and misconceptions regarding blood donation is the potential to contracting infection such as HIV or Hepatitis B&C. During blood donation exercise, each needle is new and unused, and it is discarded after each donation to maintain hygiene and prevent cross-contamination. However, public perceptions and misconceptions is different. To some, there is the tendency of being infected with HIV or Hepatitis B&C.

Moses, one of the donors has this to say;

"...we only take risk. You never know. Any blunder committed can result in passing viruses into your system which nothing can be done. It is worrisome. There are people who have suffered this fate as we speak and, it is not pretty at all. I think about this seriously and so I find it difficult to donate blood these days" (Researcher's field work, February 2025).

A leading question by the investigator to probe further on how a new needle being handled by experienced health workers could lead to virus transmission, he continued;

"The needle might be new, unused but what happens when there is a mist

ake on the part of the health worker? Are they not human beings? So, my question is, who bears the consequences? I tell you some of these mistakes do occur and so, I am careful these days. The other day we heard someone had contracted HIV AIDS and it was through blood donation." (Researcher's field work, February 2025).

Anemic and unconscious

Anemic and unconsciousness during or after a blood donation are serious issues and require immediate attention. Anemia can lead to fainting or lightheadedness due to low iron levels, and fainting can also occur due to a vasovagal reaction, a sudden drop in blood pressure and heart rate. In support of this,

Gloria, one of the donors has this to say;

"...The other day after blood donation, I realized that I get tired easily so I went to the hospital and I was prescribed medicines to enhance my blood level. I had told the doctor the donation I made over a month ago and he advised that I exempt myself from such exercise for now. This is personal experience and I believe there are many of such instances as well. Since then, I have lost appetite for donating again." (Researcher's field work, February 2025).

A leading question by the investigator to probe further whether the respondent was not advised or council before the exercise, she continued.

"...The advice was given and perhaps it was given to me alone. All the volunteers were advised professionally before the exercise took place but I never felt same after the donation. For now, I don't go near blood donation grounds again. I don't want trouble" (Researcher's field work, February 2025)

Results Discussions

Objective One: Level of Awareness and Knowledge about Blood Donation among the Public in South Sudan

Objective one sought to assess level of awareness and knowledge about blood donation among the public in South Sudan. The study revealed various levels of awareness and knowledge about blood donation among the public in South Sudan. However, low level of awareness and knowledge about blood donation among the public in South Sudan recorded the highest with a mean score range of 1.00-2.24. This was followed by average level of awareness and knowledge with a mean score range of 2.25-3.49, high level of awareness and knowledge with a mean score range of 3.50-4.74 and very high level of awareness and knowledge with a mean score range of 4.75-6.00.

Findings of the study underscores the unawareness and lack of knowledge of blood donation and the indispensable role it plays in saving the lives of people in South Sudan. The implication is that unawareness and lack of knowledge will significantly not motivate people to donate blood in South Sudan.

The study finding is consistent with the work of Alanazi *et al.* (2023) ^[4] who carried out a study on Knowledge and Barriers About Blood Donation and Associated Factors in Saudi Arabia and found out that the majority of Saudis lacked awareness about blood donation and had unfavorable opinions towards blood donation.

However, finding of the study is also in variance with the work of Rasool *et al.* (2021) ^[34] whose study on Socio-Demographic Factors Affecting Knowledge, Attitude and Practice towards Blood Donation among University Students in Lahore, Pakistan and found out that 72.1% of the participants were aware and had proper knowledge for blood donation. This is also corroborating by the work of Evans *et al.* (2024) whose study revealed that a significant majority, comprising 64% faculty, reported being aware of

voluntary blood donation and transfusion reactions. Equally, the study of Chauhan *et al.* (2025) ^[10] revealed that awareness was generally high among participants with 85.8% knowing their blood group. Consistently, the study of Kagoya, Gavamukulya & Jonah Soita (2024) among undergraduate medical students in an upcountry Ugandan university revealed that 50.4% of the participants had good knowledge about blood donation.

Objective Two: Identify public perceptions and misconceptions regarding blood donation in South Sudan

The study second objective sought to identify public perceptions and misconceptions regarding blood donation in South Sudan findings of the study revealed a general agreement to the various perceptions and misconceptions of respondents regarding blood donation in South Sudan with fearfulness because of the needle pain recording the highest mean and the lowest standard deviation ($M=3.88$; $SD=1.25$). The rest are fainting/dizziness, contracting infection like HIV or Hepatitis B&C, obesity and anemic/unconscious. These recorded a mean and standard deviation of ($M=3.42$; $SD=2.29$), ($M=3.44$; $SD=2.19$), ($M=3.40$; $SD=2.75$), ($M=3.72$; $SD=1.29$) respectively.

The study findings espouse the work of Kocic *et al.* (2024) ^[26] who investigated the factors influencing blood donation among university students in Vojvodina, Serbia. The author found that fear of needles (41.4%) was the most common potential barrier. Similarly, Moore *et al.* (2020) ^[30] found fear of needles as perceptions and misconceptions among students of private universities in Thika Town, Kiambu County, Kenya. Findings of the study are consistent also with the study of Chugtai *et al.* (2021) ^[11] which found catching infection, obesity, unconscious and anemic as perceptions and misconceptions among respondents. Similarly, the literature reviewed by Thorpe *et al.* (2023) ^[37] reported increased risk of infectious disease as the most negative perceptions and misconceptions of respondents regarding blood donation. The Theory of Planned Behaviour provides insight into how perceptions and misconceptions affect attitudes behavioural control. According to the theory, attitudes comprise evaluative judgments (cognitive attitudes) as well as emotional reactions (affective attitudes) to the behaviour. Therefore, when perceptions and misconceptions are prevalent, it affects people attitudes and behaviour which often makes them feel reluctant to donate, resulting in a "blood shortage

Conclusion

The significance of blood to human lives is indispensable. Notwithstanding, inadequate blood donor has become a major public health problem in Sub-Saharan Africa. Studies have attributed this shortage of blood supply to meet domestic demand with low participation and lack of motivation of potential blood donors. In-patient deaths due to maternal hemorrhage in Sub-Saharan Africa are simply from non-availability of blood when in need regarding blood safety. Hence, it behooves hospital and healthcare managers to devise appropriate motivational strategies to alter peoples' perception and to whip up donors' interest to ensure blood availability to forestall unwarranted death. Hence, the study aims to explore public perception of blood donation and assessment of its impact on health service delivery in Juba County of South Sudan.

The study concludes that the level of awareness and knowledge regarding blood donation in Juba County, South Sudan is low as the majority of the people have little or no prior knowledge regarding blood donation in Juba County, South Sudan marginal people have blood knowledge, resulting in low turnout and blood shortages in the health centers.

The study also concludes that fear of needle pain, anemic and unconsciousness, ability to contract infection such as HIV or Hepatitis B&C, fear of fainting/dizziness and obesity as the public perceptions and misconceptions regarding blood donation in South Sudan

Implication for Hospital and Healthcare Managers

The findings of the study are relevant for decision making, particularly for hospital and healthcare managers

Level of Awareness and Knowledge about Blood Donation among the Public in South Sudan

Since the level of awareness and knowledge about blood donation among the public in South Sudan is low, hospital and healthcare managers should target educational campaigns focused on voluntary blood donation. Blood donation awareness campaigns are crucial to educate the public about the vital role of blood donation in saving lives, ensuring a steady supply, and promoting community health. Hospital and healthcare managers should provide easy-to-understand information through pamphlets, websites, and other resources which has the potential to raise awareness and knowledge level. Also, collaborating with local organizations, hospitals, and schools can provide access to a broader network and targeted messaging which can whip up awareness and knowledge level

Public perceptions and misconceptions regarding blood donation in South Sudan

Since the study reported varied perceptions and misconceptions among donors, hospital and healthcare managers should identify those perceptions and misconceptions that are relevant and tailor clear and accurate information about blood donation to dispel these misconceptions and perceptions and, also provide accurate information about the safety of blood donation exercise. Additionally, hospital and healthcare managers should ensure that education and outreach programs address specific cultural or religious beliefs to help dispel perceptions and misconceptions.

Suggestions for Future Studies

Future studies should investigate the longitudinal effects of public perception of blood donation and its impact on health service delivery in Juba County of South Sudan. Also, future studies should expand the scope and sample size to include other counties to enrich the discussion

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