FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA

BY

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DECLARATION

I hereby declare that the work presented in this study as a requirement in the Master of Public Health programme has not been presented neither wholly or in part for any other Masters of Public Health and is not being currently submitted for any other degree.

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STATEMENT

I hereby certify that this study is in all entirely, the fruit of my own independent and laborious investigations. The various sources to which I am indebted are gratefully acknowledged in the text and in the references.

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APPROVAL

This dissertation of **Ms. Patricia Mutumba N. Kongwa** is approved as fulfilling the requirements for the award of the degree of Master of Public Health by the University of Zambia.

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DEDICATION

This study is dedicated to my beloved daughters Nalukui and Inonge and sons Mutumba and Lubosi.

ACKNOWLEDGEMENTS

I am greatly indebted to my beloved daughters and sons - Inonge, Nalukui, Mutumba and Lubosi for their spiritual and emotional support as I carried out the study.

I am very thankful to European Union for fully sponsoring my course and taking interest in training high calibre blood bank staff.

I thank the Executive Directors of Lusaka, Livingstone, Kitwe: Ndola Dr. Katema, Dr. Bwalya, Dr. Nzala, Dr. Bola, Hospital Boards of Managements for allowing me to conduct the research at these hospitals. I also thank the Heads of the Secondary Schools in Lusaka, Livingstone, Kitwe and Ndola of the Schools, where the survey was carried out for their co-operation and support.

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Lastly but not least Mrs. Cecilia Sinyangwe for her efficient secretarial services.

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DEFINITION OF KEY TERMS AND ABBREVIATIONS

1.	ALTRUISM:	Unselfishness
2.	BLOOD:	Red fluid circulating in the heart, veins and arteries.
2.	BLOOD DONOR:	A healthy person (17 - 65 years) who voluntarily gives her/his blood to be used as treatment for other.
3.	DEFERRAL:	The act of putting off a donation temporarily until further notice or permanently.
4.	DONATION:	A gift of blood
5.	LOW RISK GROUP:	People with behaviours which are less likely to expose them to acquiring blood borne infections such as HIV.
6.	NON-REMUNERATION:	A service for which one gets no payment in return.
7.	RECRUITMENT:	Enlisting of blood donors
8.	REGULAR DONOR:	A donor who has given more than once and donates every three months.
10.	RETENTION:	Ability to keep an up to date register of blood donors committed to regular blood donation.

11.	VOLUNTARY:	Willingly without coercion, persuasion or enticement.
12.	AIDS:	Acquired Immune Deficiency Syndrome
13.	BTC	Blood Transfusion Centre
14.	BTS:	Blood Transfusion Service
15.	EU:	European Union
16.	HIV:	Human Immuno Deficiency virus
17.	M.O.H.:	Ministry of Health
18.	UNIT:	A bag of 500 milliliters of donated whole blood.
19.	WHO:	World Health Organisation
20.	ZNBTS:	Zambia National Blood Transfusion Service

ABSTRACT

The study attempted to investigate those factors that affect voluntary blood donation - in relation to the supply of a safe and adequate blood to hospitals in Zambia.
A cross sectional survey of a systematic, randomly selected, secondary school students, was done using a self administered questionnaire. A self administered questionnaire was also used to inquire about the prescription and use of blood among doctors working in four major hospitals in Zambia. Discussions were held with blood bank staff in the four hospitals using the Focus Group Discussion model. In all, 165 students, 16 prescribers and 14 blood bank staff, from Lusaka, Livingstone, Kitwe and Ndola cities were included.

The outcome of the study showed that:

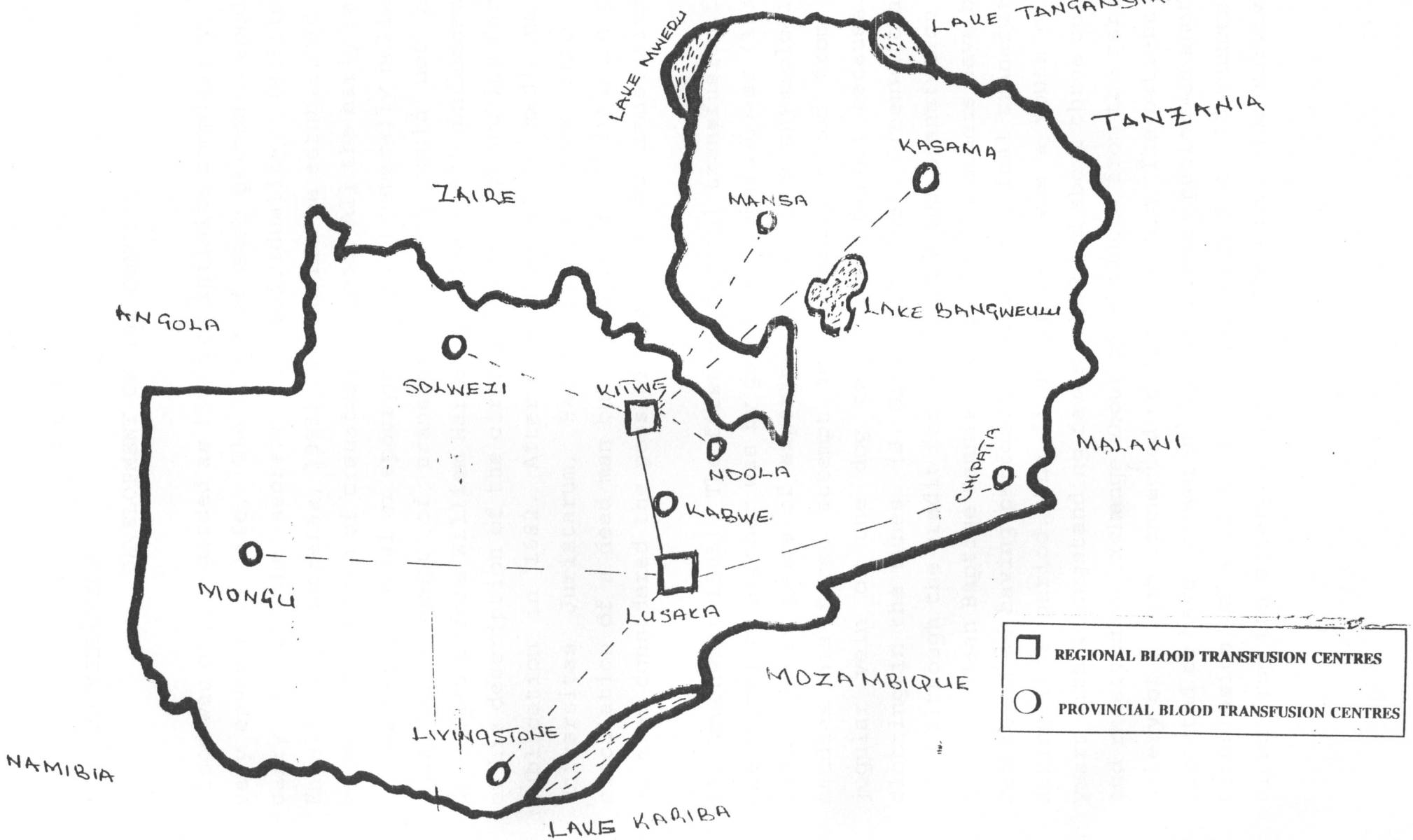
- The fear of the HIV test discourages people from voluntarily donating blood.
- The lack of a blood donor recruitment programme has had an adverse effect on voluntary donations.
- Lack of knowledge in communities on blood donation adversely affected voluntary blood donation.
- The supplies of blood to the hospitals were inadequate.

CONCLUSION

The prescription and use of blood remained high despite the risk of blood in the spread of disease. Inadequate autologous transfusion practices and lack of blood components made prescribers rely heavily on whole blood transfusions.

In order to achieve desired levels of blood supply to hospitals, blood banks must embark on a sustainable and regular donor recruitment and retention programme.

REGIONAL AND PROVINCIAL BLOOD TRANSFUSION CENTRES



CHAPTER 1

1.0 INTRODUCTION

DEVELOPMENT OF THE CONCEPT

Blood was once regarded as fluid of infinite complexity, the very essence of life. The blood of each person seemed to carry in it the secrets of individuality. (Mollison, Engelfreit, Contreras, 1993). It can not be established who conceived the idea of transfusing blood. All the early tales are either mythical or apocryphal. It is generally believed that the concept of transfusing blood could not have developed before William Harvey's (1578-1657) announcement of his description of the circulation in 1616 and its formal publication in 1682. After his studies in medicine at Universitas Juristarum, Harvey pumped water into the circulation of a dead man but there was no indication that he ever considered the possibility of blood transfusion.

(J. Greenwalt 1995). The first successful transfusion from one animal to another was by given to Richard Lower (1631 - 1691). After years of experimentation, and physiological studies his first attempt to transfuse blood from the jugular vein of one dog to another failed because of clotting in the tubes. (J. Greenwalt 1995). Greenwalt also said although the credit for the first human transfusion was given to Jean Baptise Dennis (1635 - 1704), others have been mentioned as having performed animal to animal transfusion during this period. The first patient was a youth of 15 years with a longstanding fever, who bled about three ounces and received in exchange about nine ounces from the carotid artery of a lamb connected to his arm vein. The patient was reported to have recovered. In 1667, Lower performed another transfusion on a 32 year scholar with 9 to 10 ounces of blood from the artery of a sheep. This man also survived.

BLOOD LETTING

The harmlessness of blood letting is proved by very long experience. As a form of medical treatment it found perhaps, its most enthusiastic advocate in Benjamin Rush, physician, politician and most justly celebrated Venesector. Rush not only believed in blood letting as a remedy for many common medical conditions including fever, but he also believed that it was valuable in the treatment of insanity, the primary site of which he believed resided in the blood. (Goodman, 1934). In the last decade, blood letting as a form of therapy has come back into fashion although in a more sophisticated form of plasma or red cell exchange. The main focus is on the withdrawal of blood from healthy donors its fractionation into specific constituents and these then used for particular condition e.g. Factor V111 in Haemophiliacs.

THE BLOOD DONOR

Although in many countries, e.g. the United Kingdom, some 60% of the population are healthy adults aged 18-65 years and thus qualified to be blood donors, the maximum frequency of donation in the world is 1 person in 10, as in Switzerland (Hasig, 1990). The frequency in most under developed countries is less than 1 in 100 (Leikola, 1987). As a general rule, suitable blood donors are adults between the ages of 18 and 65 years who are in good health, have no history of serious illness, and are not at risk of transmitting agents particularly Human Immuno Deficiency virus. Safe blood donation requires voluntary and unpaid donors.(Beal and van Aken, 1992). Most transfusion services have regulations for the selection of donors, designed for the protection of both donor and recipient. Donors should sign a consent form before giving blood and confirm their low risk status. The blood transfusion service should provide information for blood donors.

1.1 BACKGROUND OF TRANSFUSION IN ZAMBIA

Like many countries in the world, hospitals in Zambia carry out blood transfusions on a daily basis. In the colonial and post colonial era the blood supply was the responsibility of the Red Cross who recruited blood donors from convenient groups in the society. Donors were encouraged by incentives like beer, cigarettes, money and sugar. Some hospitals recruited their own donors in the same way. Hospitals in addition offered out-patients clinic services. Other hospitals relied solely on relatives or replacement donors. Recruited donors included prisoners, defence force officers, students and pupils. It is clear from this background that people donated blood because of the foreseen benefits through incentives offered, fear of victimisation by authority as in the defence forces, or because of family pressure. Such a policy means an erratic supply, risk to both donor and recipient and laboratory tests as the principal method of ensuring safe blood.

1.2 CURRENT STATUS

(a) SUMMARY

The Zambia National Blood Transfusion Service is an important component of the Zambian Health Programme. It aims at organising voluntary blood donation and ensuring that there is adequate and safe blood for people needing transfusion. To do this requires staff training and the necessary resources.

(b) BACKGROUND

In 1988 following a request from the Zambian Government, the European Union decided to support the Ministry of Health and the National AIDS Control Programme in developing a National Blood Transfusion Service. The MOH has developed its policy and strategy to provide for a nation wide safe blood programme in collaboration with the European Union.
The EU HIV/AIDS Programme, was launched in 1987 to assist developing countries in their efforts to prevent the spread of the AIDS epidemic. It provides technical and financial support to strengthen blood transfusion service in several countries in Africa. It has developed a comprehensive strategy for safe blood programmes, based on the following key elements:-

1. Recruitment of voluntary blood donors from groups with low risk of being carriers of disease.
2. Systematic testing of all donated blood for HIV and other relevant infections transmitted through blood.
3. Reduction in number of blood transfusion through clear guidelines on blood use and training of health staff to prevent and reduce unnecessary transfusions.

The safe blood programme is an important element of the National AIDS Programme. During the first phase of the programme and with the support of the then EEC the Zambian Government developed its policy concept and institutional structure for the NBTS, which was laid down in the National Blood Policy. (Jesild C. 1996).

The objectives of the Policy are:-

1. To prevent transmission of HIV and other infections through blood and blood products.
2. To develop a National Blood Transfusion Service.
3. To improve the functioning of a BTS country-wide through training of staff, provision of equipment and supplies and technical assistance for management support and monitoring.

The main achievements were:-

1. The BTS at UTH Lusaka, Kitwe and Livingstone were upgraded.
2. The recruitment of Blood Donors was reoriented entirely towards low risk, voluntary, non renumerated donors.
3. A reduction in number of blood transfusion through clear guidelines on blood use and training of health staff to prevent unnecessary transfusions.
4. The MOH established the ZNBTS in 1994 under its Department of Clinical Services and defined a Core programme based at the UTH in Lusaka. Two regional BTCs in Lusaka and Kitwe responsible for the Southern and Northern provinces were established.
5. In each province, blood banks at the provincial general hospitals are being upgraded to become Provincial Blood transfusion centres. The district hospital capacities for safe blood transfusion practices were strengthened through staff training and provision of equipment and supplies from the Provincial Blood Transfusion Centres.

6. In 1995 the MOH appointed the Medical Director of the ZNBTS. The National Blood Policy's final format was reached; a National Blood Transfusion Committee (NBTC) and its Executive Committee were established. (Jesild C. 1996).

The specific functions of the Core Programme are:-

1. To implement a National Policy based on recruitment of voluntary non-renumerated blood donation and to produce guidelines on blood transfusion.
2. To procure through central purchasing supplies and equipment for distribution to all blood banks throughout the country.
3. To coordinate all training activities in blood transfusion medicine in the country.
4. To develop training curricula for staff within ZNBTS.
5. To develop laboratory manuals describing all the procedures which affect the quality of products or services provided to the Zambian health care system by ZNBTS.
6. To advise on a blood transfusion curriculum for all medical, paramedical and nursing schools in the country.
7. To monitor through statistics, audits, external quality assurance schemes and visits the activities of the safe blood programme.

8. To provide assistance in haemotherapy in clinical care settings through consultations and Development of guidelines for clinical use of blood and blood components.
9. To assist and promote programmes for research in blood transfusion medicine.
10. To advise MOH on the accreditation of government and private hospital blood banks.(Jesild C. 1996)

WHO POLICY ON SELECTION OF BLOOD DONORS

WHO recognises that the corner stone of a safe and adequate supply of blood and blood products is the recruitment, selection and retention of voluntary, non-remunerated blood donors (Jean C. Emmanuel). The spread of HIV infection and AIDS, together with the limitations in the process of testing for transmissible diseases, make it imperative for blood donor programmes to consider how donors are recruited and to develop and implement appropriate selection mechanisms that take into account epidemiological and demographic factors for transfusion-transmissible diseases.

Recruiting donors is not cost-effective, unless they are from population groups with the lowest risk of transfusion-transmissible diseases. Every effort must be made to ensure that any information obtained during donor recruitment and selection is not the basis for discrimination in the community. Confidentiality of test results is essential.

WHO and other organisations, including the International Federation of Red Cross and Red Crescent Societies (IFRCRCS), the World Federation of Haemophilia, the International authorities, such as the Council of Europe and the American Association of Blood Banks, promote the development of National Blood Transfusion Services based on voluntary non-remunerated blood donation from people with lowest risk of transfusion-transmissible diseases. This means the donation of blood, plasma or cellular components given of the donor's free will without any form of payment, which could be considered a substitute for money, including time off work, other than a reasonable time for the donation and associated travel. Small token, refreshments and reimbursements of direct travel costs are compatible with voluntary non-renumerated donation. Extensive studies have shown that voluntary non-renumerated blood donation is safer than any other form of donation. WHO also endorses the Code of Ethics for Blood Donation and Transfusion prepared in 1980 by the ISBT and adopted by the General Assembly of the IFRCRCS. This code emphasis that blood donation must not entail discrimination of race, nationality or religion. (S. Gerald Sandler).

Confidentiality in all aspects of blood donation is a necessity to ensure adherence to this requirement. As stated in the code of Ethics, each donor should be fully informed, prior to donation about the process and purposes of donation, as well as the tests which are to be carried out on the donated blood and the meaning of any abnormal results of testing. Where donors so wish, this information can be provided for the follow-up care or referral to an appropriate authority if necessary.

Health services should ensure that adequate testing facilities for HIV and transfusion-transmissible diseases are available so that people do not use blood donations, as a means of being tested.

The code of Ethics reinforces the message that as with other medical practices, no harm should come to the donor of the blood or blood product, or to the recipient of that blood product. Potential donors must therefore be assessed for their suitability to donate blood. Permanent medical conditions, such as cancer, heart disease, and epilepsy, or temporary conditions such as anaemia, pregnancy and some counselling at the time of donation may all lead to rejection or deferral.

WHO urges countries to develop suitable national guideline for the recruitment, selection and retention of voluntary, non-remunerated blood donors and to minimise the risk of stigmatization by their communities. Zambia, in developing the National Blood Transfusion, has adopted the WHO guidelines and the Code of Ethics.

1.3 STATEMENT OF THE PROBLEM

The transmission of blood transmissible infection, especially HIV virus during this century poses a serious problem globally and Zambia is no exception. The HIV infection rate among the Zambia population is 25.5% (Flyken 1996). In many developing countries, the public health problems on the organisation of BTS have not been addressed. (J. Koistinen 1994). The organisation and degree of development of the BTS should fit into the National health plan. The provision of safe and adequate blood supply is a community responsibility since the only source of blood are blood donors. The University Teaching Hospital has a bed capacity of 1,800.Using the formula 10 units to 1 hospital bed, its blood requirements are 50 units per day, 1,500 units per month, and 18,000 units per annum. Lusaka has a population of 1.2 million (1994 census). In 1995 the UTH Blood Bank collected 5,807 units of blood, only 32% of its estimated requirements. (ZNBTS, 1995). Obstetrics, Paediatrics, Surgery and Medicine all have heavy requirements. (ZNBTS, 1995)

In January 1994, the United States experienced a blood shortage that was described by official of the National Blood Service Organisation as the worst "Since World War II". Blood supplies reached critical levels in more than 40 cities. Elective surgery was postponed in scores of hospitals. An analysis of events contributing to this blood shortage in hospitals indicated that traditional seasonal factors, such as snow storms and low holiday donations were important. While the implementation of multiple new screening tests of infectious diseases and related

safeguards had disqualified thousands of potential donors (S. Gerald Sandler, 1994). As in many countries there is erratic supply of blood in Zambia. This study therefore attempts to discover the factors that affect voluntary blood donation in Zambia, given no previous work in the field.

1.4 LITERATURE REVIEW

Literature worldwide, reflects the problems encountered in blood donor recruitment, particularly with the emphasis and shift from replacement to voluntary blood donors. These include lack of trained donor recruiters, lack of community education on the importance of altruistic and voluntary blood donation, fear of HIV test and lack of appropriate counselling etc. There are studies that have also highlighted problems such as socio-economic status, age, sex, educational level, customary and religious beliefs.

This section will review critical elements to a successful Blood Transfusion Service. Success and models in the following areas will be given:-

1. Blood Donor Programme.
2. Functional Blood Transfusion Service.
3. Blood Donor Motivation.
4. Blood Donor Screening.
5. Blood Donor Counselling.

BLOOD DONATION PROGRAMME: A MODEL FOR DEVELOPMENT.

By 1974, the Taiwan National Blood Programme had not yet been fully developed. The volunteer donor base was less than 5% and there was no organised national structure of regulation of blood services. A Blood Donation Association was started as part of the Blood Services Foundation. There was promotion of an all volunteer blood programme. There was great use of blood components and standardisation of laboratory methods. In this way the Taiwan National Blood programme was developed. In 1991, 1,006,082 units of blood were collected in Taiwan, serving a population of about 20 million. There are currently 6 major blood centres and 13 blood stations. Blood donation is now 100% volunteer and 78% of all the blood collected is separated into 10 available components. These components include:-Factor V11, Factor V111, Packed Cells, Platelets, Plasma and National organisation and regulation over some 17 years has resulted in a community-based, all-volunteer blood supply (Tsai S.J. Lee TD 1993).

THE NEED FOR A FUNCTIONAL BTS

A retrospective study conducted at a 400 bedded University Teaching Hospital in Nigeria examined blood donation and use from 1984 to 1988. The study revealed that blood transfusion requests, the number of persons who underwent phlebotomy, the number of cross matches performed, and the amount of blood used increased each year during the period of study. The Average wastage rate was 3.5% and the cross match-to-transfusion ratio was 1.6%. Replacement blood donation constituted 98% of transfusion. Patients in Obstetrics,

Gynaecology and Surgery used 70.4% of the donor blood. The donor blood units were used as a whole blood (81%) because of lack of infrastructure such as refrigeration and centrifuge. Less than 5% of the donors were females. It was concluded that the levels of voluntary blood donation and general blood supply were unacceptably low. The need for a functional National Blood Transfusion Service was highlighted (Emeribe AO Ejele AO Attai EE Usanga EA 1993).

BLOOD DONOR MOTIVATION

Motivation is the conscious reason, behind a particular attitude or behaviour. In this study it is discussed in the context of the decision to donate or not donate blood. Positive motivation is best achieved when pre-donation information and education are given to groups of individual donors and prospective donors. Oswalt R. and Gordon J. (1993) in their survey of a group of non-Caucasian students who were under represented, in volunteering donation, discovered that, 1 in 3 of this group of students had donated blood and for the same positive motivation (altruism) and negative motivation (for those who did not donate.....fear, medical excuses, didn't think about it, no time) as Caucasian donors. The lower rate of blood donation by ethnic minorities was due to not their racial group, but to other variables such as education and socio economic level.

BLOOD DONOR SCREENING: FACTORS INFLUENCING DECISION MAKING.

A study done in Minneapolis assessing expert opinion on reducing the risk of transfusion-transmissible diseases through selection and testing of donors and the public's perception of blood transfusion safety, revealed that recipient safety should be a priority. However, issues such as the impact of testing on the available donor pool, the psychological effects of donor deferral, and costs related to each risk-reduction strategy should be considered. Evaluation of the associated costs, as well as the expected benefit, will not only assure the safety of blood recipients but also contribute to controlling the costs of health care. (Hanson M. 1994). Beal RV and Van Aken VG (1992) said that the safety and ethical aspects of blood donation were examined in the light of current legislation and practice. The advantages and disadvantages of voluntary and paid donation are looked at in view of recent data concerning risk factors in various potential donor groups. They concluded that voluntary, non-remunerated blood donation remains the safest and most ethical means of securing the blood supply. The donor has a challenge of not only giving a GIFT, but a GOOD gift.

BLOOD DONOR COUNSELLING

Counselling of blood donors is an important aspect in the blood donor services programme.

There are two phases of counselling, namely: Pre-donation counselling whereby the donor is informed and educated on the relevant aspects of blood donation; post donation counselling which deals with informing and educating the donor (if willing) of the meaning of test results and the implications on the donor, the recipient, and the BTS. Counselled donors will have information about their status and understanding of the need to continue to give blood on a regular basis, or the reasons for temporary or permanent deferral. However, the BTS has, in the Blood policy, embodied the right to refuse an uncounselled donor, whether suitable or not, to donate unless they know and understand of their status. Celso Bianco and Debra Kessler (1994) said that donor notification and counselling achieves a number of major objectives namely:

(a) protects the health of the donors, and in a number of cases, prevents secondary transmission of infectious diseases to sexual partners and offspring;
(b) protects the safety of the blood supply by conveying the message that the infected individual should refrain from future blood donations;
(c) provides feedback about the effectiveness of donor selection procedures such as pre-donation education, medical and confidential unit exclusion;
(d) fulfills ethical requirements of disclosure

1.3 CONCLUSION

The factors presented in the literature review may not be the only issues affecting blood donation but are among major contributing factors. The collection of Blood is now considered as one of the most crucial steps for the safe and adequate supply of blood products (J.A. Loos 1994).

CHAPTER 2

2.0 OBJECTIVES OF THE STUDY

2.1 GENERAL OBJECTIVE

The study aims at finding out factors that affect blood donation in Zambia.

2.2 SPECIFIC OBJECTIVES

1. To identify factors that contribute to an inadequate blood supply in Zambian hospitals.
2. To identify factors that would encourage blood donor retention
3. To make recommendations to the MOH on providing a safe and adequate blood supply.

HYPOTHESES

1. Fear of HIV testing discourages people from donating blood.
2. Lack of blood donor recruitment programmes affect voluntary blood donation.
3. Lack of community awareness about blood donation affects voluntary blood donation.

CHAPTER 3

3.0 METHODOLOGY

3.1 STUDY DESIGN

A survey of systematic randomly selected Grade 12 Secondary School students from 4 cities of Zambia, namely: Lusaka, Livingstone, Kitwe and Ndola was conducted. Three secondary schools from each city were randomly selected. The student population composed of girls and boys, donors and non donors. (NB There are convent schools for girls only, in all the four cities).
Questionnaires were randomly given to four clinicians in each hospital representing Paediatrics, Gynaecology and Obstetrics, Surgery and Medicine.

The third sample was randomly selected from Blood Bank Staff namely Nurses, Technicians and Clerks.

SAMPLE SIZE

SAMPLE I: SECONDARY SCHOOL STUDENTS

Only Grade 12 students were included in the study due to the time factor. Secondary Schools closed much earlier the previous year 1996 in order to give chance to finalists who were writing examinations, further the schools re-opened a week later such that other classes were not fully enrolled. Forty folded pieces of paper, 36 of which were written NO, and 4 written YES were placed in an empty ice cream container.

After introduction of the researcher and assistants and purpose of the research, instructions were given to the students to pick only one piece of paper from the container and keep it folded until asked to open it. Students who picked papers written YES were asked to come in front of the classroom with the pieces of paper, and were the ones who participated in filling the questionnaires. This constituted a tenth in all classes of forty students. The student who picked the papers written NO remained sitted in class as the papers were collected from them. selected grade 12 in all four cities gave a total sample of 165 students. A 100% response was obtained. The total number of students out of the forty-one classes in the four cities were 1,640, which gave a total sample of 165 randomly selected students. A 100% response was obtained.

SAMPLE II: BLOOD PRESCRIBERS

A random sample of 1 clinician from the departments of Paediatrics, Gynaecology and Obstetrics, Surgery and Medicine was taken in each city, making a total of 16 doctors. A response of 13 (81.25%) was obtained. This sample size was the minimum that could be met by all the four hospitals since some of the hospitals had small establishments with inadequate staff.

SAMPLE III: BLOOD BANK STAFF

A statistical random sample was chosen to include cadres that were involved in donor recruitment counselling, blood collection, screening and issuing of blood. The total number of participants was 14.

3.2 DATA COLLECTION

Data was collected from Grade 12 Secondary School Students and Blood Prescribers using self administered questionnaires with closed and open ended questions. Students who were selected for participation in the study were taken to a separate classroom or laboratory where they were given consent forms to read and sign before they could answer the questionnaire. Further review of the instructions on the questionnaire was done under the supervision of the researcher or assistant. Questionnaires were collected soon after completion of the exercise, and the students returned to their classes. This was done from class to class with the assistance of the School Head, Deputy, or Assigned Teacher. Doctors returned their questionnaires after a day or two, with the researcher making a follow up for retrieval and completion.

Focus group discussion which is a qualitative method of information gathering was used for Blood Bank staff. Appointments were made with the staff in the department through Hospital Executives and Blood Bank Heads. Written consents were circulated a day before the discussion and the discussions were held in the blood banks. In order to standardise and guide the discussions, the researcher used a formatted Focus Group Discussion Guide. The researcher moderated the discussion and recorded together with the assistant.

Data collection took thirty days.

3.3 ETHICAL CONSIDERATIONS

Permission to carry out the survey was obtained from the Executive Directors of Hospital Boards of Management and Heads of secondary schools. Written consent was obtained from participants after explaining the purpose of the study, assuring them of confidentiality and anonymity.

3.4 DATA ANALYSIS

Data was analysed by computer using the EPI INFO statistical package, and calculator.

3.5 PILOT STUDY

A Pilot study was carried out among secondary school students and blood prescribers in Lusaka. Adjustments were made to both questionnaires before carrying out the final survey.

3.6 LIMITATIONS OF THE STUDY

Due to time constraints the study was confined to hospitals and schools which are along the line of rail.

CHAPTER 4

SECTION A

4.0 ANALYSIS, PRESENTATION AND DISCUSSION OF FINDINGS

This study is the first conducted to determine the factors that affect voluntary blood donation in Zambia. It takes account of the perspective of donors, non donors, blood bank staff and blood prescribers.

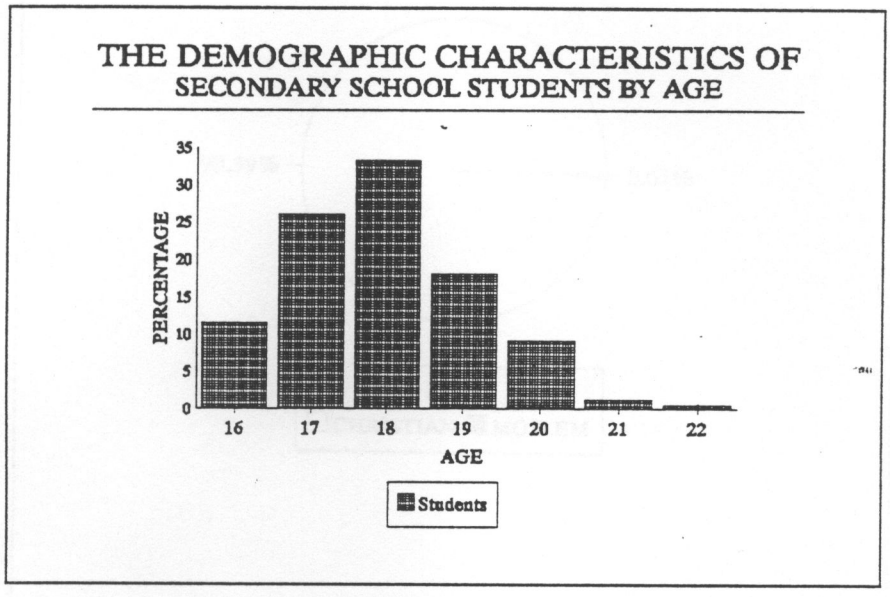
In order to establish these factors, a random sampling of grade 12 students from the four cities of Zambia was done. Secondary School students constitute the majority of prospective and actual donors for the source of blood. (ZNBTS, Annual Report 1995/1996.)

61% of the students were aged between 18 and 22 years. Blood can be given at the minimum age of 17 and maximum age of 65 years. From figure 1, it can be deduced that since the majority of prospective and actual donors had just attained 17 years at Grade 12 level, most will not continue as regular donors as contact is lost once they leave school.

4.1 THE DEMOGRAPHIC CHARACTERISTICS OF SECONDARY SCHOOL STUDENTS.

Figure 1

(a)



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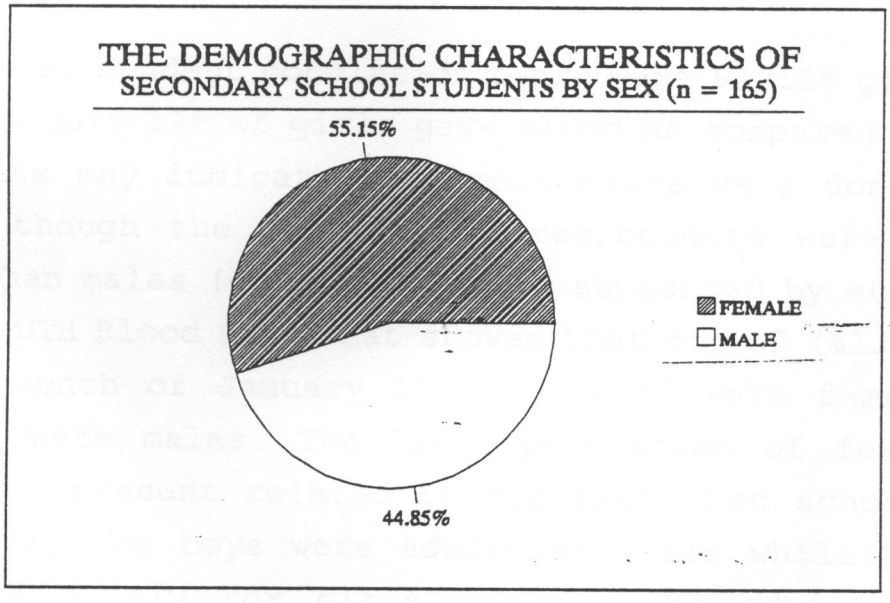

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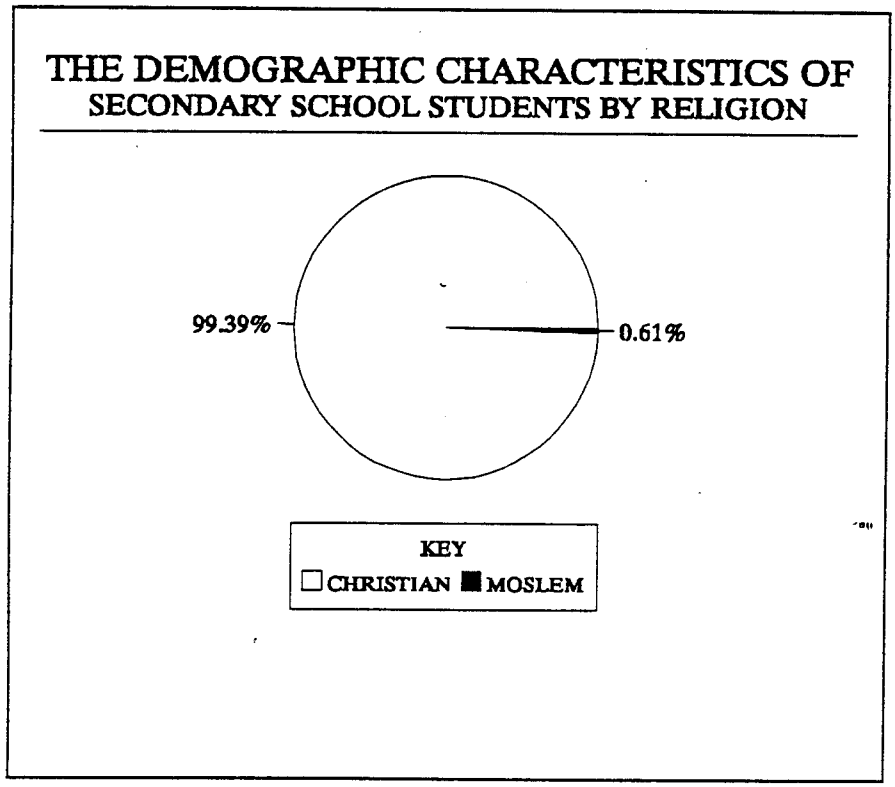


4.1 DEMOGRAPHIC DATA

In the total student population there were 55.15% girls, 45% boys, yet only 12% of girls gave blood as compared with 16% boys. This may indicate that more males were donors than females though the majority of respondents were females (53.9) than males (44.85). This is supported by statistics from the UTH Blood Bank that showed that out of (413) donors for the month of January 1997 (11.86%) were females and (88.14%) were males. The large population of females in schools at present related to the fact that schools that were purely for boys were admitting girls whilst schools that were purely for girls are not yet admitting boys especially convent schools. This was the observation in the four cities of the country that were sampled.

The reason why girls were in the minority as blood donors could be due to ignorance on the relationship of the menstrual flow and venous circulation, fear of anaemia and fear of fainting.

All subjects in Secondary Schools were single, with same occupational status i.e. students.

Figure 2

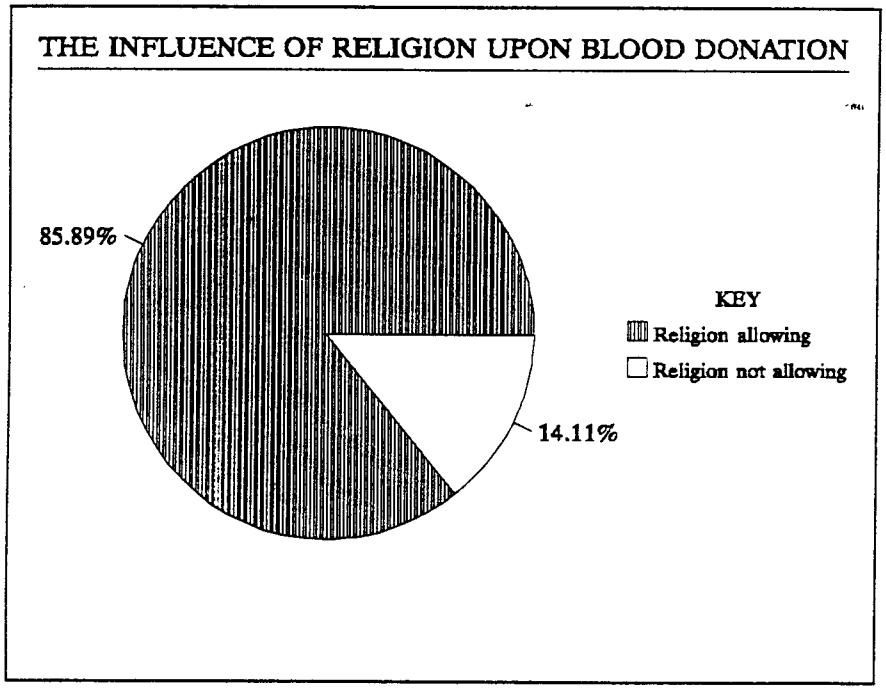
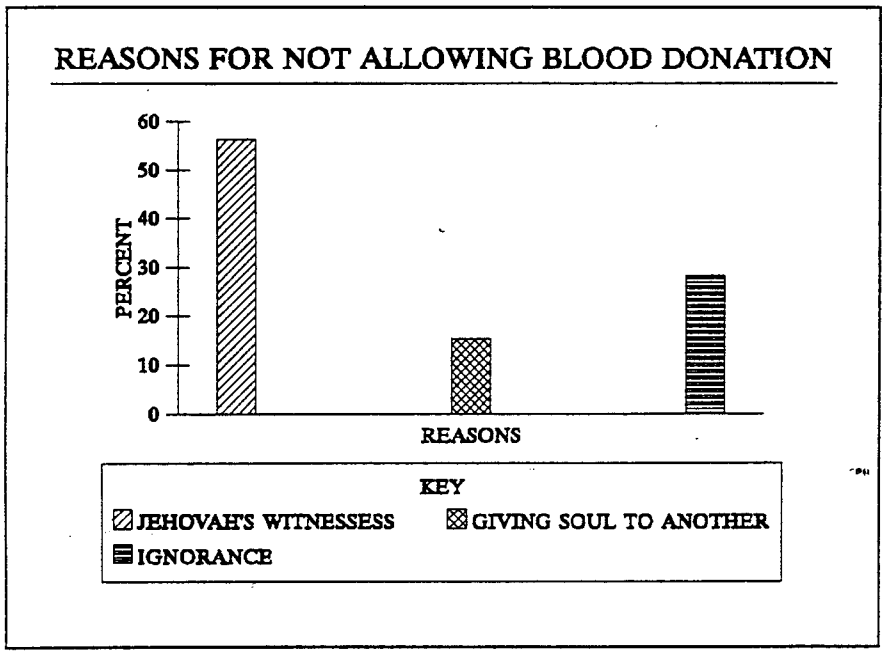


Figure 3


REASONS FOR NOT ALLOWING BLOOD DONATION
60
50
40
30
20
10
0
PERCENT
REASONS
KEY
JEHOVAH'S WITNESSESS
GIVING SOUL TO ANOTHER
IGNORANCE

4.2 RELIGIOUS AFFILIATION

The majority (99.39%) were Christians whilst the minority (0.61%) were Moslem. Of the Christians, 84.85% were of religious beliefs that allowed blood donations while the minority (13.94%) were Jehovah's witness sect who do not believe in blood donation, quoting the Scripture from Acts: Chapter 15 verse 29 which says (Eat on food that has been offered to idols: (eat no blood: eat no animal that has been strangled: and keep yourselves from sexual immorality. You will do well if you take care not to do these things. With best wishes). Holy bible: Good News Version. The religious affiliation may not be a significant adverse factor in voluntary blood donation since some respondents in the sect expressed ignorance to this belief. Therefore some members could be potential donors given good education and motivation on blood donation.

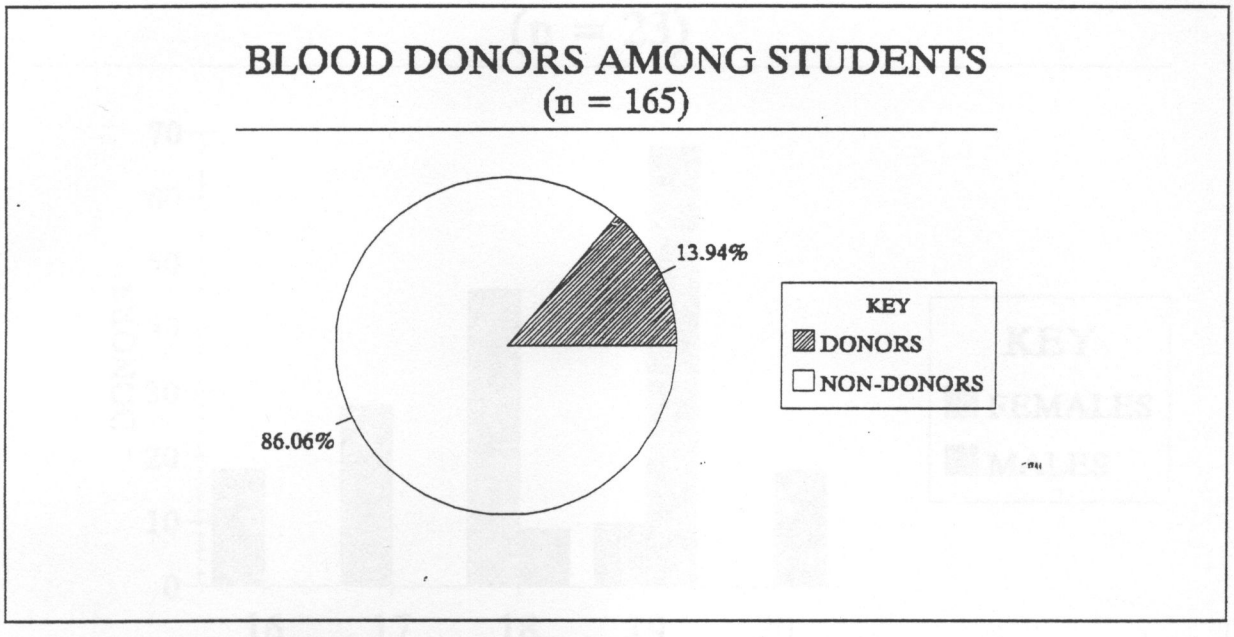
The religious reasons respondents gave included:-

(a) Belonging to Jehovah's witness sect.
(b) The Bible discourages blood donation.
(c) Blood donation is like transferring one's soul to another.

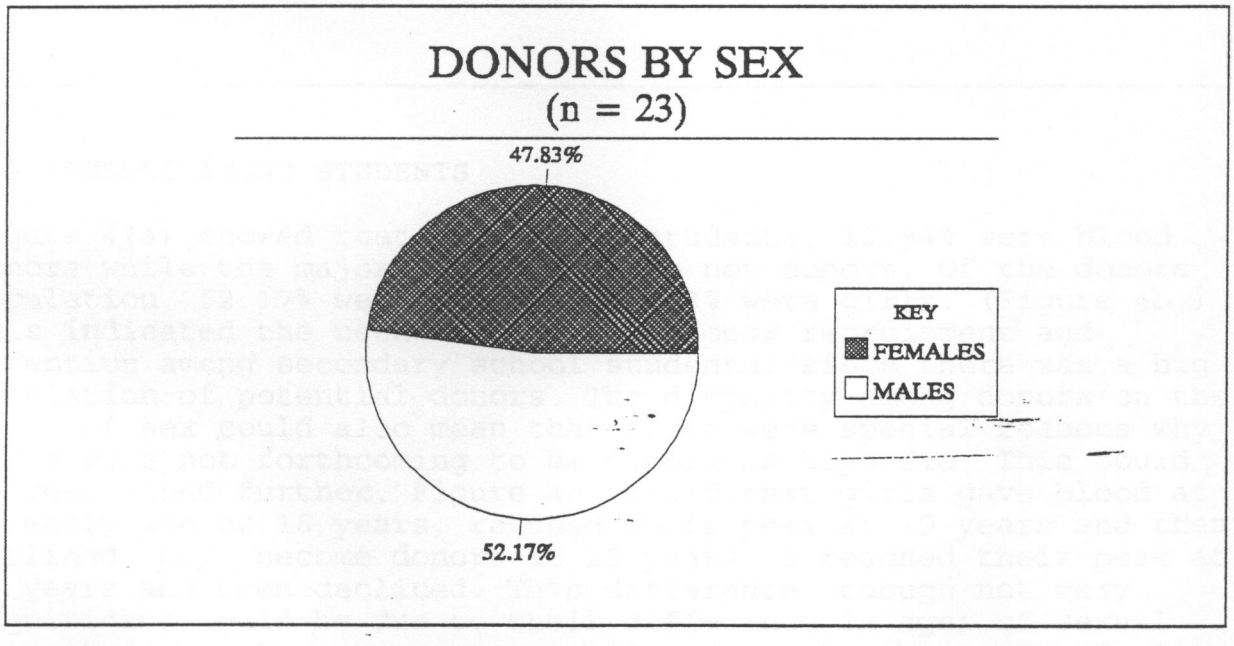
Out of the total sample of 165 students. 86.06% were non donors, and out of these, 40.85% were willing to become donors whereas 59.15% were not willing to become donors. Lack of knowledge on blood donation in the communities has a negative effect on voluntary blood donation.

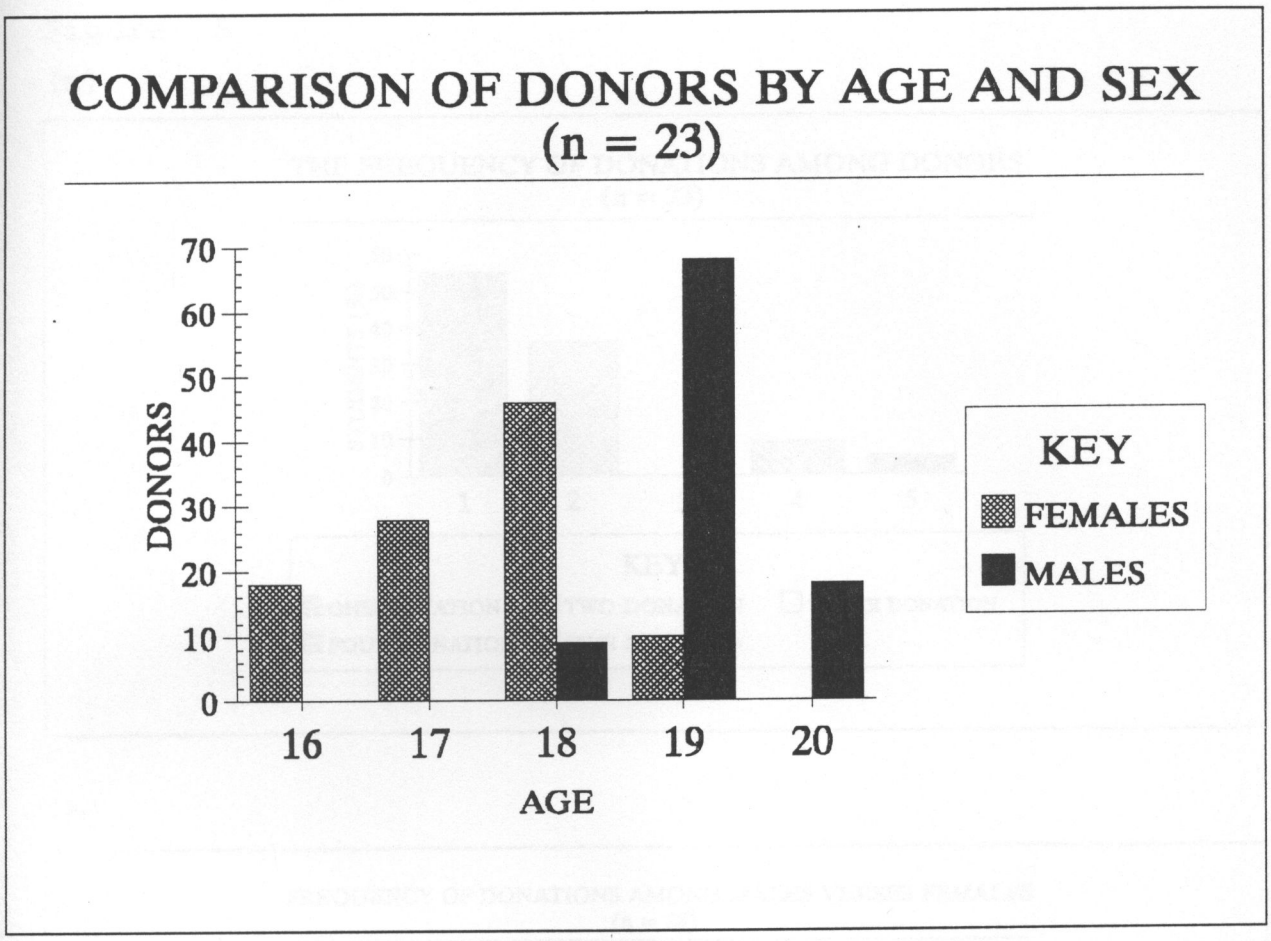
Figure 4

(a)


BLOOD DONORS AMONG STUDENTS
(n = 165)
13.94%
86.06%
KEY
DONORS
NON-DONORS

(b)


DONORS BY SEX
(n = 23)
47.83%
52.17%
KEY
FEMALES
MALES

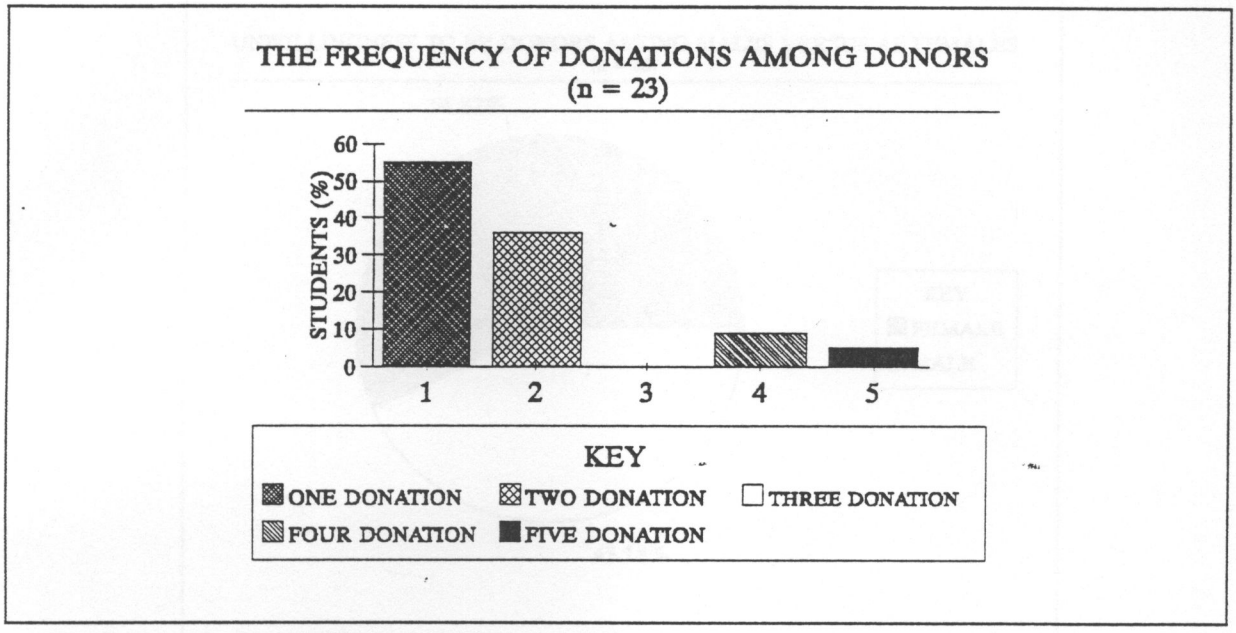


4.3 DONORS AMONG STUDENTS

Figure 4(a) showed that of the 165 students, 13.94% were blood donors while the majority 86.06% were not donors. Of the donors population, 52.17% were boys and 47.83% were girls. (Figure 4b.) This indicated the need to intensify donor recruitment and retention among secondary school students, since there was a big population of potential donors. The disparity among donors on the basis of sex could also mean that there were special reasons why girls were not forthcoming to be donors as boys did. This could be researched further. Figure 4c showed that girls gave blood at an early age of 16 years, reached their peak at 19 years and then declined. Boys become donors at 18 years, 0 reached their peak at 19 years and then declined. This difference, though not very significant could be due to their difference in ages of sexual maturity as girls mature at an earlier age than boys. The decline in both groups could be due to multiple sexual partner practices which disqualify them as suitable donors.

Figure 5

(a)


THE FREQUENCY OF DONATIONS AMONG DONORS
(n = 23)
STUDENTS (%)
60
50
40
30
20
10
0
1
2
3
4
5
KEY
ONE DONATION
TWO DONATION
THREE DONATION
FOUR DONATION
FIVE DONATION

(b)

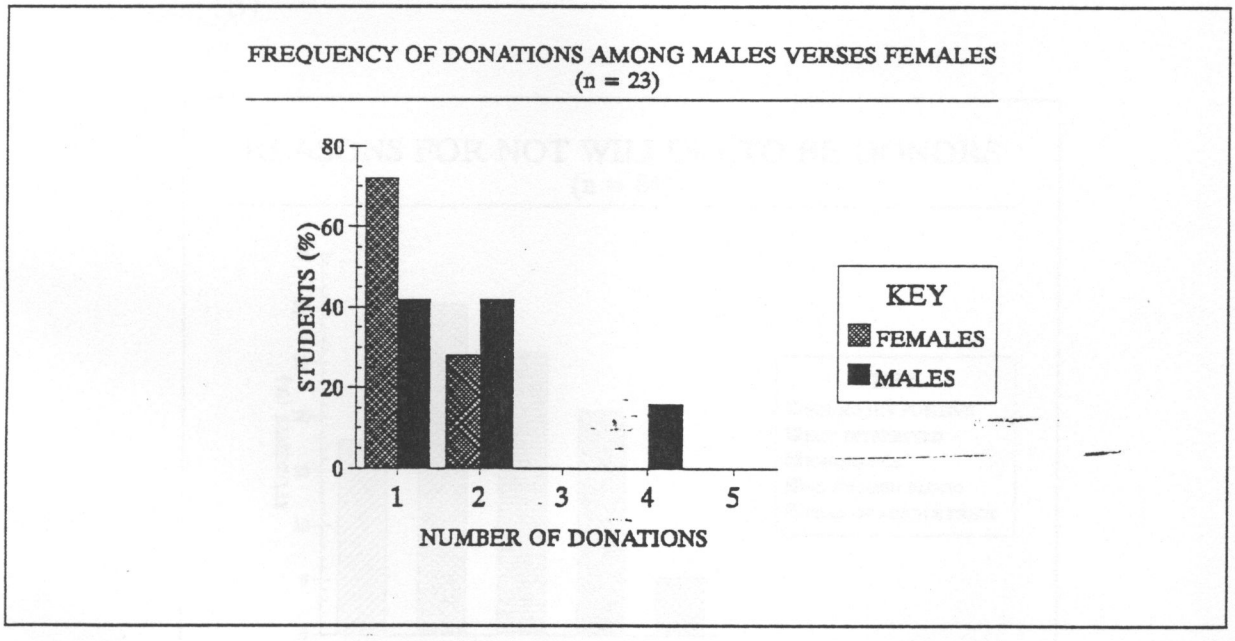
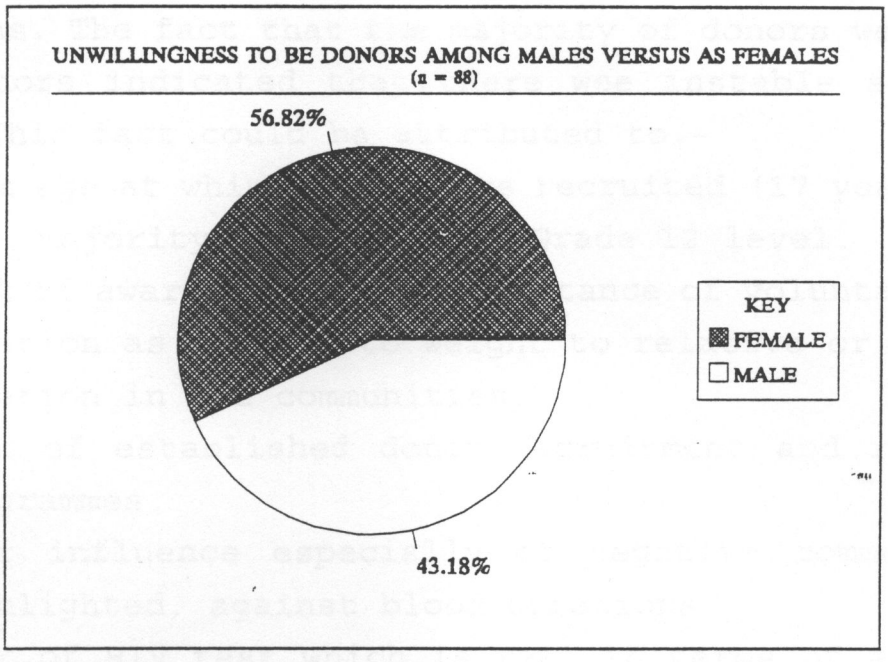
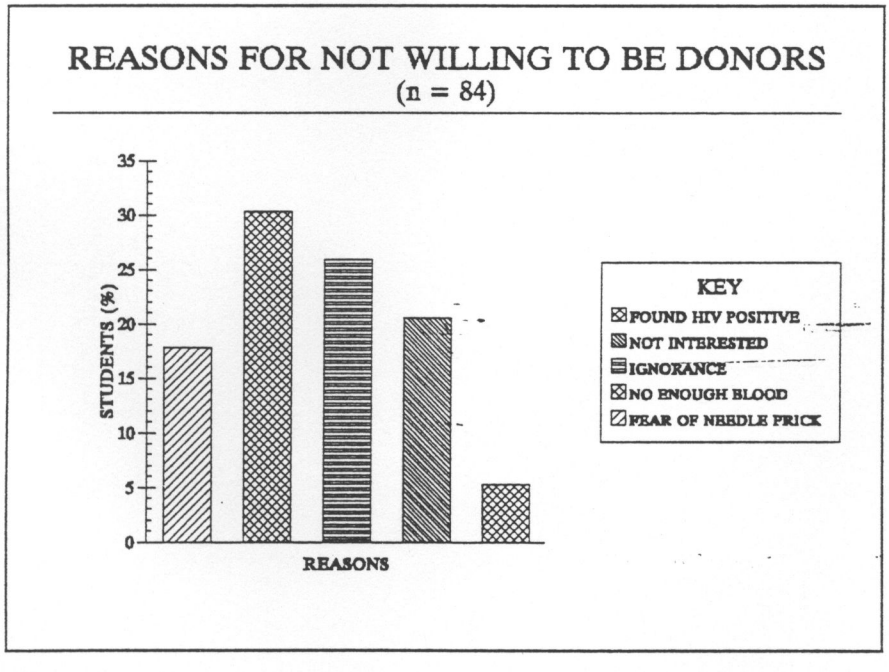

FREQUENCY OF DONATIONS AMONG MALES VERSES FEMALES
(n = 23)
STUDENTS (%)
80
60
40
20
0
1
2
3
4
5
NUMBER OF DONATIONS
KEY
FEMALES
MALES

Figure 7

(a)


UNWILLINGNESS TO BE DONORS AMONG MALES VERSUS AS FEMALES
(n = 88)
56.82%
43.18%
KEY
FEMALE
MALE

(b)


REASONS FOR NOT WILLING TO BE DONORS
(n = 84)
STUDENTS (%)
35
30
25
20
15
10
5
0
REASONS
KEY
FOUND HIV POSITIVE
NOT INTERESTED
IGNORANCE
NO ENOUGH BLOOD
FEAR OF NEEDLE PRICK

4.4 FREQUENCY OF DONORS AMONG DONORS

The frequency of donors among donors ranged from one to five donations. The fact that the majority of donors were first time donors indicated that there wee instable source of blood. This fact could be attributed to:-

(a) The age at which donors are recruited (17 years) with the majority turning 18 at Grade 12 level.

(b) Lack of awareness on the importance of voluntary blood donation as opposed to weight to relative or directed donation in the communities.

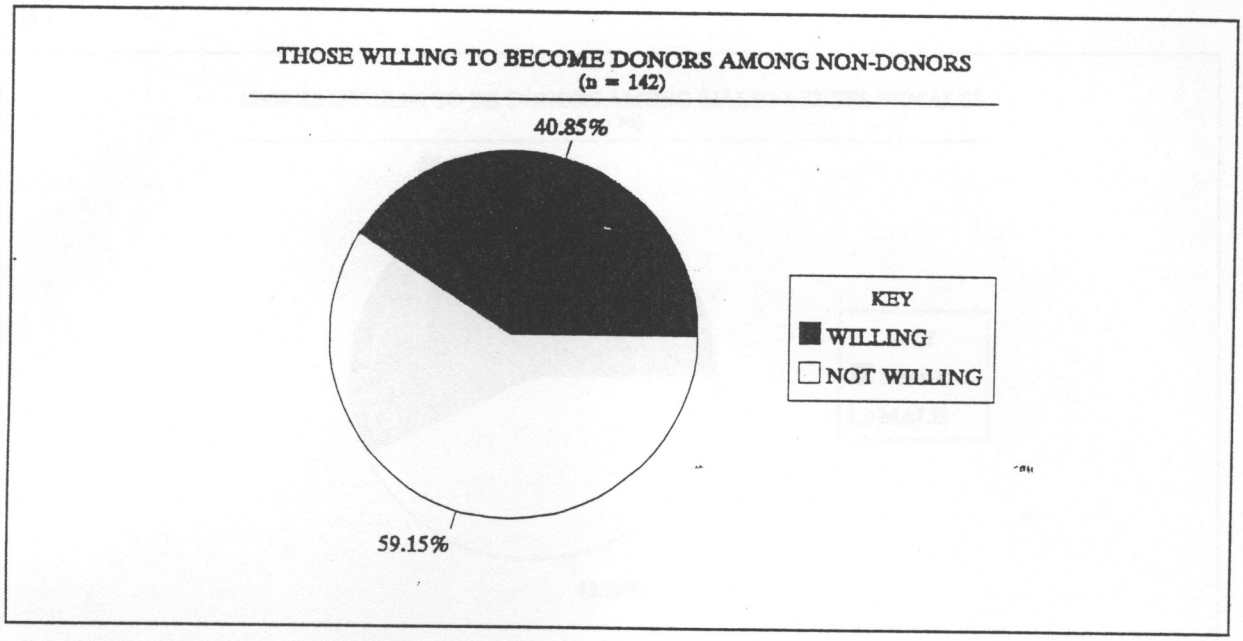
(c) Lack of established donor recruitment and retention programmes.

(d) Peer influence especially of negative comments are highlighted, against blood donations

(e) Fear of HIV test which is real in terms of accepting the positive HIV status, despite pre and post donation counselling.

Figure 6

(a)


THOSE WILLING TO BECOME DONORS AMONG NON-DONORS
(n = 142)
40.85%
59.15%
KEY
WILLING
NOT WILLING

(b)

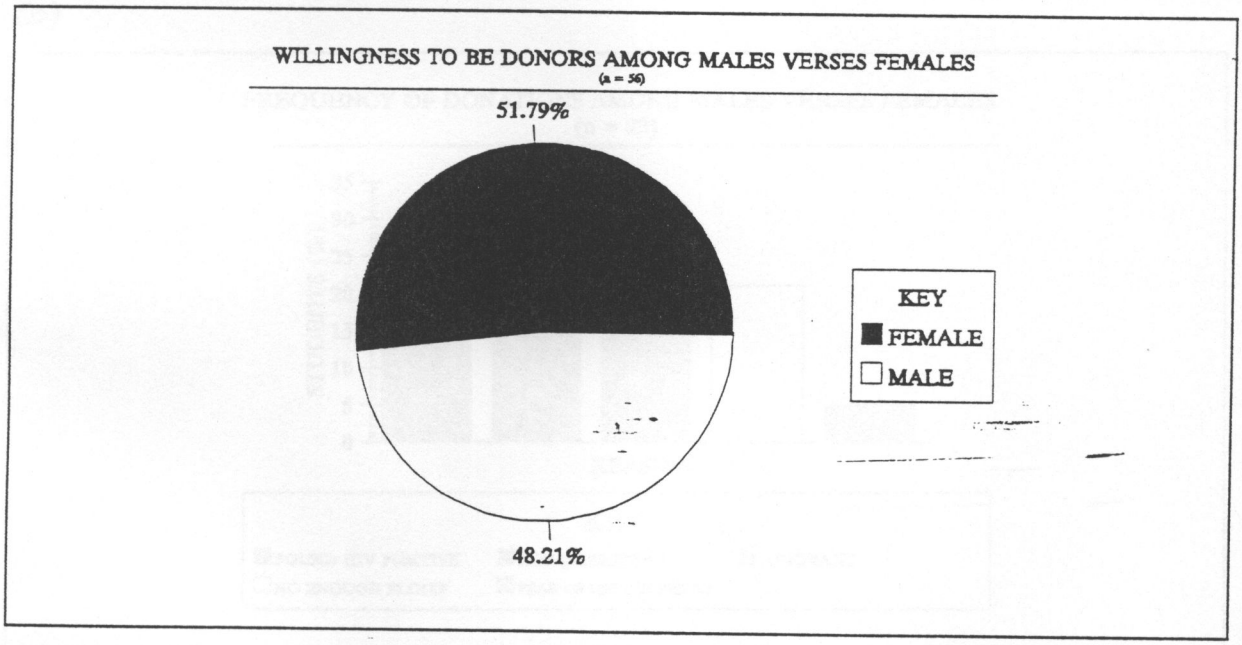
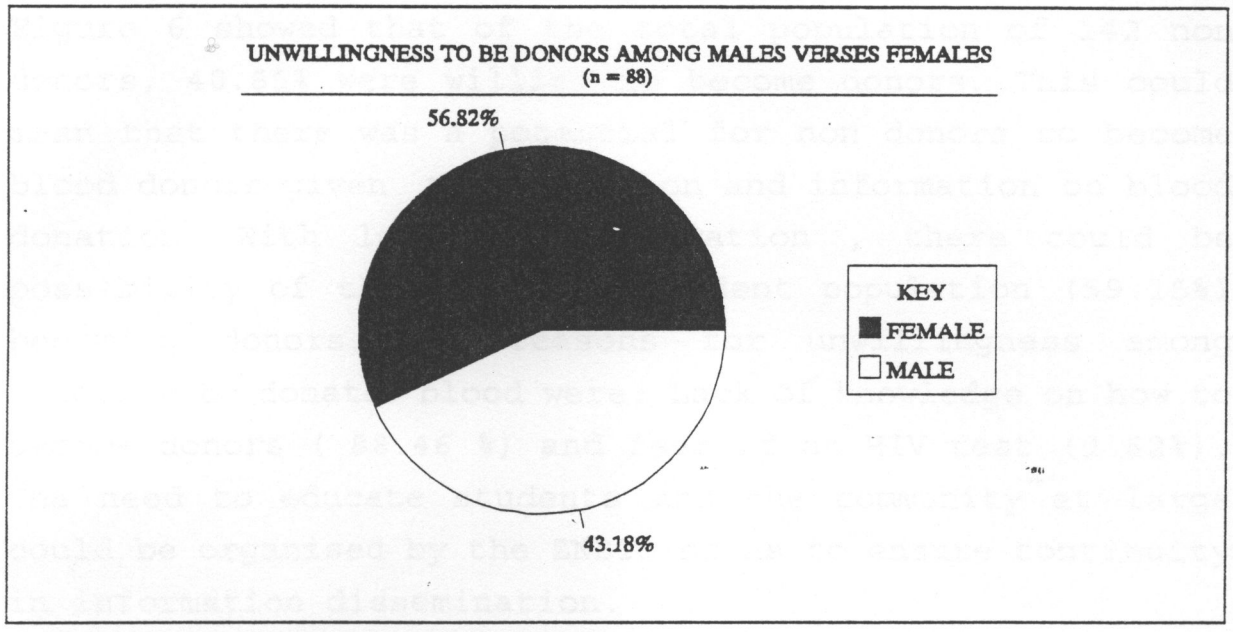
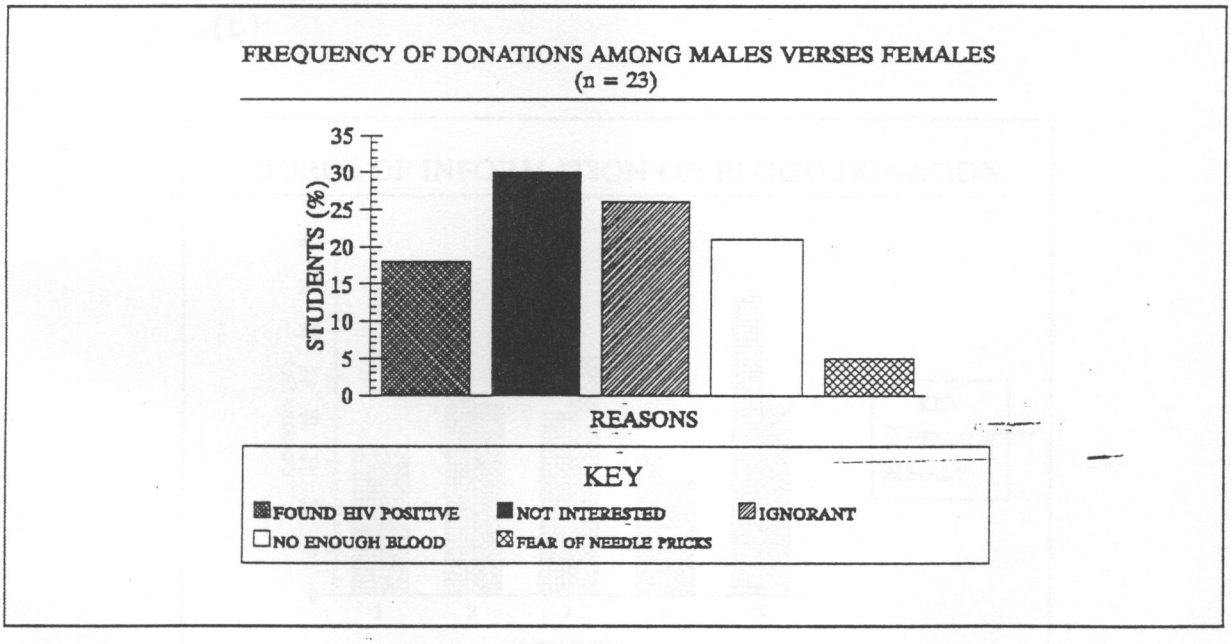

WILLINGNESS TO BE DONORS AMONG MALES VERSES FEMALES
51.79%
48.21%
KEY
FEMALE
MALE

Figure 7

(a)


UNWILLINGNESS TO BE DONORS AMONG MALES VERSES FEMALES
(n = 88)
56.82%
43.18%
KEY
FEMALE
MALE

(b)


FREQUENCY OF DONATIONS AMONG MALES VERSES FEMALES
(n = 23)
STUDENTS (%)
35
30
25
20
15
10
5
0
REASONS
KEY
FOUND HIV POSITIVE
NOT INTERESTED
IGNORANT
NO ENOUGH BLOOD
FEAR OF NEEDLE PRICKS

4.5 WILLINGNESS TO BECOME DONORS AMONG NON DONORS

Figure 6 showed that of the total population of 142 non donors, 40.85% were willing to become donors. This could mean that there was a potential for non donors to become blood donors given the education and information on blood donation. With long term motivation , there could be possibility of the unwilling student population (59.15%) becoming donors. The reasons for unwillingness among students to donate blood were: Lack of knowledge on how to become donors (88.46 %) and fear of an HIV test (9.62%). The need to educate students and the community at large could be organised by the ZNBTS so as to ensure continuity in information dissemination.

Figure 8

(b)

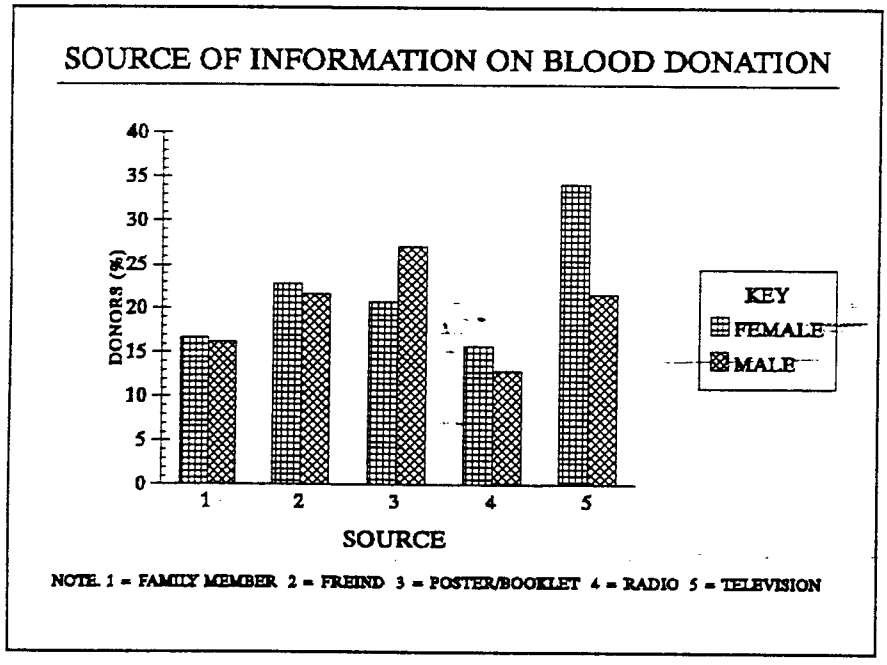
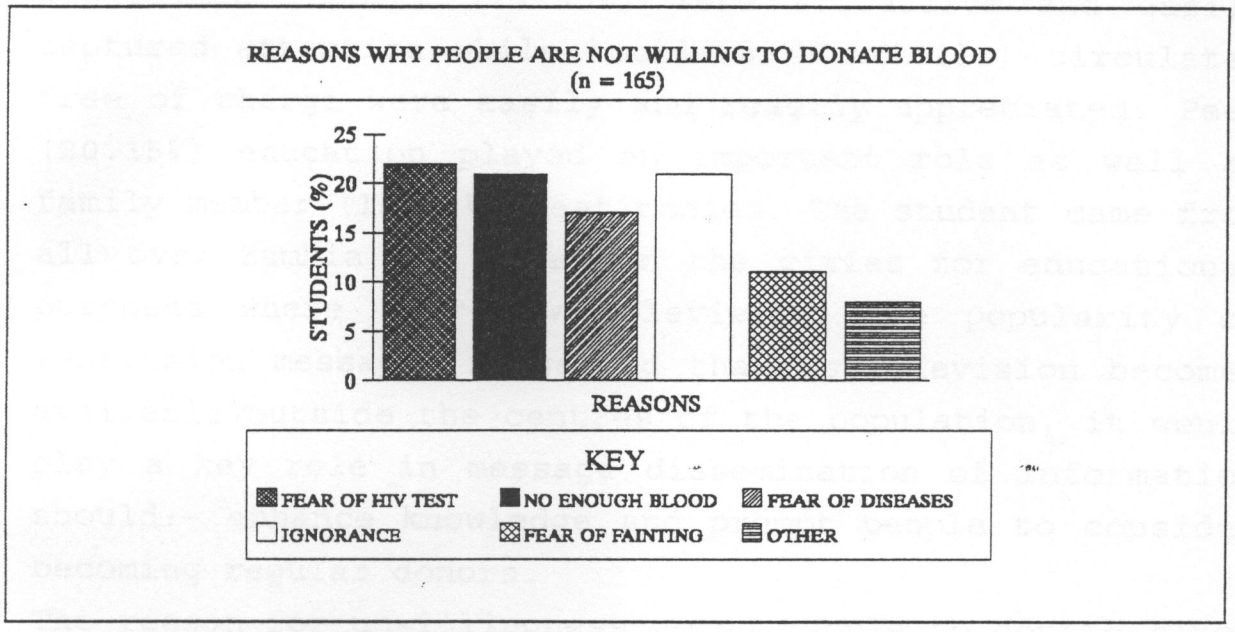


Figure 9



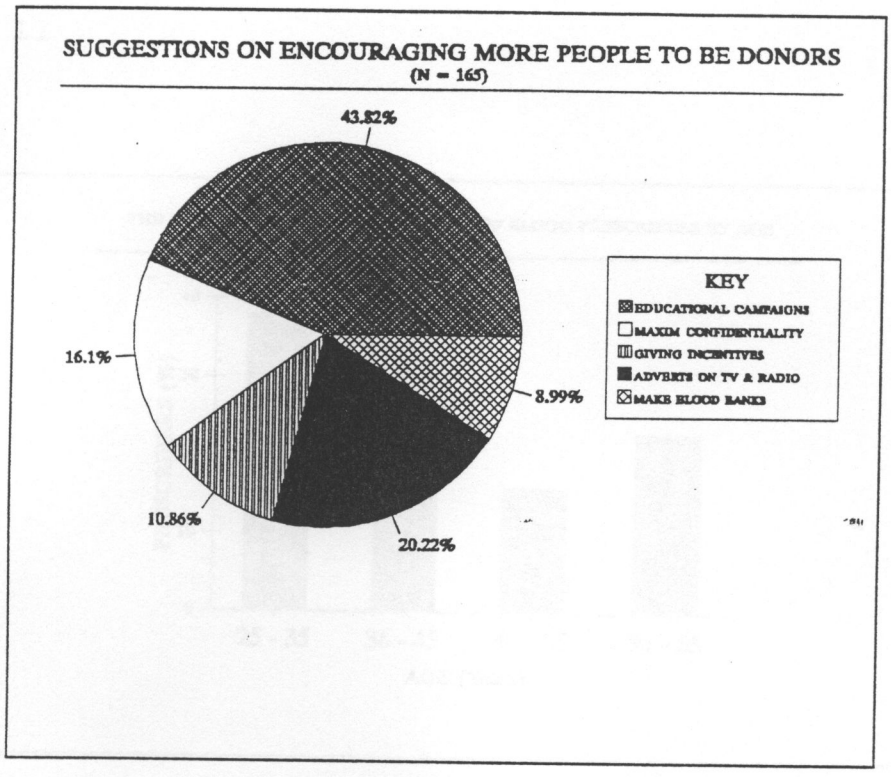
4.6 SOURCES OF INFORMATION ON BLOOD DONATION

The sources of information about blood donation among students varied as indicated in figure 8, with the majority having obtained information from Television (26.24%) and the minority (13.69%) through radio. Information dissemination among teenagers is crucial, as it takes into account the nature, acceptability, relevance, importance, attractiveness of the information and channel used. The responses showed

that messages through Television were most popular as most teenagers enjoy watching television than listening to radio programmes. Poster (23.95%) were attractive and easily captured attention while booklets (Handbills) circulated free of charge were easily and readily appreciated. Peer (20.15%) education played an important role as well as family member (15.59%) testimonies. The student came from all over Zambia and lived in the cities for educational purposes where they saw Television. The popularity of Television messages suggested that as Television becomes available outside the centres of the population, it would play a key role in message dissemination of information should:- enhance knowledge and prompt people to consider becoming regular donors.

The reason for unwillingness among people to donate blood centered on fear of HIV test. This could signify that people were knowledgeable of the mode of transmission of HIV and that behavior that they had engaged in could disqualify them as suitable donors. This act of self exclusion could be beneficial in deferring donors or prospective donors who could be in the HIV window period, and therefore reducing wastage when HIV blood has to be discarded.

Figure 10



4.7 HOW BLOOD BANKS CAN ENCOURAGE MORE PEOPLE TO BE DONORS

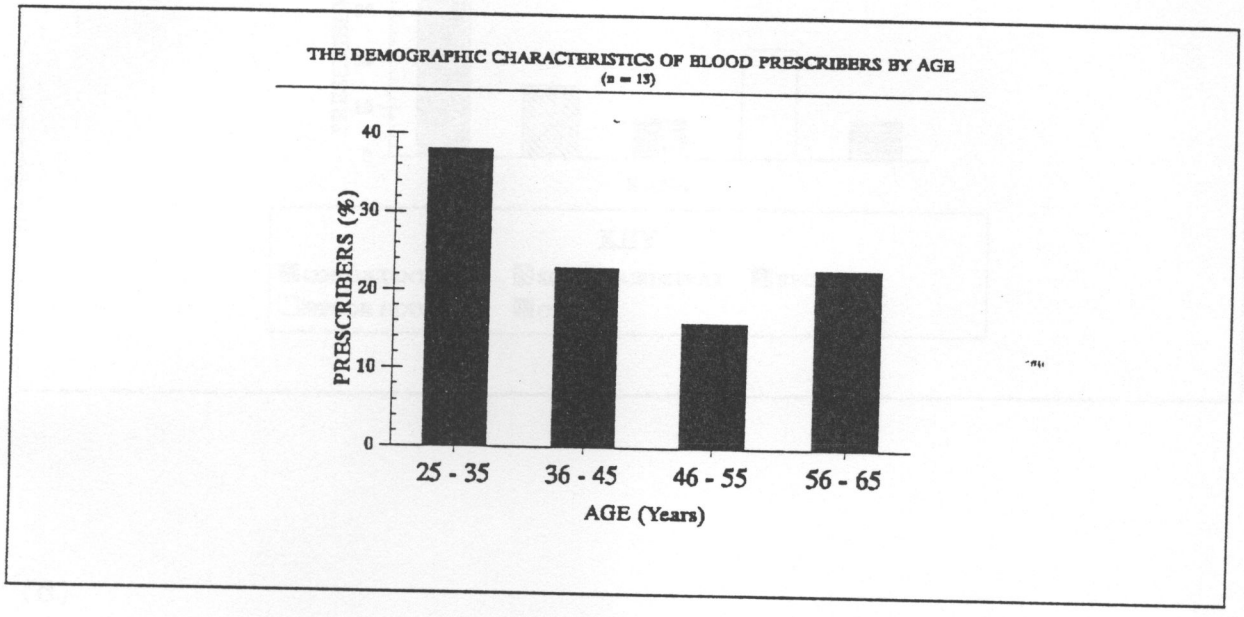
The majority (43.82%) said Blood Bank needed to carry out educational campaigns while the minority (8.99%) said Blood Banks should be made clean and nice places to go to. The demand for education signified that people were aware of the fact that there was ignorance among communities which needed to be addressed. From the perspective of the students population who were donors and prospective donors, one concludes that fear of an HIV test, adversely affects voluntary blood donation.

SECTION B

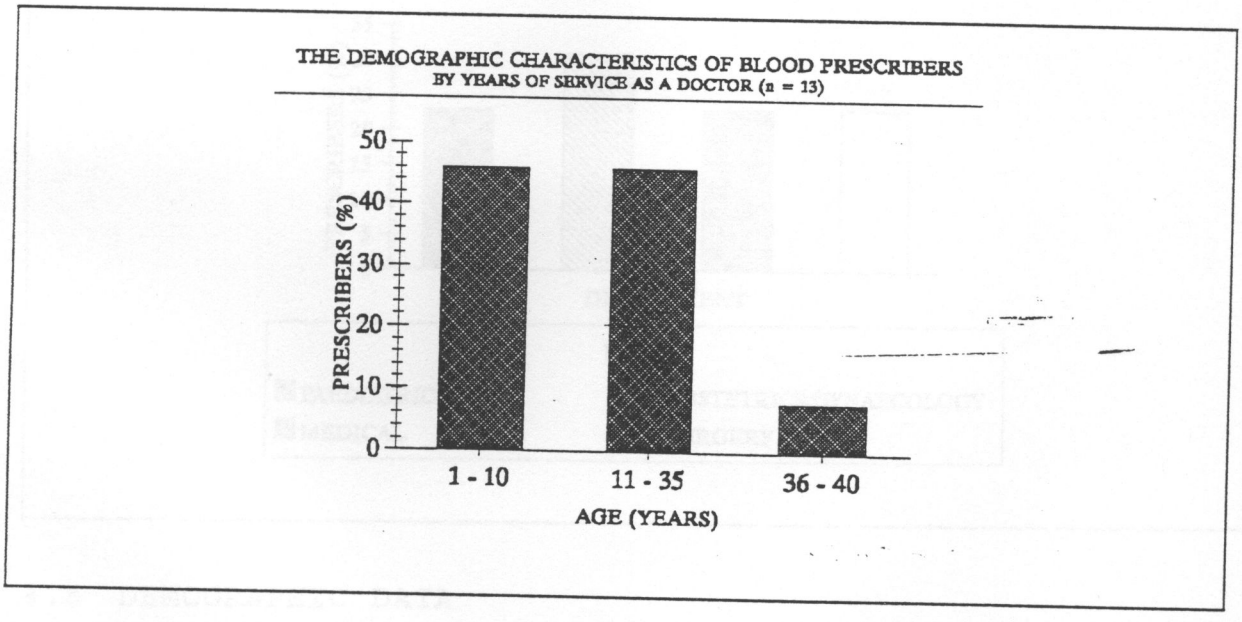
4.8 DEMOGRAPHIC CHARATERISTICS OF BLOOD PRESCRIBERS

Figure 11

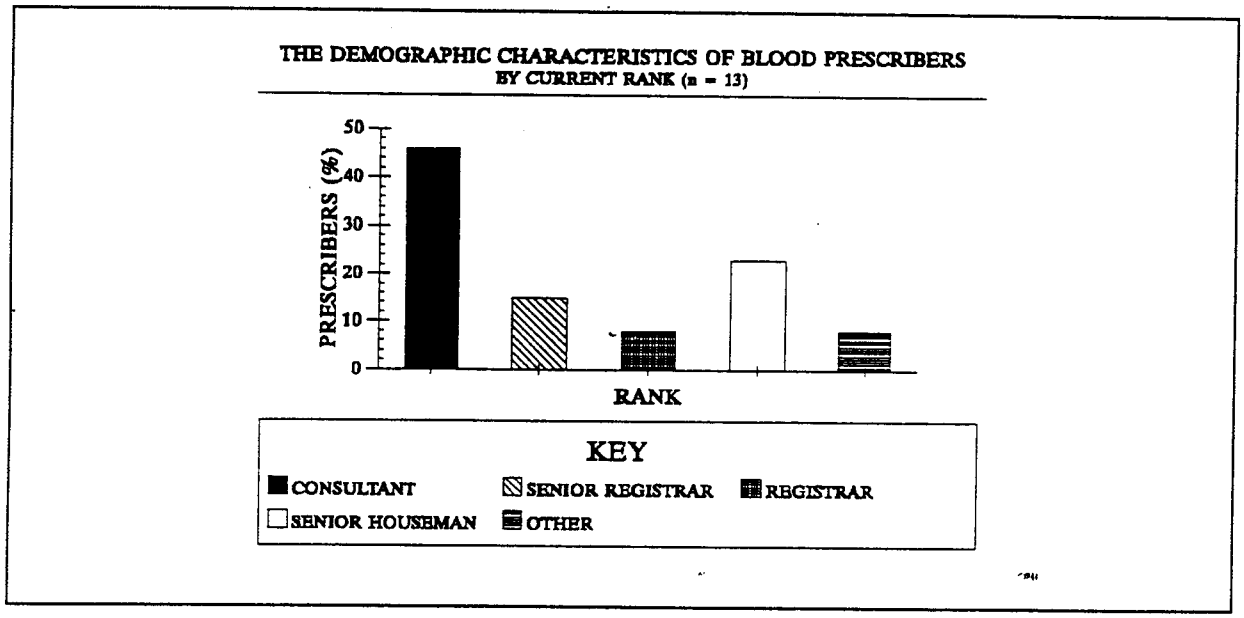
(a)



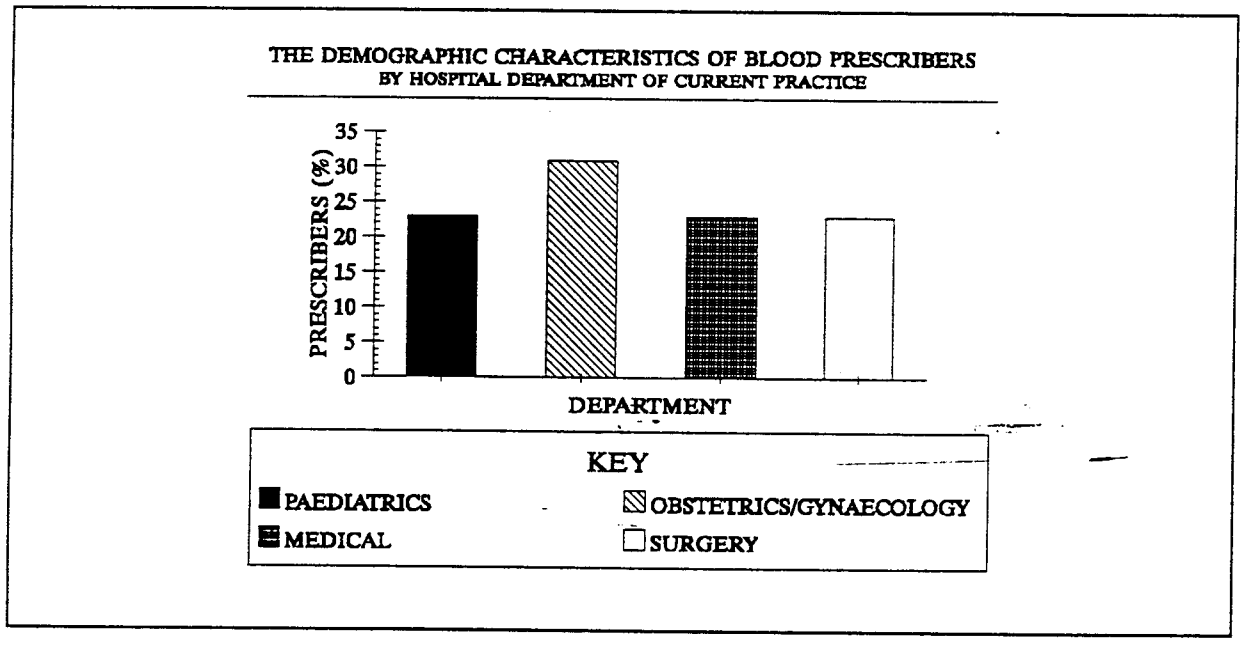
(b)



(c)



(d)



4.8 DEMOGRAPHIC DATA

4.8 DEMOGRAPHIC DATA

The demographic data for blood prescribers (n = 13) gave a description of doctors aged between 25 to 65 year, all males all with years of service ranging from 1 to 40 years (Fig 11). The majority (61.54%) had been in service at the current hospital for 1 to 5 years, while the minority (15.38%) had served for 6 to 15 years. The ranks of these prescribers ranged from consultants to senior housemen with the majority (46.15%) being consultants and minority (7.69%) being registrars. The prescribers were currently serving in paediatrics, obstetrics and gynaecology. medical and surgical departments.

Figure 12

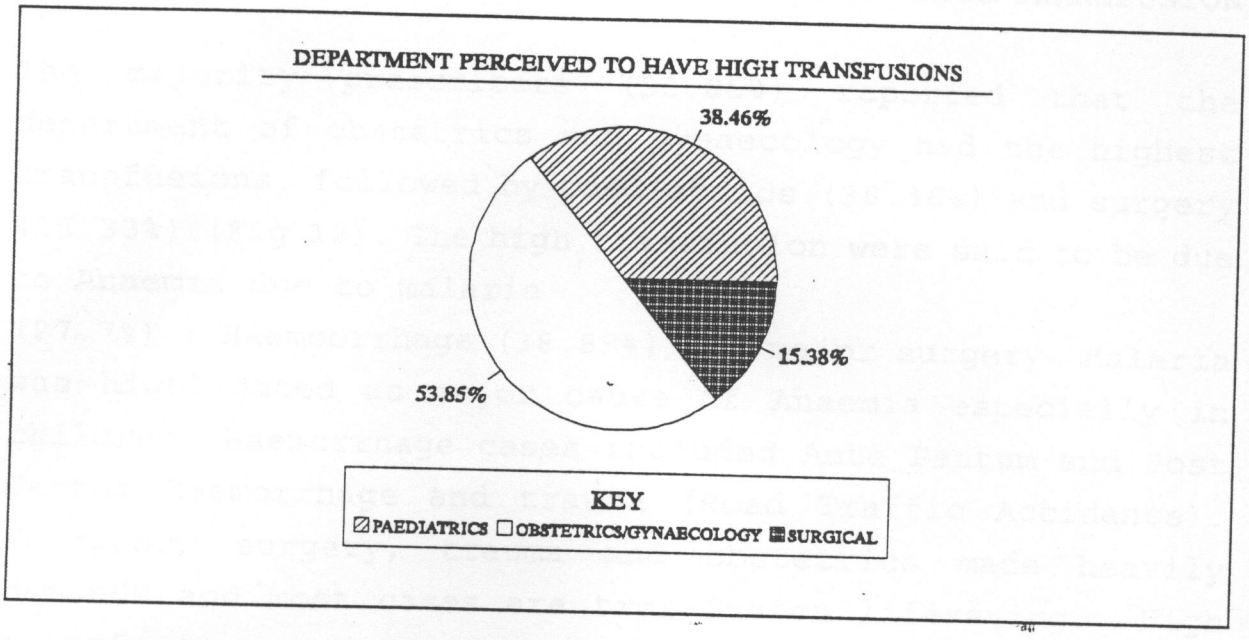
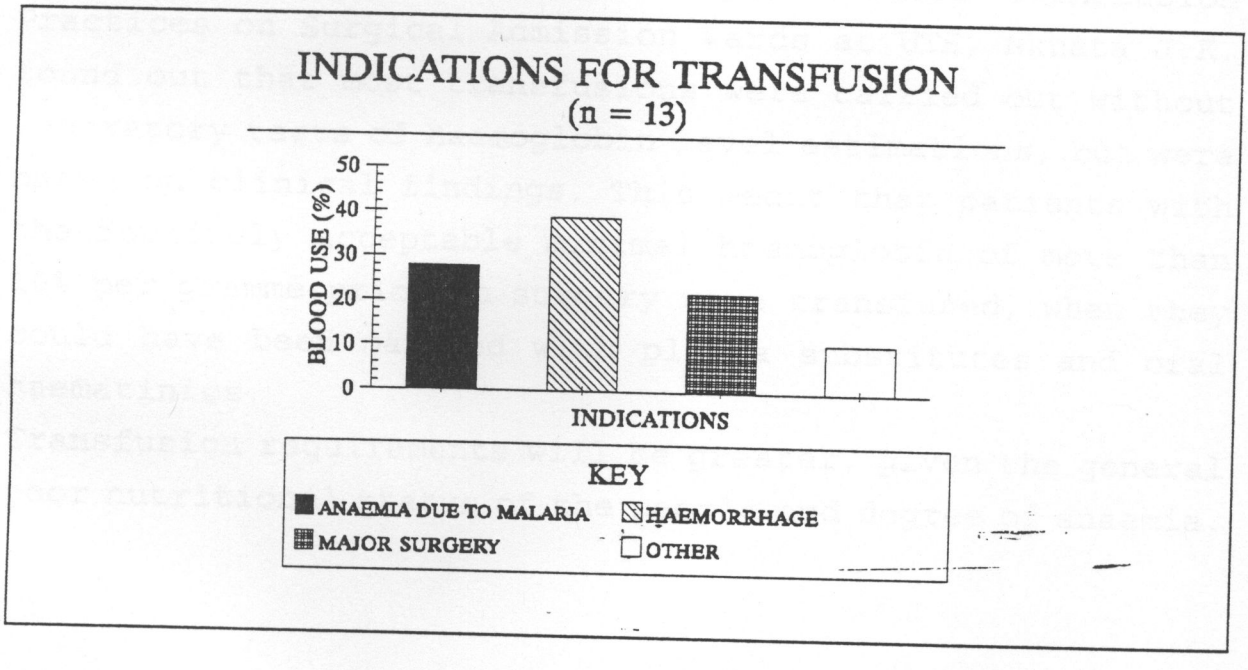


Figure 13

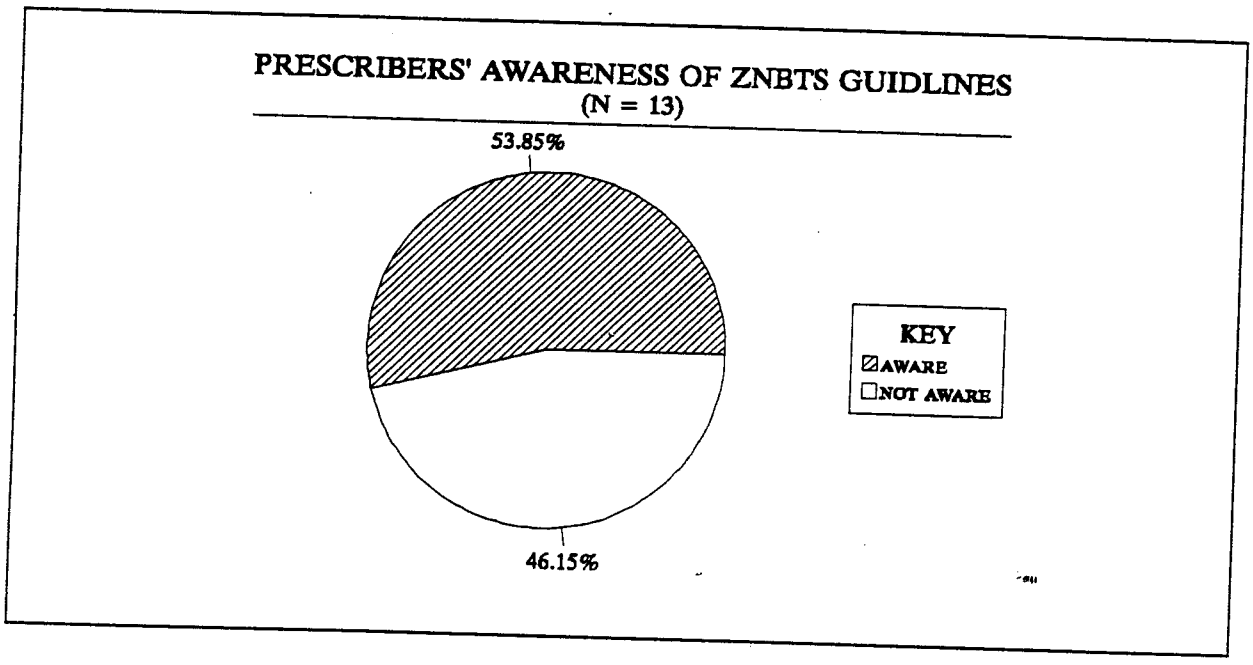


4.9 HOSPITAL DEPARTMENTS PERCEIVED TO HAVE HIGH TRANSFUSION

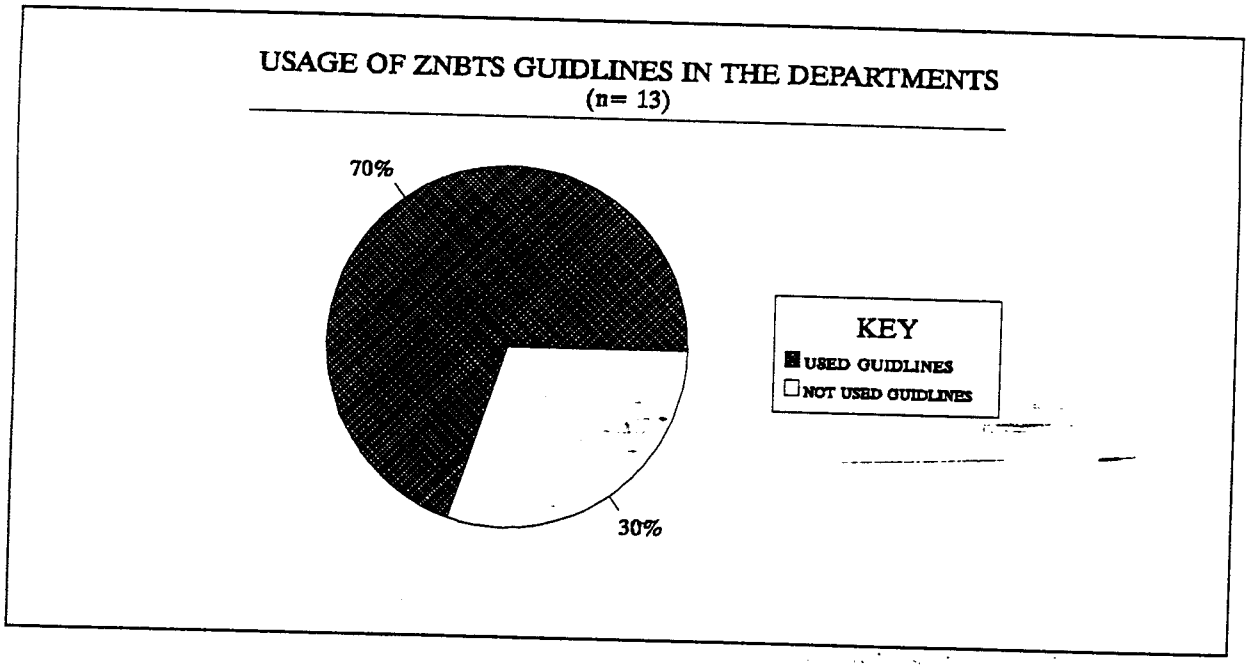
The majority prescribers (53.85%) reported that the department of obstetrics and gynaecology had the highest transfusions, followed by paediatrics (38.46%) and surgery (15.33%) (Fig 12). The high transfusion were said to be due to Anaemia due to malaria
(27.7%) ; Haemoorrhage (38.89%) and major surgery. Malaria was highlighted as major cause of Anaemia especially in children. Haemorrhage cases included Ante Partum and Post Partum Haemorrhage and trauma (Road Traffic Accidents). Emergency surgery, trauma and obstetrics made heavily demands and most cases are transfusion lifesaving. High transfusions rates in surgery could be the results of over prescription and lack of autologous transfusion practices by blood prescribers. In his study of Blood Transfusion Practices on Surgical Admission wards at UTH, Nkhata J.K. found out that most transfusions were carried out without laboratory tests of haemoglobin level estimations, but were based on clinical findings. This meant that patients with the routinely acceptable minimal haemoglobin of more than 10% per gramme prior to surgery were transfused, when they could have been managed with plasma substitutes and oral haematinics.
Transfusion requirements will be greater, given the general poor nutritional status of the people and degree of anaemia.

Figure 14

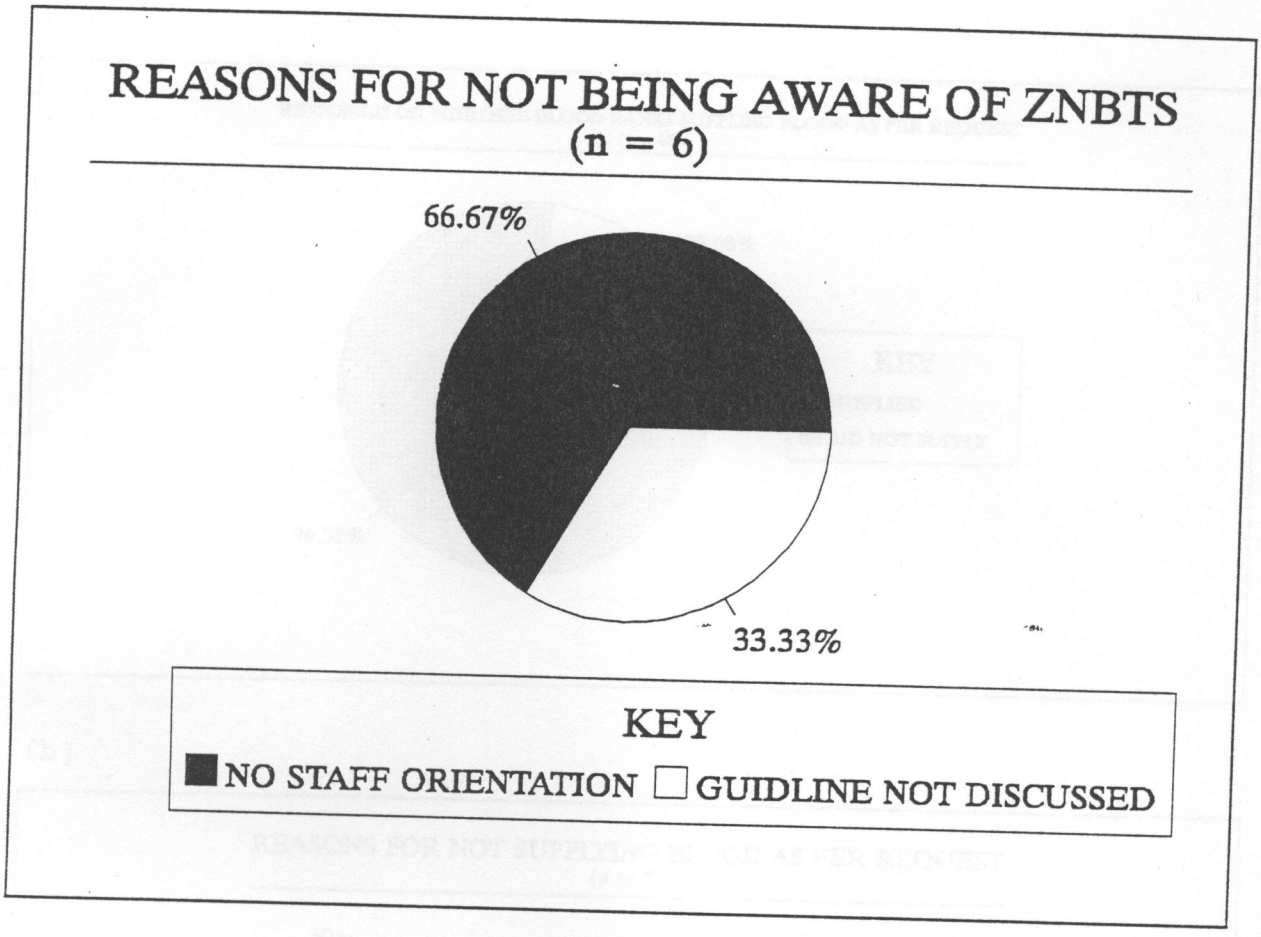
(a)


PRESCRIBERS' AWARENESS OF ZNBTS GUIDLINES
(N = 13)
53.85%
46.15%
KEY
AWARE
NOT AWARE

(b)


USAGE OF ZNBTS GUIDLINES IN THE DEPARTMENTS
(n= 13)
70%
30%
KEY
USED GUIDLINES
NOT USED GUIDLINES

(c)

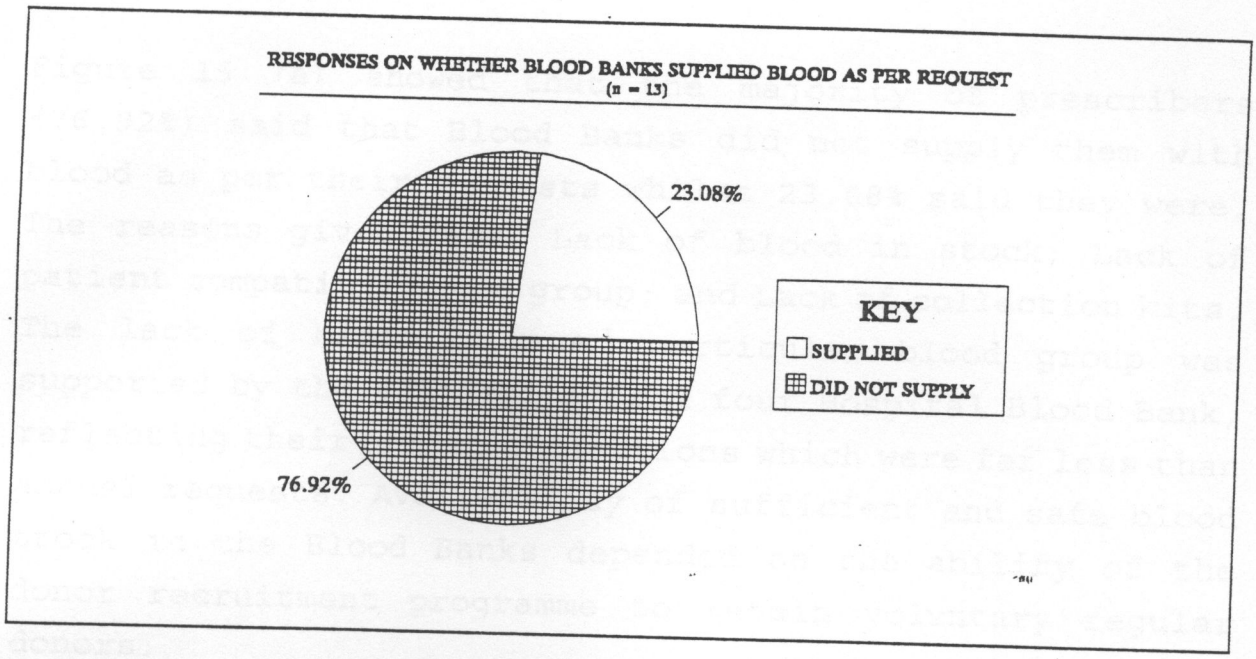


4.10 THE PRESCRIBERS AWARENESS OF ZNBTS GUIDELINES

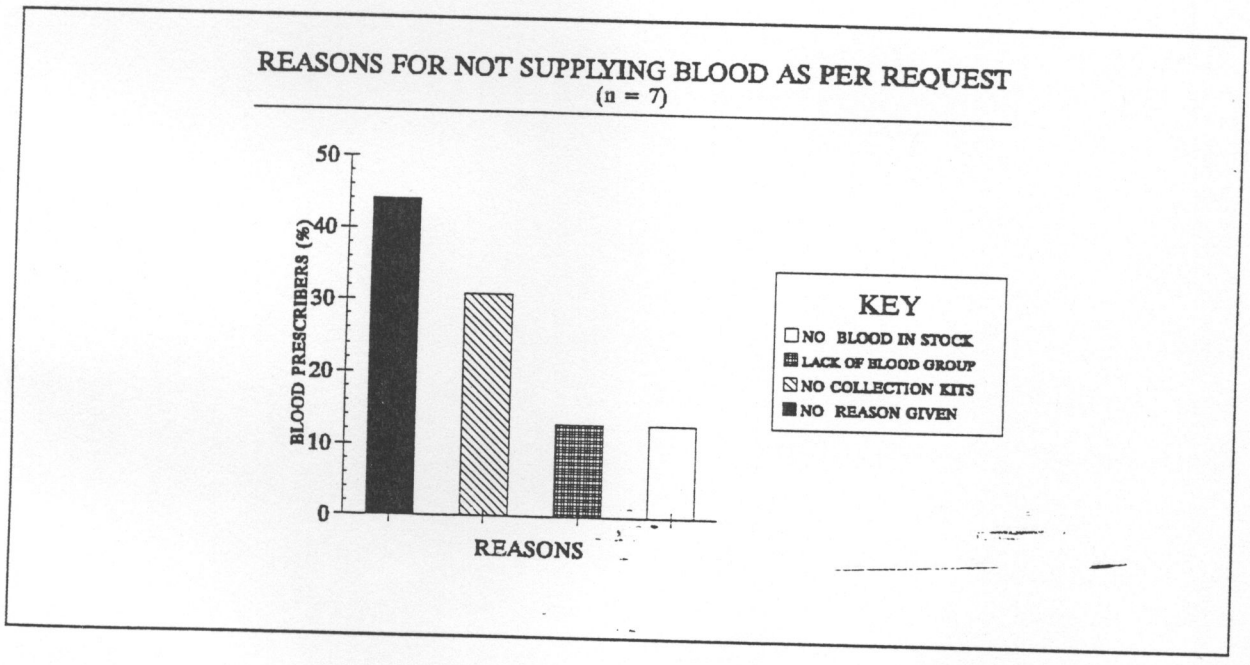
The majority (54%) of the prescribers were aware of the ZNBTS Guidelines on Blood Transfusion. These guidelines were developed for prescribers and users in order to discourage the practices of indiscriminate blood prescription, or requests of blood for unmerited cases, for instance 2 units of blood per lower segment caesarian section were routenly requested. Over prescription of blood would unduly deplete the blood stock, make a heavy demand on voluntary donation and ultimately would lead to fatigue.

Figure 15

(a)


RESPONSES ON WHETHER BLOOD BANKS SUPPLIED BLOOD AS PER REQUEST
(n = 13)
23.08%
76.92%
KEY
SUPPLIED
DID NOT SUPPLY

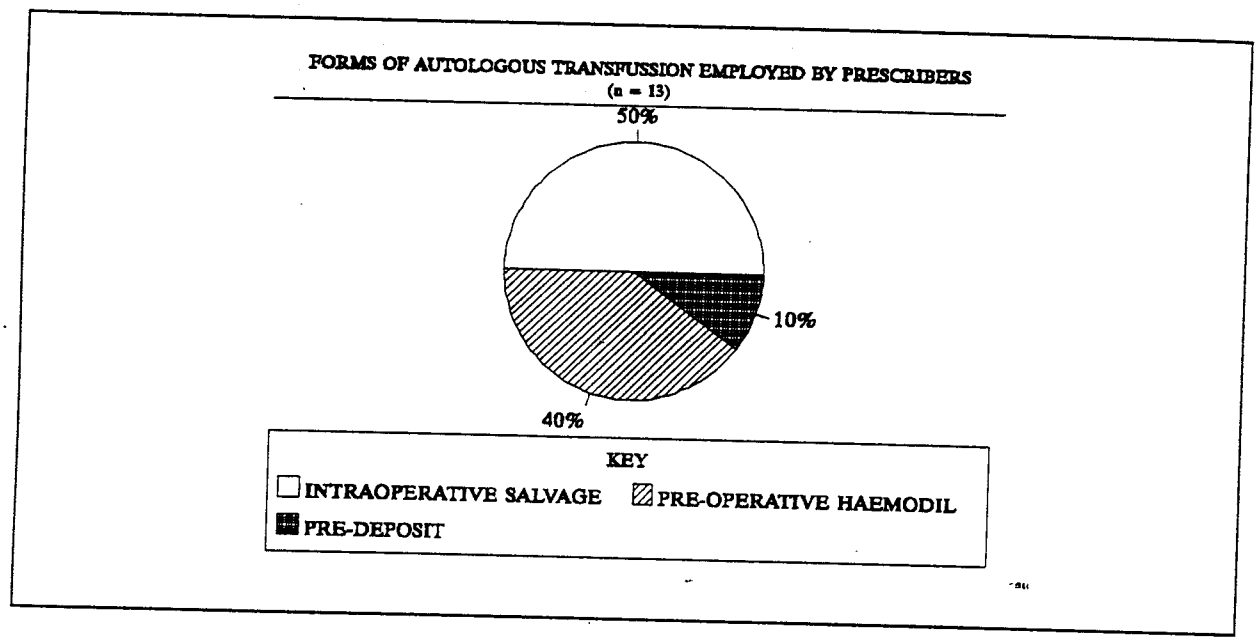
(b)


REASONS FOR NOT SUPPLYING BLOOD AS PER REQUEST
(n = 7)
BLOOD PRESCRIBERS (%)
50
40
30
20
10
0
REASONS
KEY
NO BLOOD IN STOCK
LACK OF BLOOD GROUP
NO COLLECTION KITS
NO REASON GIVEN

4.11 THE ABILITY OF BLOOD BANKS TO SUPPLY BLOOD REQUESTS

Figure 15 (a) showed that the majority of prescribers (76.92%) said that Blood Banks did not supply them with blood as per their requests whilst 23.08% said they were. The reasons given were: Lack of blood in stock; Lack of patient compatible blood group; and Lack of collection kits. The lack of blood or even particular blood group was supported by the statistics from four Hospital Blood Bank, reflecting their annual collections which were far less than annual requests. Availability of sufficient and safe blood stock in the Blood Banks depended on the ability of the donor recruitment programme to retain voluntary regular donors.

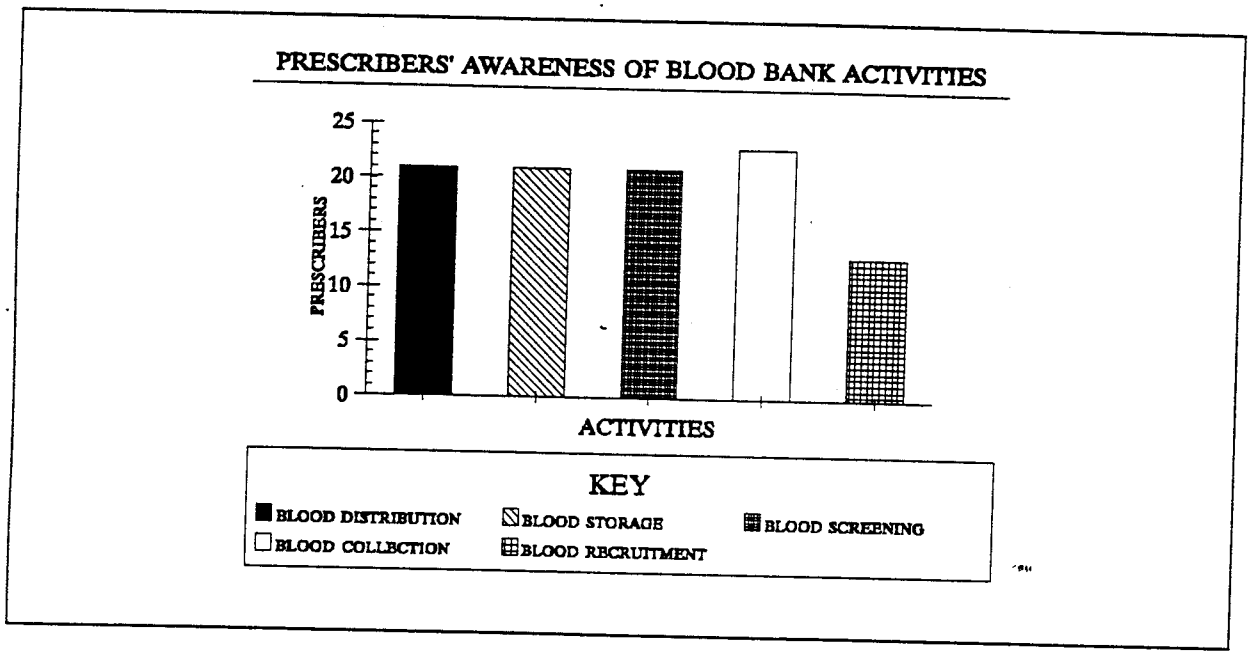
Figure 16



4.12 FORMS OF AUTOLOGOUS TRANSFUSION EMPLOYED PRESCRIBERS

Prescribers responses on forms of autologous transfusion employed indicated that the majority (50%) used intra-operative salvage while the minority (10%) used Pre-deposit. The reason for high use of intra-operative salvage could be due to cases of ruptured ectopics and ruptured spleen from road traffic accidents. The other reason was inadequate reserves of blood in the Blood Banks or lack of donor with compatible blood group, for immediate transfusion.
Pre-deposit might not be popular due to the proedural aspects involved, demanding anaethesiologists assessments, intra-operative monitoring equipment and accurate record keeping. Various forms of autologous employed would curtail the demand for whole blood, allay surgery anxiety on availability of blood and allay patients' anxiety of receiving someone else's blood. Autologous practices require significant technology and effective system.

Figure 17



4.13 BLOOD BANK ACTIVITIES

Overall, prescribers were aware of blood bank activities as shown in section B figure 17, this awareness of BTS activities and how best to work with and should be enhanced.

4.14 BLOOD PRESCRIBER SUGGESTIONS ON HOW BEST BLOOD BANKS CAN SUPPLY ADEQUATE BLOOD

Prescribers' suggests on how best blood banks can supply adequate and safe blood outlined in section B.18. The outstanding suggestion was the need to educate communities on voluntary blood donation. The need for education and even evaluation as to whether education has taken place is key in any effort to recruit and retain voluntary donors, if a sustainable blood supply is to be ensured. This task falls on Regional and Provincial Blood transfusion Centres.

SECTION C

4.15 FOCUS GROUP DISCUSSIONS

Four focus group discussion were conducted at Lusaka, Livingstone, Kitwe and Ndola Blood Banks. This is mainly qualitative data collection in a standard way. Consensus reached by the groups included the following:-

1. BED CAPACITY: The bed capacity for 4 major hospitals is presented below to provide background information which confirms the adequate blood supply, by comparing the actual annual collections with the annual requirements. In order for BTS to know and calculate the blood require for the hospital, bed capacity of the hospital should be established since this will vary from hospital to hospital. World Health Organisation for determining blood requirement is 10 UNITS PER HOSPITAL BED PER YEAR.

	LUSAKA	LIVINGSTONE	KITWE	NDOLA
Bed Capacity -Annual	2000	530	550	800
Collection-Annual	5098	812	2171	348
Transfusions-Annual	6430	644	1872	328
Requests-Annual	14870	828	4190	2828
Requirements-Annual	20,000	5,300	5,500	8,000

The bed capacity of four Hospitals included in the study were tabulated under section C, in order to compare collections, requests, transfusions and ideal blood requirements. It was evident from these that none of our hospitals provided even 50% of the required blood per year. Annual collections were less than requests, indicating that some requests were not needed or blood banks were failing to meet the requirements. Collections were lower than transfusions because paediatric transfusions may be drawn from 1 unit of 500 mls split in 250 mls and each represented a transfusion. The low collections indicated that:-

(a) The donor recruitment and retention programmes were not fully functional.
(b) The donor recruiters were few and not adequately trained.
(c) There was lack of resources for donor recruitment.
(d) Blood collections were difficult and low when schools were on recess where majority of donors were accessed.

4.16 STAFF DISCUSSION

In all four blood banks the consensus reached by the focus group discussion were as follows:-

4.17 STAFF TRAINING

Formal, and in-service training had been given to some Blood Bank staff, donor recruitment training had not yet been addressed. Lack of training had an adverse effect on the effectiveness of staff in donor recruitment.

4.18 BLOOD BANK STAFFING

There was shortage of staff in the Blood Banks. Some cadres of staff perform more than one role, thus reducing job satisfaction and efficiency. Nurses took on roles of donor recruiters, Phlebotomists and Counsellors in a versatile manner and as need arose. This demanded long hours of work and distance travelling to recruit blood donors. The deployment of nursing staff in blood banks was still misunderstood by other cadres and senior administrative staff. They did not see the priority for nurses in this work, thus worsen the problem by overloading existing staff.

4.19 TYPE OF BLOOD DONORS RECRUITED

All the four blood banks are recruiting only voluntary donors, though isolated cases of directed (relative) donors still appeared.

4.20 SOURCES OF BLOOD DONORS

Donor Services in the four blood banks recruited blood donors from:-

(a) Secondary Schools/Basic Schools
(b) Colleges
(c) Seminaries
(d) Convents
(e) Farms
(f) Business Houses/Companies

4.21 COMMUNITY RESPONSE TO BLOOD DONATION

Blood bank staff by consensus expressed that:-

- The elite of society such as Politicians, Managers and Professionals shunned blood donation and only appreciated the gift when in need of blood for their beloved.

- The middle class including students donated after heavy motivation, becoming a major source of short regular donors.
- The lower class donated out altruism even without heavy motivation.

- Health workers in particular and on the whole shunned blood donation. Communities on the whole did not understand the simple composition and functions of blood.

4.22 FREQUENCY OF DONATIONS

Regular blood donors donated 4 times in a year at all four main Blood Banks.

4.23 DONOR COUNSELLING

Prospective donors received pre-donation counselling through motivation talks and pre- donation selection while accepted donors voluntarily received post donation counselling by appointment.

4.24 STAFF VIEW ON INCENTIVES:

- Staff expressed the need to recruit non-paid voluntary donors.
- They supported the giving of non commercial tokens such as badges, key holders and caps to donors.
- They said incentives should not be given at all.
- Staff expressed that the quality of tokens should be improved.
- They also expressed the need to give tokens to deserving donors regularly than only at an annual event such as Blood Donors Day.

4.25 **PROBLEMS ENCOUNTERED IN VOLUNTARY DONOR RECRUITMENT AND RETENTION WERE OUTLINED AS FOLLOWS:-**

1. Lack of transport for outreach programmes.
2. Lack of funds for tokens.
3. Shortage of staff in donor service programmes.
4. Erratic supplies for blood donors.
5. Lack of public education.
6. Competition with Mine hospitals who gave incentives.
7. Lack of standardised operating systems in all Blood Transfusion centres.
8. Over prescription of blood by doctors.
9. Poor nutritional status of prospective and actual donors.
10. Lack of time off for donors to go for donation.
11. Lack of donors clubs to enhance membership.
12. Distance from Blood Banks especially in villages and farms.
13. Poor time keeping due to administrative problems.
14. Across board medical fees demotivated regular donors.
15. Lack of donor recognition programme.

The major problems faced by the programme could be grouped into:-

(a) Lack of resources for educational campaigns.
(b) Lack of trained and shortage of staff (Recruiters, Counsellors and Phlebotomists).

These problems need to be addressed not only at one blood bank or hospital level but also at National level. Concerted efforts were needed to provide the necessary resources as well as staff for the smooth function of blood banks. Education was essential for the community as well as health workers, who despite being users of blood, might not understand how a unit of blood was obtained, processed and eventually delivered to the clinical area for use.

4.26 SUGGESTIONS TO BLOOD BANKS

Blood Bank staff by consensus suggested that:-

1. All staff should be trained home and abroad in blood banking.
2. More staff should by employed and confirmed.
3. All staff should attend regular BTS workshops.
4. Staff image should be improved by adhering to professional etiquette and motivation.
5. Communication in Blood Banks at local, national and international levels should be improved.
6. Modern equipment for donor services: such as radios, vehicles, scales and couches should be provided.
7. Staff be paid allowances as befit their duties.
8. Films on Blood Donation should be shown to the community.
9. Medical user fees be waved for donors.
10. Recognition of donors be done by taking them to the zoo, picnics, parties.
11. Continued educational campaigns on blood donation be supported by the MOH.
12. Beneficiary Hospitals (Private) should contribute to donor recruitment programmes.
13. Publicity adverts on TV and Radio be introduced.
14. Provision of educational materials in local languages be done.

15. There be one policy countrywide for blood donation.
16. More staff should be employed on permanent basis.
17. Hospital administrators be educated on the roles of blood bank staff.
18. Blood components be provided to reduce dependency on whole blood.
19. Follow up of donors should be done.
20. Blood Bank tours for donors be arranged.
21. Advance planning for blood collection schedules should be done with administrators.
22. Blood prescribed on merit to prevent wastage.
23. Blood bank staff to visit each other's centres so as to provide learning experiences.

These factors also converged on the need to educate the public on blood donation using various methods and to provide resources inclusive of staff and their welfare.

CHAPTER 5

CONCLUSION

This study has verified the hypotheses that:-

1. Fear of HIV testing discourages people from donating blood.
2. Lack of blood donor recruitment programmes affect voluntary blood donation.
3. Lack of community awareness on blood donation affects voluntary blood donation.

Although blood banks were not able to supply hospitals with adequate blood, the choice to source blood from voluntary, non-paid donors was the safest way of blood provision.

RECOMMENDATIONS

The following are the recommendations :-

Zambia National Blood Transfusion should:-

(a) Carry out educational campaigns in all communities of prospective donors.
(b) Educate health workers on activities of Blood Transfusion Services.
(c) Carry similar studies to identify factors that contribute to low blood collections in various provinces.

ANNEX 1

REFERENCES

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ANNEX 2:

BLOOD DONATION QUESTIONAIRE

Serial Number..... ..... *Date.....*

INSTRUCTIONS

Any information provided in this questionaire will be confidential and anonymous.

Please answer the questions faithfully and honestly, your views are very important. Put a ✓ opposite the right response.

1. What is your date of birth:...../...../.....

2. Sex

   (1) Female.....

   (2) Male.....

3. Marital Status

   (1) Married.....

   (2) Single.....

   (3) Other.....

4. Occupation

   (1) Student.....
   (2) Teacher.....
   (3) Other.....

5. Religion

   (1) Christian.....
   (2) Hindu.....
   (3) Moslem.....
   (4) Other.....

6. Does your religion allow blood donation?

   (1) Yes.....
   (2) No.....

7. If NO to number 6, why?

If it does not allow blood dontions give reasons.

(1) .....

(2) .....

(3) .....

(4) .....

8. Are you a blood donor?

(1) Yes.....

(2) No.....

9. If yes, to number 8, how many times have you donated? .....

10. If you are not a donor, would you like to become one?

(1) Yes
(2) No

11. If no, to number 10 give reasons why you do not wish to be a donor?

(1) I fear needle pricks....
(2) I do not have enough blood.....
(3) I do not know how to go about it
(4) I am not intrested.....
(5) I may be told I have HIV.....

12. How did you know or hear about blood donation?

(1) Family member.....
(2) Friend.....
(3) Poster/Booklet.....
(4) Radio.....
(5) Television.....

13. Why do you think some people are not willing to donate blood?

(1) Fear of being tested for HIV ....
(2) Fear of not having enough blood...
(3) Fear of contracting infectious diseases...
(4) Ignorance of information on Blood donation.
(5) Fear of fainting...
(6) Any other.....
.....

14. What do you think your Blood Bank can do in order to encourage more people to be blood donors?

(1) Carrying out educational campaigns on importance of blood donation.....
(2) Assuring donors of maximum confidentiality after blood samples are tested.....
(3) Give incentives to blood donors.....
(4) Put up adverts on TV and radio on blood donation.....
(5) Make blood banks clean and nice places to go to.....

Thank you very much for your contribution and assistance.

ANNEX 3

QUESTIONNAIRE FOR BLOOD PRESCRIBERS

erial No. ..... Date: .....

NSTRUCTIONS

ny information provided in this questionnaire will be onfidential and anonymous.

ease answer the questions faithfully and honestly as your views re very important. Put a tick (✔) opposite the right response in le space provided.

What is your birth date?...../.....

__ Sex

(1) Female
(2) Male

For how many years have you served as medical doctor?.....

For how many years have you served at this hospital?.....

What is your current rank at this hospital?

(1) Consultant .....

(2) Senior Registrar.....

(3) Registrar.....

(4) Senior Houseman.....

(3) Other.....

In Which Department are your currently working?

1. Paediatrics.....
2. Obstetrics and Gynaecology.....
3. Medical.....
4. Surgical.....
5. Other.....

Which one of the above named departments has the highest blood transfusions?.....

8. Give reasons for answer?
1.....

2.....

3.....

4.....

5.....

. Are you aware of the ZNBTS guidelines?

(1) YES [ ]
(2) No [ ]

0. Are ZNBTS guidelines on appropriate use of blood used your department?

(1) YES [ ]
(2) No [ ]

. If No to NO 9 give reasons.

1.....

2.....

3.....

. Has the blood bank always supplied you with adequate as per your request?

(1) YES [ ]
(2) No [ ]

If NO to No. 12, What reasons the Blood Bank staff give in not meeting yur requests?

1.....

2.....

3.....

What forms of Autologous transfusion have you employed in absence of donated blood?

(1) Intra-operative salvage.....

(2) Pre-operative salvage...

(3) Pre-deposit

(4) Post operative haemodilution

(5) Other specify

ANNEX 4

GUIDELINES FOR FOCUS GROUP DISCUSSION WITH BLOOD BANK STAFF

1. Hospital bed capacity
2. Incharge of the blood bank
3. Staff cadres/roles
4. Staff training in blood banks
5. Type of blood donors recruited
6. Sources of blood donors
7. Community response to voluntary blood donation
8. Frequency of donations per year
9. Donor counselling
10. Views on incentives
11. Blood collections/monthly/annually
12. Transfusions/monthly/annually
13. Blood request/monthly/annually
14. Problems
15. Suggestions for improvement

ANNEX 5

INFORMED CONSENT TO PARTICIPATE IN THE VOLUNTARY BLOOD DONATION STUDY

Dear Sir/Madam,

My name is Patricia Kongwa from Zambia National Blood Transfusion Service in Lusaka. I am here with my other colleague conducting a research on voluntary blood donation in Zambia.

The purpose of the research is to get your views regarding factors that affect voluntary blood donation in Zambia and see how we can have services that will ensure safe and adequate blood supply in hospitals for the patients who need it.

This school has been selected because it has a large population of students aged about 17 years and above, cutting across all areas of residence, tribe, culture and religious background.

We therefore expect to get a wide range of information which shall be of great use to the Ministry of Health and Blood Transfusion Service in developing programmes that will help blood donor recruitment/retention and provision of adequate and safe blood for patients.

Strict confidentiality will be ensured and your name will not appear on any of the questionnaires.

Your participation in this study is voluntary.

Would you like to participate in this study?

YES [ ] **NO** [ ]

Sign ..... Sign .....

RECRUITMENT TO VOLUNTARY BLOOD DONATION STUDY INSTRUCTIONS TO THE RESEARCH ASSISTANTS

When you get to each School/Hospital/Blood Bank, tell the Headmasters/Hospital Executive Director/Blood Bank Managers about the study.

1. Tell them that strict confidentiality will be ensured and that names of participants will not appear on any of the questionnaires.

2. Tell them that study will be carried out as a requirement by the School of Medicine to complete the MPH Programme for the Principal Investigator.

3. Tell them that the plan to get donors, non blood donors, blood prescribers and blood bank workers' views on voluntary blood donations will help on how best blood donors can be recruited and retained in order to have safe and adequate blood supplies in our hospitals.

4. Tell them that in Zambia no study has been carried out so far to find out the factors that affect voluntary blood donations.

5. Tell them that studies done in other countries have revealed that people do not give blood voluntarily because they fear to be tested for HIV, were not informed and educated on the need and importance of voluntary blood donation, they want payment for the donations.

6. Tell them that we have therefore decided to carry out this study to get their views on voluntary blood donation and see what can be done to ensure that we have pools of volntary blood donors throughout the country.

7. Tell them that those who want to participate in the study will be requested to fill in the questionnaires and take part in the focus group discussion.

8. Tell them that the participation is voluntary and that we are looking forward to good cooperation from them and they are free to ask any questions for clarification.

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

Telephone: 252641
11440 (UTH) 254824 (Pre-Clinical) Ridgeway Campus
Telegrams: UNZA, LUSAKA
Telex: UNZALU ZA 41370
Fax: + 260-1-250753

Department of Community Medicine
P.O. Box 50110
Lusaka, Zambia

Your Ref:

Our Ref:

17th December, 1997

The Executive Director,
Kitwe Central Hospital,
P.O. Box 20969,
KITWE.

Dear Sir/Madam,

RE: RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N. M. KONGWA.

I hereby introduce the above named student in Master of Public Health Programme at the Department of Community Medicine, University of Zambia who seeks permission to carryout the study in partial fulfilment for her degree in Masters of Public Health.

The candidate seeks to interview blood prescribers (Senior doctors) and hold Focus Group Discussions with blood bank staff during the period of 23rd December, 1996 to 23rd January, 1997.

I will be very grateful if your kind office will give her all the cooperation and assistance she requires.
I remain,

Yours faithfully,

Dr. Y. Mulla
ASSISTANT DEAN

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

Department of Community Medicine
P.O. Box 50110
Lusaka, Zambia

elephone: 252641
1440 (UTH) 254824 (Pre-Clinical) Ridgeway Campus
elegrams: UNZA, LUSAKA
lex: UNZALU ZA 44370
ax: + 260-1-250753

Your Ref:

Our Ref:

17th December, 1996

The Executive Director,
Ndola Central Hospital,
P.O. Box 70032,
NDOLA.

Dear Sir/Madam,

RE: RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N. M. KONGWA.

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I remain,

Yours faithfully,

Dr. Y. Mulla
ASSISTANT DEAN.

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

Department of Community Medicine

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1440 (UTH) 254824 (Pre-Clinical) Ridgeway Campus
legrams: UNZA, LUSAKA
lex: UNZALU ZA 44370
x: + 260-1-250753

P.O. Box 50110
Lusaka, Zambia

Your Ref:

Our Ref:

27th December, 1997

The Executive Director,
Livingstone General Hospital,
P.O. Box 60206,
LIVINGSTONE.

Dear Sir/Madam,

RE: RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N. M. KONGWA.

I hereby introduce the above named student in Master of Public Health Programme at the Department of Community Medicine, University of Zambia who seeks permission to carryout the study in partial fulfilment for her degree in Masters of Public Health.

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I will be very grateful if your kind office will give all the cooperation and assistance she requires.

I remain,

Yours faithfully,

Dr. Y. Mulla
ASSISTANT DEAN

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

Department of Community Medicine
P.O. Box 50110
Lusaka, Zambia

Telephone: 252641
211440 (UTH) 254824 (Pre-Clinical) Ridgeway Campus
Telegrams: UNZA, LUSAKA
Telex: UNZALU ZA 44370
Fax: + 260-1-250753

Your Ref:

Our Ref:

17th December, 1997

The Executive Director,
UTH Board of Management,
P/Bag RW 1X,
LUSAKA.

Dear Sir,

RE: RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N. M. KONGWA.

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I will be very grateful if your kind office will give her all the cooperation and assistance she requires.

I remain,

Yours faithfully,

Prof. Y. Mulla
ASSISTANT DEAN.

MINISTRY OF HEALTH
Zambia National Blood Transfusion Service

Bag RW 1X
, Zambia

Tel: 253584/255124
Fax: 255111

17th December, 1996

The Executive Director,
Kitwe Central Hospital,
P.O. Box 20969,
KITWE.

Dear Sir/Madam,

RE: **RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N.M. KONGWA.**

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I will be very grateful if your kind office will give her all the cooperation and assistance she requires.

I remain,

Yours faithfully,

Dr. G. K. Muyinda
MEDICAL DIRECTOR.

MINISTRY OF HEALTH
Zambia National Blood Transfusion Service

Bag RW 1X
, Zambia

Tel: 253584/255124
Fax: 255111

17th December, 1996

The Executive Director,
Ndola Central Hospital,
P.O. Box 70032,
NDOLA.

Dear Sir/Madam,

RE: RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N.M. KONGWA.

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I remain,

Yours faithfully,

Dr. G. K. Muyinda
MEDICAL DIRECTOR.

MINISTRY OF HEALTH
Zambia National Blood Transfusion Service

Bag RW 1X
, Zambia

Tel: 253584/255124
Fax: 255111

17th December, 1996

The Executive Director,
Livingstone General Hospital,
P.O. Box 60206,
LIVINGSTONE.

Dear Sir/Madam,

RE: **RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N.M. KONGWA.**

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The candidate seeks to interview blood prescribers (Senior doctors) and hold Focus Group Discussions with blood bank staff during the period of 23rd December, 1996 to 23rd January, 1997.

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I remain,

Yours faithfully,

Dr. G. K. Muyinda
MEDICAL DIRECTOR.

MINISTRY OF HEALTH
Zambia National Blood Transfusion Service

e Bag RW 1X
a, Zambia

Tel: 253584/255124
Fax: 255111

17th December, 1996

The Executive Director,
UTH Board of Management,
P/Bag RW 1X,
LUSAKA.

Dear Sir,

RE: **RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N.M. KONGWA.**

I hereby introduce the above named student in Master of Public Health Programme at the Department of Community Medicine, University of Zambia who seeks permission to carryout the study in partial fulfilment for her degree in Masters of Public Health.

The candidate seeks to interview blood prescribers (Senior doctors) and hold Focus Group Discussions with blood bank staff during the period of 23rd December, 1996 to 23rd January, 1997.

I will be very grateful if your kind office will give her all the cooperation and assistance she requires.

I remain,

Yours faithfully,

Dr. G. K. Muyinda
HEAD OF DEPARTMENT - BLOOD BANK.

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE

Telephone: 252641
211440 (UTH) 254824 (Pre-Clinical) Ridgeway Campus
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Telex: UNZALU ZA 41370
Fax: + 260-1-250753

Department of Community Medicine
P.O. Box 50110
Lusaka, Zambia

13th January, 1997

Your Ref:

Our Ref:

The Headmaster,

.....

.....

.....

Dear Sir/Madam,

RE: RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION IN ZAMBIA BY PATRICIA N.M. KONGWA.

I hereby introduce the above named student in Master of Public Health Programme at the Department of Community Medicine, University of Zambia who seeks permission to carryout the study in partial fulfilment for her degree in Masters of Public Health.

The candidate seeks to administer a questionnaire to senior secondary school student on Blood Donations during the period of 13th January, 1997 to 13th February, 1997.

I will be very grateful if your kind office will give her all the cooperation and assistance she requires.

I remain,

Yours faithfully,

Dr. Y. Mulla
ASSISTANT DEAN.

LD2MDN/[illegible]/9

23 January, 1997

Dr. Y. Mulla
Assistant Dean
(Post-Graduate Studies)
School of Medicine
P. O. Box 50110
LUSAKA

Dear Sir

RE: RESEARCH OF FACTORS AFFECTING VOLUNTARY BLOOD DONATION BY PATRICIA N.M. KONGWA

The above subject refers.

This serves to inform you that Management has granted Mrs Konga permission to undertake the study.

She is assured of our co-operation and support.

Yours faithfully

M M Mbewe (Mrs)
A/DIRECTOR OF NURSING
FOR/EXECUTIVE DIRECTOR

c.c. Mrs Patricia N.M. Kongwa
c.c. Head of Department - Blood Bank.