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Knowledge, Attitude, and Practices of Medical and Pharmacy Students Toward blood Donation at University of Namibia, Hage Geingob campus, Windhoek, Namibia

Linda N Nghipondoka Lukolo[1,2]*, Lukanga CharlesKimera[1,3], Simon Lebereki[1]
[1]School of Medicine, Faculty of Health Science, University of Namibia, Windhoek, Namibia
[2]Department of Community &Family medicine, University of Namibia
[3]Department of Obstetrics & Gynaecology, University of Namibia

Abstract

BACKGROUNG: Blood is vital in saving lives of many patients who become anaemic due to different reasons such as blood loss due to road traffic accidents, postpartum haemorrhage (PPH), ante partum haemorrhage (APH), surgery and through illnesses like malaria and malignancies. Blood required for transfusion is obtained from blood donors and young adults especially those in higher institutions of learning like secondary schools and universities are increasingly becoming the source of this blood possibly because of the ease to mobilise them. Sometimes challenges are encountered and some potential blood donors actually abstain from this important lifesaving exercise. This study aimed at determining the knowledge, attitude, and practices of medical and pharmacy students at the University of Namibia, Hage Geingob campus toward blood donation.

MATERIALS & METHODS: A cross sectional descriptive study was used to acquire information and deduced conclusion about the knowledge, attitude, and the practice of medical and pharmacy students of the university of Namibia, Hage Geingob campus towardblood donation. We used a Chi-square test to test the association between blood donation, gender and course of study.

RESULTS: 180 students – 59 males (32.8%) and 121 females (67.2%) – met the criteria and participated in this study. Overall knowledge among participants was 65.1%.89.4% considered blood donation to be very important. Out of 180 participants only 79 (43.9 %) had previously donated blood, and for 66 (83.5 %) of them, the major reason for donating blood was to save lives. There was no significant association between gender and blood donation as $p>0.05$, however there was a significant association between course of study and blood donation, more donors were pharmacy students, $p< 0.05$.

CONCLUSION: This study showed that individuals meeting the criteria for donating blood do not partake in this exercise basically because either they are not well informed about this humanitarian need or have misconceptions about the exercise.

Keywords: Blood donation, Attitude on blood donation, Knowledge on blood donation, Anaemia, Kimera, Linda Lukolo

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Introduction

Blood transfusion is an essential service within health care systems and individuals who donate blood provide a unique contribution to the health and survival of others . Donation of blood has always been considered a humanitarian act, which imposes a cost to the individual but benefits others. Donated blood can be lifesaving for individuals who have lost large volumes of blood because of serious accidents, civil and military conflict, obstetric and gynaecological haemorrhages, or surgery and stem cell transplant patients as well as for individuals who have become severely anemic because of medical or hematologic conditions or cancers. Although many individuals are suitable to donate blood and numerous awareness campaigns promote its importance, only a small proportion (⅓) of eligible individuals donate blood in the US and other developed countries, and even fewer do so in developing countries[1].

World Health Organization (WHO) estimates that at least 1% of the population needs to donate blood to meet the minimum requirement for a country; the requirements are higher in countries with more advanced health care systems. However, the average donation rate is 15 times lower in developing countries than in developed countries. In Namibia, adequate and safe blood supply has remained a challenge for years. The increasing demands for blood are a result of rising number of admissions and increased use of blood transfusions in major surgery. According to the Namibia blood transfusion service (NAMBTS) approximately 25,000 units of blood is collected per year from less than 12,000 active blood donors (less than 0.06% of the Namibian population). These units were used to save and enhance the lives of over 44,000 patients in 2012 . In the year 2014, NAMBTS managed to collect more than 28200 units of blood from new and existing donors.

MATERIALS & METHOD

Ethical approval was obtained from Ministry of health and social services, research management committee as well as from the University of Namibia.

Study setting and design

The study was conducted at the University of Namibia, Hage Geingob Campus, between March and October 2018. The institution trains undergraduate pharmacy and medical students over 4 years and 6 years respectively.

This was a cross sectional descriptive study, a self-administered questionnaire using google forms. The questionnaire was categorized into three sections: Demographic characteristics, Knowledge regarding blood donation, Attitude, and Practice of blood donation. Information acquires was used to deduce conclusion about the knowledge, attitude, and the practice of medical and pharmacy students toward blood donation.

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Inclusion and exclusion criterion:

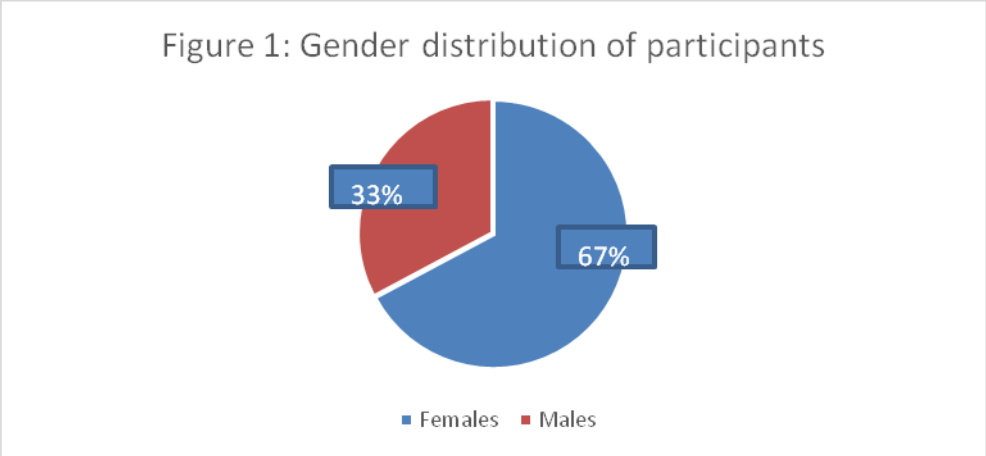
This study was conducted among undergraduate medical and pharmacy students of the University of Namibia, Hage Geingob campus, Windhoek, from March to October 2018. Year one to year 5 Medical and year 1 to year 4 pharmacy students were targeted. Final year medical students were excluded as they were preparing for examinations. Convenient non-random sampling technique was utilized to select participants.

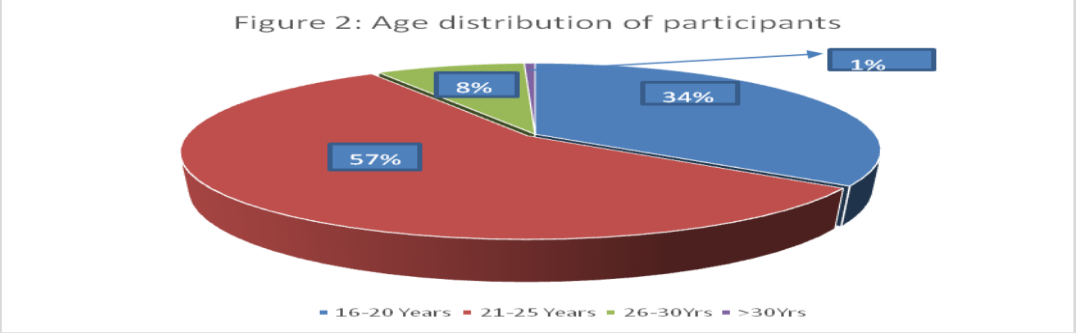
Data analysis method

The data collected was analyzed using statistical package of social sciences (SPSS) and the association between blood donation, gender and course of study was analyzed using a chi square. A P-value of < 0.05 was considered as significant.

Results

A 180 students, of whom 59 (33%) were males and 121 (67%) met the inclusion criteria and were enrolled in the study, **figure 1.** Majority of the participants 56.7 % were aged 21 – 25 years old **figure 2.** Medicine students contributed the largest proportion of the participants, 113 (62.8 %) whilst Pharmacy students were only 67 (37.2 %) **figure 3.** Most participants who took part in this study were first years 23.9 % and the least were fifth years, with 14.4 %**figure 4.**





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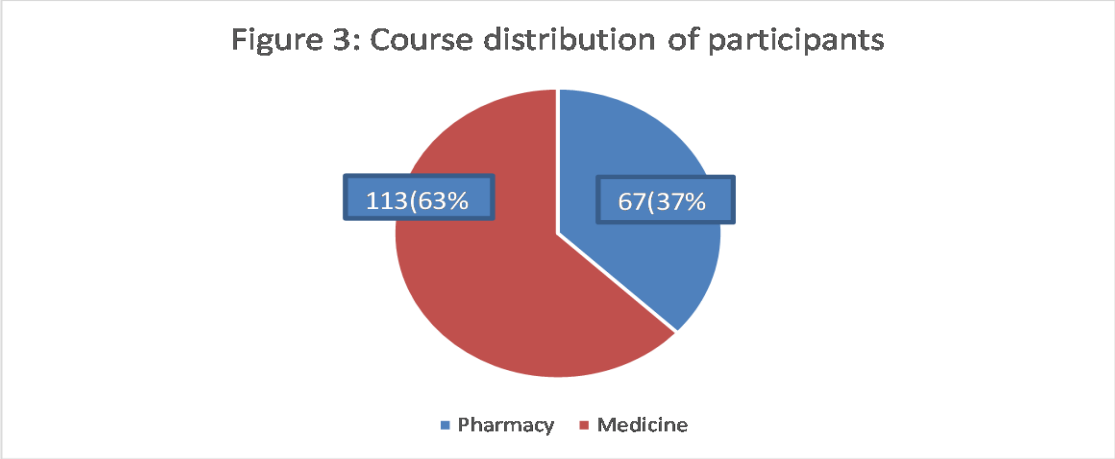

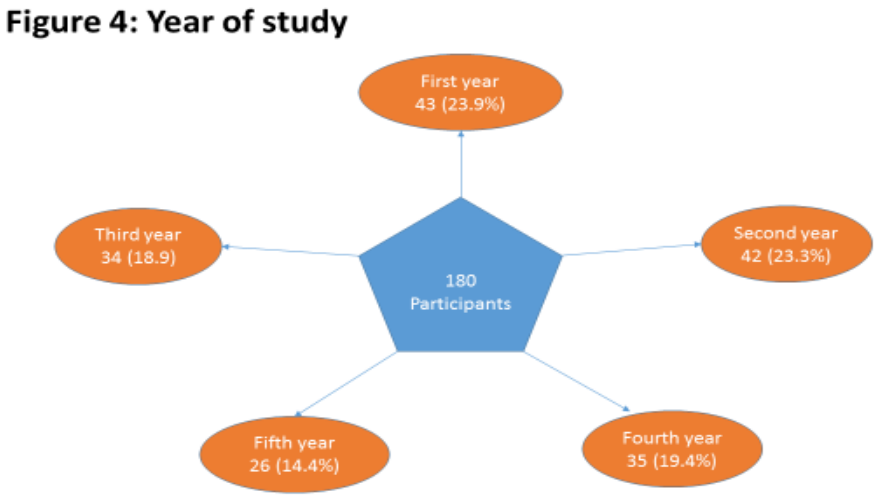

Knowledge on blood donation

Most participants 97.8 % had heard about blood donation before, majority of whom, 77.3%, from school, 18.2% from media and 4.5% from friends or family members. 4(2.2%) respondents - all of whom were first year students – had never heard about blood donation before, **table 1.**

Overall knowledge among participants was 65.1 % in all the four domains together. 94.4% of the respondents knew the organization responsible for blood donation, 55.6% knew the appropriate age for blood donors, 76.1% knew there commended lowest body weight to donate blood in Namibia and 34.4% knew how often a person can donate blood in a year, **table 1.**

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Table 1: Knowledge on blood donation

Question	
Have you ever heard about blood donation before: Yes No	 176 (97.8%) 4 (2.2%)
If yes, where? Friends or family Media School	 8 (4.5%) 32 (18.2%) 136 (77.3%)
	Percentage (%) of students giving correct response
What organisation is responsible for blood donation in Namibia?	94.4%
At what age can you donate blood?	55.6%
How much should you weight to donate blood?	76.1%
How often can you donate blood in a year?	34.4%

Attitude and practice towards blood donation

Most participants had a positive attitude towards blood donation – 89.4% of the respondents considered blood donation to be very important, 9.4% considered it to be important and 1.1 % were not sure about the importance of blood donation **figure 5.** 166 (92.2%) participants said they would receive blood transfusion if in need.

Regarding intervention to improve blood donation 70% of the participants suggested that compensating blood donors would attract more donors, 22.2% suggested improvement in advertisement of the program whereas 5% suggested making blood donation a compulsory service **figure 6.**

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Figure 5: Importance of blood donation

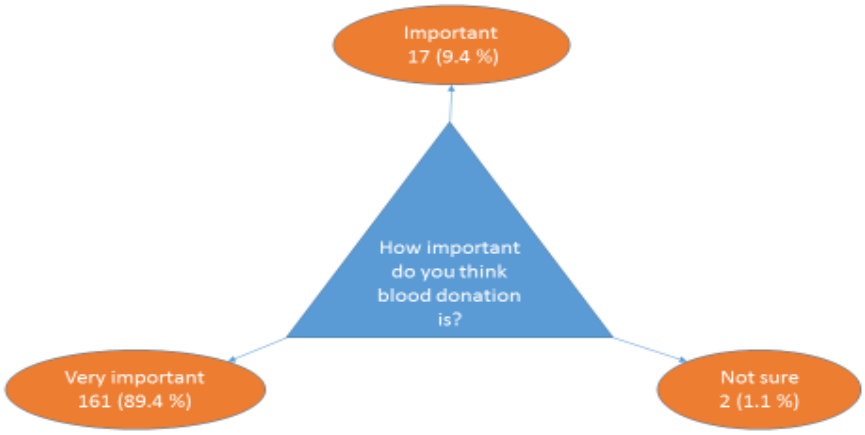
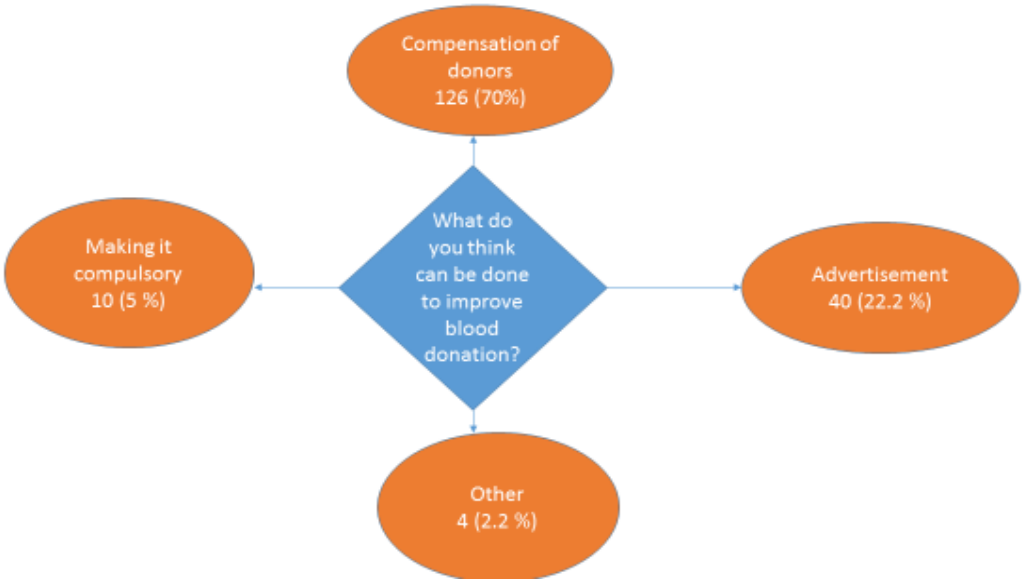


Figure 6: Strategies to improve blood donation



Majority of the participants (56.1%) said they had never donated blood before. Majority of those that had donated blood before, 85.5% said that they were doing it to save life. 4(5.1%) respondents said they donated blood to get refreshments; and 3(3.8%) did so because they wanted to know their HIV status. Majority (52.5%) of the blood donor students had donated blood before either twice or thrice, **table 2.**

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Table 2: Practice on blood donation

Characteristics	Frequency (%)
Have you ever donated blood before?	
Yes	79 (43.9%)
No	101 (56.1%)
Reason for donating blood	
To save life	66 (83.5%)
To know my HIV status	3 (3.8%)
Asked to donate	1 (1.3%)
To get refreshments	4 (5.1%)
Other	5 (6.3%)
How often do you donate blood?	
Once a year	20 (26.6%)
Twice a year	26 (33.3%)
Three a year	15 (19.2%)
Not sure	17 (21.8%)

The practice of blood donation is more among females 48.8% than males 33.9%, however there was no significant association between gender and blood donation, chi-square= 3.557, p- value 0.059, **table 3.**Majority (49.5%) of blood donors at Hage Geingop Campus were medicine students and this depicted by a significant association between course of study and blood donation chi-square= 3.961 p-value 0.046, **table 4.**

Table 3. Associated between blood donation and gender

Gender	Have you donated blood before?		Total
	Yes	No	
Female	59	62	121
Male	20	39	59
Total	79	101	180
Chi square= 3.5573 *p*- value =0.0593 *p*> 0.05			

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Table 4: Association between blood donation and course of study

	Have you donated blood before?		
Course	Yes	No	
Medicine	56	57	113
Pharmacy	23	44	67
Total	79	101	180
Chi-square = 3.96122 *p*- value =0.04656 *p*< 0.05			

Table 5 shows the reasons why non-blood donor participants don't donate blood. Majority35 (34.7%) of the non-blood donors did not have a clear reason why they were not doing so; 28(27.8%) of the participants had fears of side effects/adverse effects of donating blood, 19(18.8%) of the respondents were either under age or under-weight to donate blood, 15(14.9%) didn't feel like donating blood, and 4(4%) didn't donate because of lack of awareness.

Table 5: Reason for not donating blood, N=101

Reasons for not donating blood	Frequency (%)
Fear of side effects/adverse effects	28 (27.8%)
Lack of awareness	4 (4%)
Don't feel like donating	15 (14.9%)
Under age or under weight	19 (18.8%)
Other	35 (34.7%)
Total	101

Discussion

From time-to-time some people may become anaemic due to different reasons such as blood loss due road traffic accidents, wars, terrorist attacks, postpartum haemorrhage (PPH), antepartum haemorrhage (APH), surgery and through illnesses like malaria and malignancies. When this anaemia is severe enough blood is certainly needed for transfusion to save their lives. Blood required for transfusion is obtained from blood donors and young adults especially those in

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higher institutions of learning like secondary schools and universities are increasingly becoming the source of this blood possibly because of the ease to mobilise them. Sometimes challenges are encountered and some potential blood donors actually abstain from this important lifesaving exercise.

This study aimed at determining the knowledge, attitude, and practices of medical and pharmacy students at the University of Namibia, Hage Geingob campus toward blood donation. In this study, the commonest age group that took part in this study was from 21 – 25 years for both medical and pharmacy students, this is in consonance with studies conducted by Nwabuezeet al and by Salaudeen, & Odeh while the least common age group that took part in this study was > 30 and this was also similar in a study conducted by Nwabuezeet al. There were more female (67.2%) than males (32.8 %) who participated in this study, this is similar with a study conducted by Sabu et al in which females (62.7%) were more than males (37.3 %), however in a study by Nwabuezeet al there were more male participants (60.1%) than female participants (39.1%). This may probably be explained by the disparity in proportions of enrolment at different compasses, for instance at Hage Geingop campus there are more female than male students enrolled for both medicine and pharmacy courses.

Results from this study show that, majority of the participants were medicine students (62.8%) compared to37.2% pharmacy students. However in a study by Nwabuezeat al there was an equal proportion of participants from both courses. Most participants in this study got information about blood donation, mainly from schools, media, friends and relatives, and this was also demonstrated in previous studies ' '.

This study revealed that most participants, 67.1%, had good knowledge about blood donation. Most of them knew the appropriate age for donating blood, the appropriate weight and individual should have to be eligible to donate blood and the organization responsible for blood donation in Namibia. This finding is in conformity with previous studies whereby most participants expressed good knowledge about blood donation[3].

In this study it was found that most participants expressed a positive attitude towards blood donation regarding blood donation to be very important. Similar findings were reported by Mullah F et al[1]. Despite this good knowledge, however, majority of the participants reported to have never donated blood at all. This means therefore that there need for more sensitization especially considering the fact that most of the non-blood donors have no reason whatsoever for not donating blood. Similar to Mullah F et al finding, most respondents (70%) in this study suggested compensations as a motivation to recruit more blood donors. This means that there is still ignorance among university that blood donation is a humanitarian activity and blood is priceless. This ignorance is farther reported in a study by Basu et al in which the major reasons for the public not participating in blood donation humanitarian exercise were fear of weakness and lack of awareness.

On the contrary, in a study by Salaudeen, & Odeh the major reason for not participating in blood donation exercise was lack of opportunity due to tight lecture schedule and inadequate

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knowledge about the process and importance of blood donation and in a study by sabuet al the major reason for not donating blood was unfitness. This study found that only 43.9% had donated blood before majority of whom (74.7%) were females. This may be explained by the relatively bigger number of female than male student's enrolment at Hage Gengob campus. Results indicate that there was no significant association between gender and blood donation, $p > 0.05$; however there was a significant association between course of study and blood donation in this study with more donors being pharmacy students, $p < 0.05$.

Conclusion

As more and more people lose blood through wars, terrorist attacks, road traffic accidents, obstetric complications, surgery and medical conditions/illnesses, increasing number of blood units are required for transfusion. This study, like other similar ones, however, has shown that individuals meeting the criteria for donating blood do not partake in this exercise basically because either they are not well informed about this humanitarian need or have misconceptions about the exercise. There is therefore need to sensitize the population about the importance of donating blood if people's lives are to be saved.

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