

Knowledge, Attitude, and Practice of Voluntary Blood Donation Among Residents in a Rural Local Government Area in Lagos State: A Mixed Methods Survey

Udegbe ALN, Odukoya OO, Ogunnowo BE

Department of Community Health and Primary Care, College of Medicine, University of Lagos, Lagos State, Nigeria

ABSTRACT

Background: The safest blood is obtained from voluntary, non-remuneration blood donors.

Objectives: This study was carried out to assess the knowledge, attitude, and practice of voluntary blood donation, and to determine the factors associated with willingness to donate blood among residents of Badagry, Lagos State, Nigeria.

Methods: This descriptive cross-sectional study used quantitative and qualitative techniques. Multistage sampling method was used to select 439 respondents and pretested, interviewer-administered questionnaires were used to collect the quantitative data. Qualitative data were collected through two focus group discussions (FGDs) with male and female adult residents. Ethical approval was obtained from the Human Research and Ethics Committee of the University of Lagos, Lagos, Nigeria.

Results: Most of the respondents were male (55.1%), married (60.6%), of Yoruba ethnicity (71.4%), and had, at least, a secondary education (81.0%). The mean age was 36.7 ± 11.1 years. All the respondents had heard of blood donation primarily from health workers (46.7%). Only 35.5% had ever donated blood, and this was primarily for a relative or friend (72.8%). Only 2.3% of previous donations were for an unknown person. Males were more likely to have donated blood ($P < 0.001$) and more willing to donate blood voluntarily ($P = 0.015$) compared to females. The FGDs showed that voluntary blood donation practice within the community was poor.

Conclusion: The respondents are knowledgeable about blood donation and expressed positive attitude. However, this has not been translated into practice. Health authorities should collaborate with rural communities to organize blood donation campaigns to provide opportunities for altruistic blood donation.

Key words: Qualitative, quantitative, rural, voluntary blood donors, voluntary non-remuneration blood donation

How to cite this article: Udegbe A, Odukoya OO, Ogunnowo BE. Knowledge, attitude, and practice of voluntary blood donation among residents in a rural local government area in Lagos state: A mixed methods survey. *Niger J Health Sci* 2015;15:80-8.

INTRODUCTION

Adequate and safe blood supply has remained a challenge in developing countries like Nigeria.¹⁻³ Donated blood can be lifesaving for individuals who have lost large volumes of blood from serious accidents, obstetrics and gynecological hemorrhage, surgery, stem cell transplantation, as well as individuals who have symptomatic anemia from medical or hematological conditions and cancers. Generally, donors are classified into the following categories: Volunteer, family replacement, and autologous donors.⁴ The safest donors are found among voluntary non-remunerated blood donors who donate their blood purely out of altruism.^{5,6} The risk of transfusion transmissible diseases is highest with the use of blood

procured from remunerated donors,^{1,7-9} monetary remuneration, which is usually offered as donor incentive, might be highly appealing for people who live in desperate straits. A person in need of money is more likely to conceal his true state of health.⁹

According to key global facts in 2013, national blood supplies in 62 countries are based on 100% or almost 100% ($\geq 99.9\%$) voluntary, unpaid blood donors. Most developed countries have a well-functioning system of non-remuneration blood donation.¹⁰

The World Health Organization advocates that member states should establish National Blood Transfusion Services that will operate on a basis of voluntary non-remuneration blood

Address for correspondence: Dr. Udegbe ALN,
Department of Community Health and Primary Care, College of Medicine,
University of Lagos, Lagos State, Nigeria.
E-Mail: lindankemjika@yahoo.com

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

Access this article online

Quick Response Code:



Website:
www.chs-journal.com

DOI:
10.4103/1596-4078.182321

donation. The goal is for all countries to obtain all blood supplies from voluntary non-remuneration donors by 2020 in accordance with the World Health Assembly Resolution 28.72 which was adopted in 1975.⁵

There are no national data on blood donor demand and supply, but available data suggests that most pints of blood are provided by blood vendors and by family replacements, with an attendant risk of transfusion transmissible infections.^{2,3} Voluntary blood donation accounts for <5% of blood procured in most of our blood banks.^{2,3,8}

Studies exist assessing the knowledge, attitude, and practice of voluntary blood donation in several countries, primarily in urban areas^{3,11,12} to the detriment of their rural counterparts and utilizing a quantitative research approach, and hence the need for this study which had employed both qualitative and quantitative techniques that will enable more exploration and in-depth insight into the issue.

This study was carried out to assess the knowledge, attitude, and practice of voluntary blood donation, and to determine the factors associated with the willingness to donate blood among the residents of Badagry, a Rural Local Government Area (LGA) in Lagos State, Nigeria.

MATERIALS AND METHODS

Study location

The study was carried out at Badagry LGA, one of the four rural LGAs in Lagos State, Nigeria. The LGA comprises of three Local Council Development Areas (LCDAs), Namely: The Badagry Central, Badagry West, and Olorunda LCDAs, 10 wards and an estimated human population of 273,466 according to the population census of 2006.¹³ Badagry LGA is a few kilometres from Seme, a border town in Benin Republic and generates the highest Nigerian customs duties until date. The LGA inhabits people from all over the country, trading in clothing, food items, used cars, and other imported goods. The indigenes are Yoruba speaking and depend largely on fishing and agriculture. Badagry is a tourist town, with an abundance of beaches. The evidence of colonization – old fashioned houses, courts, churches, schools, and other instruments of administration that are over 100 years abound in the town. There is a poor road network despite the fact that Badagry is a tourist town. Located in Badagry LGA are 11 Primary Health Centers, a General Hospital, 29 registered private hospitals, and 9 registered diagnostic laboratories.¹⁴ Blood donation services exist at the general hospital and some of the registered hospital and laboratories.

Study design

The study design was a descriptive cross-sectional study using both quantitative and qualitative methods. The study population comprised of residents of Badagry LGA aged between 18 and 65 years. A minimum sample size of 366 was calculated using the formula for descriptive studies, $n = z^2pq/d^2$ using 95% confidence levels, a margin of error of 0.05, and a proportion of 0.61 from a previous study.¹⁵ This was increased by 20% to compensate for possible nonresponses.

Sampling method and data collection for quantitative survey

Advocacy visits were made to the Medical Officer of Health of the LGA and the LCDA representatives where the objectives of the study were explained and permission obtained. A multistage sampling method was used to select 439 respondents for the quantitative study. In the first stage, two out of the three LCDAs were selected by a simple random sampling (balloting). A list of all the wards in the selected LCDAs was obtained from the LCDA secretariat. Then, one ward was selected from each list by simple balloting. A list of the streets in each selected ward was also obtained. Fifteen streets were randomly selected from each of the two wards using a simple random sampling method. Then, a systematic sampling method was used to select 15 houses on each street after choosing a randomly selected starting point. At each selected house, a list of all the households was created, and one household was randomly selected and used for the study. If the house had only one household, then that family was automatically selected. In the final stage, one eligible and consenting adult was selected from each selected household and was included in the survey.

Data collection

Quantitative data collection

This was collected using a pretested interviewer-administered questionnaire. The questionnaire was designed by the researchers after an extensive literature review. It elicited information on respondents' sociodemographic characteristics, respondents' knowledge, and attitudes toward blood donation, and their blood donation practices.

Qualitative data collection

To explore the beliefs of the residents about blood and its donation, two focus group discussions (FGDs) were held using a study guide designed by the researchers: One for men and the other for women. The participants for the FGDs were selected using a convenience sampling technique. Eight men and seven women participated in each FGD. The discussions were held at neutral locations. Each session had a moderator, recorder, and time keeper. All personal data collected were stored completely anonymous as the participants were coded. Each session lasted between 60 and 90 min. At the end of each session, the participants were offered soft drinks as a show of appreciation.

Four research assistants (Badagry indigenes with at least a secondary school education) were trained to collect quantitative data and assist the researcher in the conduct of the FGDs. Data were collected over a period of 1 week in September 2014.

Data analysis

Quantitative data were analyzed using Epi info 3.5.3, manufactured by Centre for Disease Prevention and Control (CDC), and SPSS version 16.0 released in 2007 by SPSS Inc. Chicago. There were eleven questions assessing knowledge of blood donation. A point was awarded for every correct response so that a maximum of eleven points was obtainable. This was converted to percentage.

Respondents with a score of 50% and above were classified as having adequate knowledge. There were five questions graded on a 4-point Likert scale, assessing respondents' attitude toward blood donation. Three points were awarded for each most positive response, and 0 point for each most negative response. A maximum of 15 points was obtainable and later converted to percentage. Respondents with a score of 50% and above were considered to have a positive attitude toward blood donation. Bivariate analysis was carried out in two separate scenarios. First, with the dependent variable being a history of previous blood donation and then second, with a willingness to donate blood voluntarily as the dependent variable. $P \leq 0.05$ were considered statistically significant. The qualitative data were analyzed manually. The tape recordings from the FGDs were transcribed verbatim, and the transcripts were coded thematically. Next, similarities were identified, differences resolved, and consensus achieved. Verbatim passages were selected from the transcript to illustrate the themes.

Ethical considerations

Ethical approval was obtained from the Human Research and Ethics Committee of the University of Lagos Teaching Hospital, Lagos, (Registration number: NHREC: 19/12/2008a) before proceeding with the study at the Badagry LGA. Permission was also obtained from the Local Government Authorities of Badagry LGA. Written informed consent was obtained from each respondent.

RESULTS

Quantitative findings

Four hundred and thirty-nine questionnaires were taken to the field, out of which 437 questionnaires were returned by the respondents, constituting a 99.5% response rate.

Sociodemographic details

Tables I and II show that most of the respondents in this study were male (55.1%), married (60.6%), of Yoruba ethnicity (71.4%), and had, at least, a secondary education (81.0%). The mean age was 36.7 ± 11.1 years.

Knowledge of blood donation among the respondents

Table III shows that all the respondents (100%) have heard of blood donation, primarily from health workers (46.7%). Majority of respondents (77.9%) know that a potential donor could be of either gender and between the ages of 18 and 65 years (68.9%). Most of the respondents (92.7%) appreciate the importance of screening potential donors for transfusion transmissible infections. Table IV shows that only about 16.9% has it that the minimum interval between consecutive blood donation by a healthy individual is 3 months. A majority (96.8%) identified the hospital as a possible blood donation site while only 24.3% know about mobile blood donation vans.

Respondents' attitude toward blood donation

Table V shows that majority (51.0%) of the respondents agree that blood donation can save life. A majority (48.5%) disagree that blood donation can cause health problems to the donor. About 36.8% of the respondents disagree that blood donors

Table I: Sociodemographic characteristics of respondents

Sociodemographic variable	Frequency (%)
Age	
<20	26 (5.9)
21-30	121 (27.7)
31-40	140 (32.0)
41-50	101 (23.1)
51-60	38 (8.7)
≥ 65	11 (2.5)
Mean	36.68 ± 11.12
Marital status	
Married	265 (60.6)
Unmarried	172 (39.4)
Gender	
Male	241 (55.1)
Female	196 (44.9)
Religion	
Christianity	256 (58.6)
Islam	181 (41.4)
Ethnicity	
Igbo	103 (23.6)
Hausa	15 (3.4)
Yoruba	312 (71.4)
Others	7 (1.6)

Table II: Socioeconomic characteristics of respondents

Socioeconomic variable	Frequency (%)
Educational level attained	
No formal education	24 (5.5)
Primary	59 (13.5)
Secondary	203 (46.5)
Tertiary	151 (34.5)
Occupation	
Professional	46 (10.5)
Skilled	71 (16.2)
Unskilled	265 (60.7)
Unemployed	55 (12.6)
Monthly income (naira)	
1-10,000	70 (16.0)
10,001-20,000	85 (19.5)
20,001-50,000	185 (42.3)
50,001-75,000	18 (4.1)
75,001-100,000	21 (4.8)
>100,000	13 (3.0)
None	45 (10.3)

should be offered financial incentives. About 53.1% strongly agree that blood donation should be encouraged. In this study, the prevalence of positive attitude was 69.2%.

Blood donation practices of the respondents including reasons for blood donation among donors and reasons for nondonation among nondonors

Figure 1 shows that the motivating factor behind most of the blood donations was if the prospective recipient was a friend

or relative to the donor (72.8%). About 16.8% of donations were on a commercial basis. Only 2.3% of blood donations were voluntary.

Table III: Knowledge of blood donation among the respondents

Respondent	Frequency (%)
Has ever heard of blood donation	
Yes	437 (100)
No	-
Primary source of information about blood donation (n=437)	
Radio/television	179 (40.9)
Health workers	204 (46.7)
Family/friends	50 (11.5)
Others	4 (0.9)
Knowledge of gender eligibility criteria for blood donation	
Males only	96 (21.9)
Female only	1 (0.2)
Both males and females	340 (77.9)
Knowledge of age eligibility criteria for blood donation** (years)	
<18	59 (13.5)
18-65	301 (68.9)
>65	116 (26.5)
No idea	46 (10.5)
Knowledge that potential donors are screened for transfusion transmissible infections	
Yes	405 (92.7)
No	24 (5.5)
No idea	8 (1.5)

**P=0.207

Table IV: Knowledge of blood donation among the respondents

Respondent	Frequency (%)
Knowledge of the minimum time interval between two consecutive blood donations by a healthy donor	
1 month	4 (0.9)
3 months	74 (16.9)
6 months	173 (39.6)
1 year	159 (36.4)
Others	27 (6.2)
Knowledge of the average time duration of a typical blood donation process	
20 min	162 (37.1)
30 min	72 (16.4)
1 h	40 (9.2)
2 h	11 (2.5)
No idea	152 (34.8)
Knowledge of possible blood donation sites**	
Hospital	423 (96.8)
Health center	34 (7.8)
Laboratory	234 (53.5)
Mobile blood donation van	116 (24.3)

**Multiple responses allowed

Table VI shows that fears and misconceptions were the reasons for non-donation. However, 63.8% have never had the opportunity to donate blood. Table VII shows that only about 35.5% of respondents had ever donated blood, and most of them were males (70.1%). It also shows that most of the donors (59.4%) have donated blood only once and never returned. The recipients of most donated blood were relatives (53.5%). $P \leq 0.05$ is considered statistically significant. Therefore, there is a statistically significant association between gender and the willingness to voluntarily donate blood ($P = 0.015$).

Factors associated with previous blood donation and willingness to donate blood voluntarily

Table VIII shows that willingness to donate blood was associated with the relationship between the donor and recipient. About 89.7% of respondents were willing to donate blood if the recipient was to be a friend or relative,

Table V: Respondents' attitude toward blood donation

Respondent thinks that	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
Blood donation is safe	97 (22.2)	278 (63.6)	51 (11.7)	11 (2.5)
Blood donation is life saving	164 (37.5)	223 (51.0)	44 (10.1)	6 (1.4)
Blood donation should be encouraged	232 (53.1)	157 (35.9)	40 (9.2)	8 (1.8)
Blood donation causes health problem for the donor	48 (11.0)	150 (34.3)	212 (48.5)	27 (6.2)
Donors should be remunerated	58 (13.3)	130 (29.7)	161 (36.8)	88 (20.1)

Table VI: Respondents' reasons for nondonation of blood among never-donors (n=282)

Variable	Frequency (%)
Blood donation can cause sexual failure	46 (16.3)
Blood donation can cause infertility	36 (12.8)
Blood donation can cause HIV/hepatitis	95 (33.7)
Blood donation can cause fever	37 (13.1)
Blood donation can cause fainting	138 (48.9)
Blood donation can cause malaria	48 (17.0)
Blood donation can cause high blood pressure	42 (14.9)
I was afraid of witchcraft	35 (12.4)
I was afraid of contracting an infection	83 (29.4)
I did not have enough blood	165 (58.5)
I was not strong enough	115 (40.8)
I was afraid of losing strength	148 (52.5)
I do not want to create a kinship between myself and the recipient	97 (34.4)
I was afraid of needles	126 (44.7)
Poor access road to the hospital	56 (19.9)
I have never been asked to donate blood	180 (63.8)
My religion is against it	28 (9.9)
My culture forbids it	10 (3.5)

Multiple responses allowed

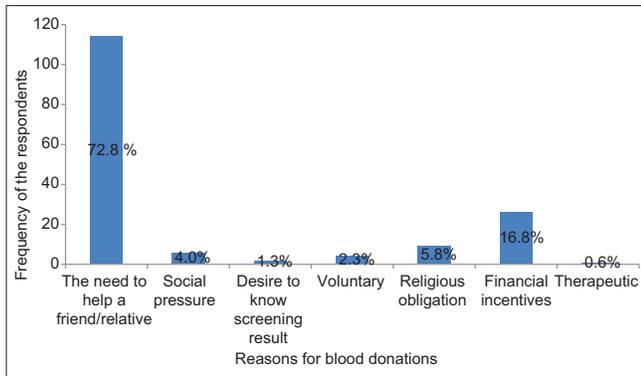


Figure 1: Respondents' reasons for blood donation.

Table VII: Blood donation practices of the respondents

Variable	Frequency (n=155) (%)
Ever donated blood	
Yes	155 (35.5)
No	282 (64.5)
Gender (n=155)	
Males	110 (70.1)
Females	45 (29.9)
Number of previous blood donations (n=155)	
1	92 (59.4)
2	31 (20.0)
3	18 (11.6)
>3	14 (9.0)
A friend	25 (16.1)
A relative	83 (53.5)
Unknown person	47 (30.3)

Table VIII: Respondents' willingness to donate blood

Respondent is	Frequency (%)
Willing to donate blood for a friend or relative	
Yes	392 (89.7)
No	45 (10.3)
Willing to donate blood for an unknown person	
Yes	216 (49.4)
No	221 (50.6)

against 49.4% who expressed a willingness to donate blood for an unknown person. There was a statistically significant association between gender and practice of blood donation as more males had donated blood compared with females. Similarly, males were more willing to donate blood than females.

Qualitative findings

Two FGDs were conducted, one involving eight men, and the other, with seven women.

Knowledge of blood donation

All participants have heard of blood donation. To them, it is an action targeted at saving a life or helping one in need.

“Blood donation is when someone goes to the hospital to donate blood to save the life of the patient that needs it, either on the spot or in future” (male, 35 years).

Although most of them could not exactly say their primary source of information, they mentioned mass media, friends, family, and school teacher as possible sources.

On eligibility criteria for blood donors, both groups agreed that males and females could donate blood.

“A healthy adult aged 18 and above can donate blood” (male, 32 years).

The female participants stated that donors should be between the ages of 25 and 50 years. However, both groups agreed that the males were better sources of blood.

Among the male participants, there was a consensus that blood donation by an individual should be at 6 months intervals while the women generally believed that it should be once a year as they had a concern over a donor becoming anemic.

“We women already loose blood every month through our monthly period, and so for the safety of the woman, she can donate blood once a year so that she too will not faint” (female, 27 years).

Medical conditions that may necessitate a blood transfusion

The participants knew that excessive bleeding during childbirth, severe accidents, sickle cell disorder, leukemia, etc., can necessitate a blood transfusion.

“Sicklers are always short of blood and so always need blood transfusion” (male, 45 years).

Participants' perception of blood transfusion and of the safety and potential benefits of blood donation to donors

Both groups maintained that donated blood is safe for a patient only if the blood has been tested. The female participants were fearful over the issue of transfusion transmissible infection.

“Donor and patient should be matched for blood group” (male, 32 years).

“Blood is safe if patient and donor's genotype matches” (male, 60 years).

“If HIV test is done on the blood and it is negative, then it is safe to give it to another person” (female, 31 years).

The participants expressed that blood donation could give rise to some hazards to the donors only if the donors are anemic.

“There is no harm to the donor but he has to take stout, malt and milk, or red tablets and milk” (male, 40 years).

There was a consensus in both groups that there are no benefits to the donor.

Existence of religious and cultural beliefs against blood donation

The religious affiliations of the participants were either in support of or indifferent on the issue of blood donation.

“My religion and denomination (Gospel Faith Church) does not go against blood donation” (male, 45 years).

“We were not told anything, whether to donate blood is good or bad” (female, 35 years).

The participants did not know of any cultural beliefs against blood donation in the community.

“An Egun man is a Yoruba man and there are no cultures against blood donation” (male, 45 years).

Participants' awareness of blood donation sites within the community

The male participants felt that blood could be donated in the hospital, school, health post, open environment, or any safe place, while the female participants mentioned only hospital and laboratory as the possible blood donation sites.

“Blood donation can take place in any clean environment” (male, 32 years).

Participants' experiences with blood donation

Three out of the eight male participants had a history of blood donation. The basis of donation was commercial, a requirement for antenatal registration of spouse, and voluntary. On the other hand, none of the female participants had ever donated blood.

“I donated blood 4 times, back then in school” (male, 32 years).

“I donated blood for my wife as one of the requirements for her antenatal registration, but she did not use it at the end” (male, 51 years).

Almost all the male participants who had ever donated blood said they felt no discomfort after donating blood apart from pain at the donation site and a little drowsiness. However, one participant said that the drowsiness occurs only after the first blood donation experience.

“It was not easy to give out about 50 cl of blood, the size of a sachet of pure water. I felt drowsy” (male, 35 years).

“The first one was not easy. I almost fainted, but subsequently, nothing” (male, 32 years).

None of the participants had ever received blood transfusion.

Reasons for nondonation among the participants

The reasons for nondonations among those, who have never donated blood, include forgetfulness (8.3%), lack of opportunity (83.3%), and fear of adverse effects (8.4%).

“I do not have confidence in donating blood. Have you not seen some people who donate blood and end up having problems?” (Male, 40 years).

Respondents' willingness to donate blood voluntarily

Most of the male respondents (85.7%) and all the female respondents were willing to donate blood voluntarily.

“Yes I will donate blood if they can come to my house, but I cannot go to the hospital just to donate my blood” (male, 32 years).

The majority of the participants were willing to voluntarily donate their blood as this is an act of charity and in so doing, save lives.

“I would give my blood to protect the life of another person” (female, 35 years).

When the male participant who was unwilling to voluntarily donate his blood was asked for his reasons, he responded.

“Why should I donate my blood freely, but when in need of blood, I will be asked to pay for it” (male, 40 years).

Misbelief and negative experiences most probably had an influence on blood donation behavior. A female participant emphasized that personality could be transmitted through blood transfusion.

“I believe that if you receive another person's blood, you may start behaving like that person” (female, 43 years).

DISCUSSION

This study showed that the awareness of blood donation among the rural people of Badagry was high as all the respondents (100%) had heard of blood donation, the primary sources of information being the health workers. Very few respondents received their information from electronic media. This could be because the use of internet and other forms of electronic media is not widespread in many rural settings. This is in contrast to the findings in Uttarakhand, an urban area in India,¹⁶ where the main sources of primary information were electronic media. A possible explanation for this may be that Uttarakhand is an urban area where access to electronic media might be relatively higher.

The attitudes of the respondents were generally positive as a significant proportion (69.2%) of respondents had a positive attitude toward blood donation. This finding was further reinforced by the qualitative findings as all the participants agreed that blood donation is beneficial and lifesaving. The prevalence of positive attitude as found in this study varies from those found in other similar studies conducted in urban areas, i.e., Lome, Bangladesh, and Puducherry, India.¹⁷⁻¹⁹ These differences might be because Badagry is a rural area. It might be noteworthy to consider designing educative programs to improve the knowledge and attitudes of these rural people toward blood donation. Not surprisingly, our findings are also lower than those reported in similar studies among Health Care Workers in Calabar and Benin Teaching Hospitals.^{4,8} This is probably because the nature of work of the health workers may have had a positive influence on their attitudes toward blood donation as they are more likely to have experienced the benefits of blood donation during the course of their work.

In this study, only 35.5% of the respondents had ever donated blood, of these, only 2.3% had done so on a voluntary basis. This might pose a risk for the transmission of blood-borne infections as blood from voluntary non-remuneration blood

donors is considered the safest. These findings were also observed in the focus groups. Similar findings were observed among respondents in a Nigerian Tertiary Institution¹¹ where only 15% had ever donated blood, out of which only 3% were voluntary. It is also comparable with the figures reported in Tanzania²⁰ where 26.4% had donated blood, but only 3.8% was voluntary. These findings give some cause for concern as commercial blood donors, often known to have higher rates of transfusion-transmissible viral infections remain the major source of blood, thus constitute a major risk of transmitting infections to potential recipients.²

In this study, there was a statistically significant association between gender and a history of blood donation. More males had donated blood when compared with females. This was emphasized in the FGDs in which it was seen that none of the female participants had ever donated blood. This is comparable to the finding in other literatures.^{2,3,13} This may be because males biologically have relatively higher packed cell volume than the females and so may be more likely to meet the donor criteria.

We also observed that there are some gross misconceptions about blood donation as seen in some of the reasons stated for nondonation among the never-donors and also supported by the FGD findings. This is also in line with the finding in many studies in which many are not willing to donate blood because of fears and misconceptions.^{11-13,16,17,21-23} The belief that personality can be transferred through blood transfusion was also observed and supported in the FGD. Other demotivations were due to perceived fears, the major ones being “the fear of needles” and “not having enough blood” the fear of contracting an illness and anxiety over syncope. This is in line with the findings in a study in rural Ebonyi State²³ in which “not being strong enough” and “not having enough blood” were the two major reasons for declining blood donation. Other studies have reported inconvenience,¹¹ fear of needles,²¹ fear of knowing HIV status,¹⁷ fear of weight loss,²⁴ medical reasons,²¹ and problem of access and religious belief²⁵ as major demotivations for blood donation. In other studies among adults in USA²⁶ and that among some Indian university students,²⁷ the main reason for nondonation was a fear of contracting HIV/AIDS. Awareness of the lay beliefs associated with blood and blood donation is extremely important in order to be able to mobilize the community to participate more in voluntary blood donation. Understanding and addressing the factors, rumors, misbeliefs, and negative experiences that demotivate donors will facilitate improvements in donation rates among never-donors and may increase blood reserves in blood banks.

Some participants also perceived that the lack of access to blood when needed hinder voluntary blood donation. A male participant (40 years) said he would rather not donate blood voluntarily since he will still be required to make payments when he is in need of blood. Strategies to compensate donors in such a way that they can have regular access to blood when needed should be developed.

In this study, it was observed that religion was not associated with blood donation, a finding also emphasized by the qualitative aspect of this study, in which the participants revealed that their religions were indifferent on the issue of blood donation. This finding is similar to that in the study²⁸ which assessed the relationship between religiousness and blood donation. This could be because the religious affiliations of the respondents were largely indifferent on the issue of blood donation. However, this is in contradiction to the finding in the study carried out among some Brazilian Postgraduate students²⁹ where it was found that religiousness was found to be associated with blood donation.

Not many other sociodemographic characteristics were associated with either a history of blood donation or a willingness to donate blood. This is comparable to the findings in a study done in India³⁰ and that among some university students.³¹ This is, however, in contrast when compared to the findings in a study in Iran,³² in which there was a reported association between age, marital status, and social status and the practice of voluntary blood donation. In this study, educational level was also not associated with the practice of blood donation, and this is in line with the findings of other studies.^{2,31} These findings may indicate that in designing programs to encourage blood donation, it might be important to look beyond sociodemographic characteristics.

In this study, a high percentage of the donors (59.4%) donated once and never returned. This is in line with the findings in the study in India¹⁹ in which most of the donors had only donated once. To ensure the regular supply of safe blood, it is pertinent to educate donors on the need to donate blood regularly and put in place measures to encourage repeat visits among donors.

The main motivation for blood donation among the blood donors was the need to help a relative or friend (72.8%) and for financial gain (16.8%). This is comparable to a similar study in an urban part of Lagos, Nigeria³² where 92.9% donated their blood because of the need to save the lives of relatives. Altruistic blood donation in this study was relatively low when compared to that found in other literatures^{33,34} with figures as high as 38.6% and 40.3%.

Most of the respondents (72.5%) in this study had never been approached to donate blood. More so, none of the participants in the FGD among females had ever been presented with an opportunity to donate blood. This is similar to the findings in other studies.^{1,2,30} In the FGD, the female participants, however, agreed that it was okay for them to donate blood however not more than once a year because they already lose blood monthly through menstruation. Some studies^{19,35} indicate that by personalized monitoring and support, the number of female donors may be increased by compensating them with free iron supplements. This strategy may also be considered in this setting as it may help increase the blood donation rates among females.

The respondents' willingness to donate blood was associated with who the prospective recipient was, as 89.7% were

willing to donate for a relative in contrast to only 49.4% that are willing to donate for an unknown person. The FGD participants, who also expressed a greater willingness to donate blood, if the recipient was to be a friend or relative, emphasized this finding.

The most popular reason for nondonation among never-donors was because they had never been asked to donate blood. We also found that only about 27.5% of respondents have ever been approached by a community-based blood donation outreach group, as was also seen in the qualitative study. In order to increase blood donation, especially among financially non-remuneration donors, community-based blood donation outreaches should be organized from time to time to remove geographical and other barriers to altruistic blood donation.

CONCLUSION

The respondents are quite knowledgeable about blood donation and have generally positive attitudes, but this has not been translated into practice. The major motivations for blood donation were the need to help relative/friend and financial incentives. Many of them were willing to donate blood if given the opportunity. It is, therefore, necessary to market the concept of “voluntary blood donation” to Badagry residents in line with the efforts of the National AIDS Control Organization. Moreover, the State Government should collaborate with rural communities to organize blood donation campaigns for the rural dwellers. In addition, government and nongovernmental organizations should embark on mass literacy and awareness programs to address the ignorance and misconceptions of blood donation among the rural dwellers. Faith-based institutions can be used as a vehicle to sensitize the people and also to organize blood donation drives within the community, using religious festivals, marriage receptions, birthday celebrations, etc., as opportunities to recruit more potential blood donors.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Ahmed SG, Ibrahim UA, Hassan AW. Adequacy and pattern of blood donations in North-Eastern Nigeria: The implications for blood safety. *Ann Trop Med Parasitol* 2007;101:725-31.
- Nwogoh B, Aigberadion US, Nwannadi IA. Knowledge, attitude and practice of voluntary blood donation among physicians in a tertiary health facility of a developing country. *J Blood Transfus* 2012;10:4-10.
- Sekoni AO, Balogun MR, Odukoya OO, Inem V, Onigbogi OO. Blood donation practices and willingness to donate among residents of an urban slum in Lagos Nigeria. *Niger Postgrad Med J* 2014;21:21-7.
- Ottong JG, Asuquo EE, Olaniran NS, Duke FD, Abia RP. Community mobilization for blood donation, Cross River State, Nigeria. The Calabar PMM Team. *Int J Gynaecol Obstet* 1997;59 Suppl 2:S119-25.
- Politis C. Blood donation system an integral patrol the health system. *Arch Hell Med* 2000;17:354-7.
- Oswalt RM. A review of blood donor motivation and recruitment. *Transfusion* 2007;77:123-35.
- Gibbs WN, Corcoran P. Blood safety in developing countries. *Vox Sang* 1994;67:377-81.
- Enosolease ME, Imarengiaye CO, Awodu OA. Donor blood procurement and utilisation at the University of Benin Teaching Hospital, Benin City. *Afr J Reprod Health* 2004;8:59-63.
- Eastlund T. Monetary blood donation incentives and the risk of transfusion-transmitted infection. *Transfusion* 1998;38:874-82.
- Mascaretti L, James V, Barbara J, Cárdenas JM, Blagoevska M, Haracic M, *et al.* Comparative analysis of national regulations concerning blood safety across Europe. *Transfus Med* 2004;14:105-12.
- Salaudeen AG, Odeh E. Knowledge and behavior towards voluntary blood donation among students of a tertiary institution in Nigeria. *Niger J Clin Pract* 2011;14:303-7.
- Javadzadeh Shahshahani H. Why don't women volunteer to give blood? A study of knowledge, attitude and practice of women about blood donation, Yazd, Iran, 2005. *Transfus Med* 2007;17:451-4.
- National Population Commission (Nigeria) and ICF Macro. Nigeria Demographic and Health Survey 2008. Abuja Nigeria: National Population Commission and ICF Macro; 2009.
- Akande, AM. Handbook on the Briefs of Badagry Local Government Area: A New Dawn is Here; .Lagos State Nigeria. 2013.
- Okpara RA. Attitude of Nigerians towards blood donation and blood transfusion. *J Trop Med Geogr* 1989;41:89-93.
- Agrawal A, Tiwari AK, Ahuja A, Kalra R. Knowledge, attitude and practices of people towards voluntary blood donation in Uttarakhand. *Asian J Transfus Sci* 2013;7:59-62.
- Agbovi KK, Kolou M, Fétéké L, Haudrechy D, North ML, Ségbéna AY. Knowledge, attitudes and practices about blood donation. A sociological study among the population of Lomé in Togo. *Transfus Clin Biol* 2006;13:260-5.
- Hosain GM, Anisuzzaman M, Begum A. Knowledge and attitude towards voluntary blood donation among Dhaka University students in Bangladesh. *East Afr Med J* 1997;74:549-53.
- Kowsalya V, Vijayakumar R, Chidambaram R, Srikumar R, Reddy EP, Latha S, *et al.* A study on knowledge, attitude and practice regarding voluntary blood donation among medical students in Puducherry, India. *Pak J Biol Sci* 2013;16:439-42.
- Matee MI, Lyamuya EF, Mbena EC, Magessa PM, Sufi J, Marwa GJ, *et al.* Prevalence of transfusion-associated viral infections and syphilis among blood donors in Muhimbili Medical Centre, Dar es Salaam, Tanzania. *East Afr Med J* 1999;76:167-71.
- Obi SN. Antenatal blood donation for pregnant Nigerian mothers: The husbands' perspective. *J Obstet Gynaecol* 2007;27:467-9.
- Fernandez MA, Dois LD, Castillo J, Lopez BA, Rodriguez FA. Attitude, belief and motivation in blood donors and non-blood donors. *J Blood Transfus* 1996;41:427-40.
- Umeora OU, Onuh SO, Umeora MC. Socio-cultural barriers to voluntary blood donation for obstetric use in a rural Nigerian village. *Afr J Reprod Health* 2005;9:72-6.
- Gordeuk VR, Brittenham GM, Bravo J, Hughes MA, Keating LJ. Prevention of iron deficiency with carbonyl iron in female blood donors. *Transfusion* 1990;30:239-45.
- Ratliff TM, Hodge AB, Preston TJ, Galantowicz M, Naguib A, Gomez D. Bloodless pediatric cardiopulmonary bypass for a 3.2-kg patient whose parents are of Jehovah's Witness faith. *J Extra Corpor Technol* 2014;46:173-6.
- Stede WR, High PM, Schreiber GB. AIDS knowledge and belief related to blood in US adults: A result from a national telephone study. *J Transfus* 2012;52:1277-89.
- Baig M, Habib H, Haji A, Alsharief FM, Noor AG, Makki R. Knowledge, Misconceptions and Motivations Towards Blood Donation Among University Students in KSA. *Pak J Med Sci* 2013;29:1295-9.
- Gillum RF, Masters KS. Religiousness and blood donation: Findings from a national survey. *J Health Psychol* 2010;15:163-72.
- Zangiacomi Martinez E, Dos Santos Almeida RG, Garcia Braz AC, Duarte de Carvalho AC. Association between religiousness and blood

- donation among Brazilian postgraduate students from health-related areas. *Rev Bras Hematol Hemoter* 2014;36:184-90.
30. Shenga N, Thankappan K, Kartha C, Pal R. Analyzing sociodemographic factors amongst blood donors. *J Emerg Trauma Shock* 2010;3:21-5.
 31. Wiwantikit V. Knowledge, attitude and practice of blood donation among a sample of Chulalong university students. *Vox Sang* 2002;83:97-9.
 32. Olaiya M, Alakija W, Ajala A, Olatunji R. Knowledge, attitudes, beliefs and motivation towards blood donation among blood donors in Lagos, Nigeria. *J Transfus Med* 2002;42:216-25.
 33. Rapa SU. Knowledge, attitude and practice towards blood donation among voluntary blood donors in Chennai, India. *J Clin Diagn Res* 2013;7:1043-6.
 34. Sojka BN, Sojka P. The blood donation experience: Self-reported motives and obstacles for donating blood. *Vox Sang* 2008;94:56-63.
 35. Hartsfield J. Iron status in female blood donors. *Nutr Bytes* 1998;4:11-5.