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Determinants of Antenatal Blood Donation Practices among Married Men in Ilorin Metropolis, North-central Nigeria

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Abstract

With availability of blood transfusion service, up to 150,000 maternal deaths can be averted. Improving blood availability through voluntary or compulsory antenatal blood donation is pivotal to reducing maternal mortality. This study was conducted to find out the determinants of antenatal blood donation practices among married men in Ilorin metropolis. Using a pretested, semi-structured, interviewer-administered questionnaire, a descriptive cross-sectional study involving 500 married men was carried out using a multi-stage sampling technique. Data analysis was done using SPSS version 18 software package. Regression analysis was used to test for significant associations between variables. A p-value of less than 0.05 was considered as statistically significant. Even though, majority (85.8%) of the respondents were willing to support voluntary blood donation, less than half of them (43.4%) had ever donated blood. Fear of contracting infections such as HIV/ AIDS and Hepatitis (66%) and fear of fainting spells and bloodletting (41.6%) were the major deterrents to blood donation. Regression analysis revealed that age (β= -0.061; p =0.002), occupation (β =0.125; p =0.000) and level of education were significant predictors of antenatal blood donation practices among respondents. Voluntary antenatal blood donation practice is still low among the study population. Certain socio-demographic factors such as age, level of education and occupation are important predictors of antenatal blood donation. Improvement in public enlightenment campaign to raise level of awareness and allay fears and misconceptions about antenatal blood donation is advised.

Keywords: *Antenatal blood donation, practices, determinants, north-central Nigeria*

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Introduction

The usage of blood differs between the developed and the developing countries. While major surgeries, medical and haematological conditions constitute the leading indications for blood use in developed countries, pregnancy-related conditions are the major indications for blood use in the developing countries (WHO, 2006). World Health Organization (WHO) estimates that a country needs available blood supply that is equivalent to 1 to 2% of its population (Schantz-Dunn J and M, 2011). However, study of the blood donation rates across the world showed that sub-Saharan Africa has the lowest donation rates. Only 38% of the estimated 80 million units of blood donated annually worldwide, is collected in the developing countries where 82% of the world's population live (WHO, 2006).

Collection of blood from voluntary non-remunerated blood donors is one of the WHO strategies for achieving blood safety(Blood transfusion safety, 2003). The provision of such safe and efficient blood transfusion services will curb the poor maternal indices, averting up to 150,000 maternal deaths(WHO, 2006). Improving blood availability through the adoption of voluntary antenatal blood donation is pivotal to reducing the obstetrics causes of maternal morbidity and mortality. Sadly, this aspect has remained untapped because of the negative attitudes of people to blood donation in most developing counties including Nigeria. Blood donation in African countries has typically been replacement donors or when people donate specifically to aid family members in emergency situations (Julianna S and Nawal M, 2011; Buciuniene I et al., 2006).

Religious and cultural beliefs are some of the reasons for the lower rates of voluntary blood donations in Nigeria(Julianna S and Nawal M, 2011). Misconceptions, superstitious beliefs and suspicion that blood is being sold as a commodity (Julianna S and Nawal M, 2011; Lownik E et al., 2012; Olawumi HO and Adewuyi JO, 2007), fear of acquiring serious infections and fear of pain during collection of blood (Olaiya MA et al., 2004; Zaller N et al., 2005) are other reasons for non-acceptance of voluntary blood donation in different population groups. Previous studies have revealed perceived need for donation, altruism, media appeal, direct influence from friends and relations and other hospital benefits, remuneration, social pressure, desire to know screening results and convenience as strong motivators to blood donation (Buciuniene I et al., 2006; Bednall TC and Bove LL, 2011; Olaiya MA et al., 2004; Sojka BN and Sojka P, 2008; Zaller N et al., 2005).

Several deferral factors to general blood donation have been documented in past literature. However, little is known about factors that influence blood donation for antenatal purposes. It is therefore imperative to establish the important determinants and deferral factors to antenatal blood donation practices. This study, therefore, set out to determine the factors that influence antenatal blood donation practices among married men in Ilorin metropolis.

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Patients and methods

Sample size was determined using the formula for single population proportion by considering 15% proportion of tertiary institution students in Ilorin (Salaudeen AG and Odeh E, 2011), Nigeria that have ever donated blood, 95% confidence level, 5% margin of error and 20% non-response rate. A total of 500 married men aged 20 to 59 years residing within Ilorin metropolis were recruited into the descriptive cross sectional survey using a multi-stage sampling technique. Ilorin South, one out of the three Local Government Areas (LGAs) that make up Ilorin metropolis was selected by simple random sampling technique by balloting without replacement. Five out of the twelve wards in the LGA were selected by simple random sampling technique. Two communities were then chosen using simple random sampling technique from each of the selected wards. In each selected community the respondents were selected through systematic sampling of households.

A sampling frame of the households in each of the sampled communities was prepared through household numbering and enumeration. Systematic sampling technique was then adopted to select the households to be included in the study. In households where there were no eligible respondents or where the respondents were unwilling to participate, the next household in the sampling frame was visited to recruit consenting and eligible respondents. For households with more than one eligible respondent, simple random sampling by balloting was used to select one respondent. The pretested, semi-structured, interviewer-administered questionnaire designed by the researcher was administered by six trained research assistants.

The data generated from the study were manually checked for possible errors and inconsistencies before data entry. Analysis of data was done using SPSS version 18 software package, and was presented using frequency tables. Regression analysis was used to test for significant associations between variables. A p-value of less than 0.05 was considered as statistically significant.

The exclusion of unmarried men, which is another healthy pull of potential voluntary blood donors, was a major limitation to this study. Ethical approval for the study was obtained from the Ethical Review Committee of Kwara State Ministry of Health while informed consents of the respondents were also sought.

Results

A total of 500 questionnaires were administered and retrieved, giving a response rate of 100%. The ages of the respondents ranged from 20-59 years, with a mean of 39.2 + 6.9 years (table 1). Majority of the respondents 224 (44.8%) were civil servants while 144 (28.8%) were business men with only 22 (4.4%) being students of various institutions of higher learning in the state. Eighty-two percent

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had tertiary level of education, followed by 13.4% with secondary level of education. Men with no formal education constituted 2.8 % of the respondents. Majority (94.6%) of the respondents were in monogamous relationships while only 5% of them were in polygamous relationships (table 1).
Less than half (43.4%) of the respondents had ever donated blood in the past and only 5% of them did so for monetary gain (Table 2). Up to 53.5% of those that have ever donated blood did so only once while lesser proportions 20.3%, 15.2% and 11.0% of them donated twice, thrice or more in the past respectively. Less than a quarter (22.2%) of those that have ever donated blood did so in the last one year preceding the survey (Table 2).

Majority 283 (56.6%) of the respondents entertained varying degrees of fear towards blood donation. Up to 66.6% of those that had fears were afraid of contracting infections such as HIV/ AIDS and Hepatitis; this is followed by fear of fainting spells and bloodletting (41.6%). Others had erroneous beliefs that the donated blood might be used for rituals (24.4), sold (28.4) or that blood donation shortens life span (14.8), (Table 3).
Regression analysis revealed that age (β= -0.061; p =0.002), occupation (β =0.125; p =0.000) and religion (β= 0.823; p = 0.000) were significant predictors of antenatal blood donation practices among respondents. Of all the significant predictors, level of education of the respondents has the highest regression co-efficient (β =0.823; p = 0.000) for antenatal blood donation (table 4). The higher the age, the less likely it is that the individual will donate. With regards to occupation, civil servants and students are more likely to donate than other occupational groups.

Discussion

In this study, the ages of the respondents ranged from 20-59 years, with a mean of 39.2 ± 6.9 years. A lower mean age and age range were found in the Abakaliki study (Obi SN, 2007), Nigeria where the mean age participants was 26 ± 4years with a range of 21-50years. This could be due to the varying sociocultural factors that influence age at marriage across the different geographical zones of Nigeria.
Majority of the respondents affirmed to supporting voluntary blood donation but less than half of them had ever donated blood in the past. This finding was similar to those of previous studies(Salaudeen AG and Odeh E, 2011; Wiwanitkit V, 2002) where people willing to donate were more than those who had ever donated blood. In this study, majority of those that have ever donated blood did so only once and less than a quarter donated in the last one year preceding the survey. These findings further corroborate the submission of Salaudeen et al (Salaudeen AG and Odeh E, 2011) where majority of donors were compelled to donate blood either because of emergency situations or to save the life of close relatives.

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With regards to obstetrics services, insisting on compulsory antenatal blood donation by the patients' spouses may be an easy way to continue to obtain adequate blood supply to manage obstetric facilities. It is in line with this initiative that University of Ilorin Teaching Hospital and some other tertiary health facilities in Nigeria have developed institutional policy on compulsory blood donation for pregnant women attending antenatal clinics as a pre-requisite to delivery in their hospital premises. This initiative of encouraging voluntary blood donation from low-risk population in the society is a welcome development. However, this is not foolproof because not all the spouses will be eligible to donate blood.

Voluntary non-remunerated blood donation is uncommon in this environment (Olaiya MA et al., 2004; Salaudeen AG and Odeh E, 2011).[9,12] Studies in Lithuania (Buciuniene I et al., 2006), Nigeria (Olaiya MA et al., 2004; Salaudeen AG and Odeh E, 2011), and Sanguinea, Granada(Fernandez M A et al., 1996) among blood donors have shown that people will most likely donate blood if there were some monetary gains or other benefits to be derived from it. In this study about 5% of the respondents who had ever donated did so for monetary gains.

Certain deferral factors such as ill-health, haemoglobinopathies, ABO blood group incompatibilities, hepatitis, HIV/AIDs and pregnancy make it impossible for some individuals to donate blood. Almost all the respondents in this study were aware of such deferral factors with more than two-thirds of them being able to mention at least one of such conditions. This finding is also similar to the Iranian study (Shahshahani HJ et al., 2006) where a good number of the study population knew about deferral factors for blood donation.

As evident from this study, the common deterrents to antenatal blood donation were fear of transmission of infections such as HIV and hepatitis, fear of blood shortage, fainting spells and fear of the bloodletting instruments. Others raised concern on their blood being used for rituals or sold to someone else if it was not used eventually. Some of these findings have been shown by other authors (Fernandez M A et al., 1996; Lownik E et al., 2012) as well. These fears and concerns are mostly misconceptions and misinformation and need to be addressed during campaign and educational programmes.

Conclusion

Voluntary antenatal blood donation practice is still low among the study population. Certain socio-demographic factors such as age, level of education and occupation are important predictors of antenatal blood donation. Fear of contracting infection, fainting spells, and 'blood shortage' are other deterrent factors to blood donation. Improvement in public enlightenment campaign to

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raise level of awareness and allay fears and misconceptions about antenatal blood donation is advised.

References

Bednall, T.C., Bove, L.L. (2011). Donating blood: a meta-analytic review of self-reported motivators and deterrents. Transfus Med Rev. Oct; 25 (4):317-34

Blood transfusion safety. Voluntary non-remunerated blood donation. Available at : www.who.int/bloodsafety/voluntary_donation/en/ accessed on 12th Dec 2013

Buciuniene, I., Stoniene, L., Blazeviciene, A., Kazlauskaite, R., Skudiene, V. (2006). Blood donors'motivation and attitude to non-remunerated blood donation in Lithuania. BMC Public Health. Jun 22;6:166

Fernandez, Montoya. A., de Dios Lunadel Castillo, J., Lopez Berrio, A., Rodriguez, Fernandez, A. (1996). Attitudes, beliefs and motivations in blood donors and non donors. Centro Regional de Transfusion Sanguinea, Granada. Dec;41(6):427-40

Julianna, S., Nawal, M. (2011). The Use of Blood in Obstetrics and Gynecology in the Developing World. Rev Obstetrics and Gynecol. summer; 4(2): 86-91

Lownik, E., Riley, E., Konstenius, T., Riley, W., McCullough, J. (2012). Knowledge, attitude and practices survey of blood donation in developing countries. Vox Sang. Jul; 103(1): 64-74

Obi, S.N. (2007). Antenatal blood donation for pregnant Nigerian mothers: the husbands' perspective. J Obstet Gynaecol Jul:27(5):467-9

Olaiya, M.A, Alakija, W., Ajala, A., Olatunji, R.O. (2004). Knowledge, attitude, beliefs and motivators towards blood donations among blood donors in Lagos, Nigeria. Transfus Med. Feb; 14 (1): 130-7

Olawumi, H.O., Adewuyi, J.O. (2007). The impact of higher education on the knowledge, attitude and practice about voluntary blood donation among fresh graduants of Nigeria tertiary education institution. Africa Sanguine.; 10(2):28-31

Salaudeen, A.G., Odeh, E. (2011). Knowledge and behaviour towards voluntary blood donation among students of a tertiary institution in Nigeria. Niger J Clin Pract; 14:303-307

Schantz-Dunn, J., Nawal, M. (2011). The Use of Blood in Obstetrics and Gynecology in the Developing World. Rev Obstet Gynecol. 2011 Summer; 4(2):86-91

Shahshahani, H.J, Yavari, M.T, Attar, M., Ahmadiyeh, M.H. (2004). Knowledge, attitude and practice study about blood donation in the urban population of Yazd, Iran, Transfusion Medicine, 2006, 16, 403-409

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Sojka, B. N, Sojka, P. (2008). The blood donation experience: self-reported motives and obstacles for donating blood. Vox Sang. Jan; 94 (1) : 56-63

WHO. Blood Transfusion Safety. 2006. Available at www.who.int/bloodsafety accessed on 13th September 2013

Wiwanitkit, V. (2002). Knowledge about blood donation among a sample of Thai University Students. Vox Sang. Aug, 83 (3): 97-9

Zaller, N., Nelson, K.E, Ness, P., Wen, G, Bai, X., Shan, H. (2005). Knowledge, attitude and practice survey regarding blood donation in a Northwesters Chinese city. Transfus Med. Aug; 15 (4):277-86

Table 1: Socio-demographic Characteristics of the Respondents

N = 500

Variable	Frequency (%)
Age range (years)	
20 – 29	28 (5.6)
30 – 39	242 (48.4)
40 – 49	235 (36.6)
50 – 59	47 (9.4)
Religion	
Christianity	326 (65.2)
Islam	165 (33.0)
Traditional	9 (1.8)
Occupation	
Civil servant	224 (44.8)
Business	144 (28.8)
Artisan	34 (6.8)
Clergy/ cleric	41 (8.2)
Student	22 (4.4)
others	194 (38.8)
Level of Education	
No formal education	14 (2.8)
Primary	7 (1.4)
Secondary	67 (13.4)
Tertiary	412 (82.4)
Form of Marriage	
Monogamy	473 (94.6)
Polygamy	27 (5.4)

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Table 2: Blood Donation Practices by Respondents

Variable	(N = 500) Frequency (%)
Ever Donated Blood	
Yes	217 (43.4)
No	283 (56.6)
Ever Received Money for Blood Donation(n=217)	
Yes	5 (2.3)
No	212 (97.7)
Participation in Blood Donation in the Past(N=217)	
Once	116 (53.5)
Twice	44 (20.3)
Three times	33 (15.2)
≥ Four times	24 (11.0)
Time Interval between Blood Donation Attempts (N=217)	
One year and below	49 (22.6)
Two to Five years	64 (29.5)
Six to Ten years	65 (30.0)
Over Ten years	39 (17.9)

Table 3: Fears entertained by respondents on blood donation

N =283

Variables (multiple response)	Frequency (%)
Risk of HIV/ hepatitis	333 (66.6)
Blood shortage	227 (45.4)
Fear of bloodletting	208 (41.6)
Fear of fainting spell	208 (41.6)
Blood may be sold	142 (28.4)
Blood may be used for rituals	122 (24.4)
Donation shortens life span	74 (14.8)

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Table 4: Regression analysis showing the predictors of antenatal blood donation practices among respondents

Variables	Regression co-efficient (β)	p-values
Marital Status	.236	.364
Religion	**.823**	**.000**
Educational Level	-.208	.351
Occupation	**.125**	**.000**
Number of Children	.214	.058
Number of Wives	.642	.245
Age	**-.061**	**.002**
Constant	.066	.966

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