

Knowledge, Attitude, and Practice (KAP) of Voluntary Blood Donation among Nurses in Mosul Teaching Hospital

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ABSTRACT

Background and aim : blood can save millions of lives. The requirement of blood and blood products in a country depends on the population, health care structure, prevalence of conditions requiring regular transfusions, such as hemophilia and thalassemia etc., availability of surgical centers using modern sophisticated techniques, and awareness amongst clinicians regarding the judicious use of blood. The study aimed to assess of Knowledge, Attitude, and Practice (KAP) of Voluntary Blood Donation among nurses at the Mosul Teaching Hospital.

Materials and Method: Cross-sectional design was applied in this study that aimed to assessment of knowledge, Attitude, and practice of voluntary blood donation among nurses in Mosul Teaching Hospital. Random sample consists of (152) nurses (99)Male , (53) Female , and the sample age range (median age) 18–60 (26.3±) years. Data were collected from first December 2013 extended from First February 2014. Data were collected from all Mosul Teaching Hospital (Ibn-Sena Teaching Hospital, AL-Zahrawee Teaching Hospital, AL-Salm Teaching Hospital, Ibn-Ather Teaching Hospital and Al-Khansa Teaching Hospital). An interview technique, method was used for data collection and data were analyzed as Frequency, percentage and Chi-Square.

Results: The results of the study show that the Knowledge, Attitude, and Practice (KAP) of Voluntary Blood Donation among nurses in Mosul Teaching Hospital is good knowledge toward blood donation (81.4%), positive attitude about (78.2%), but there were practices of blood donation correct (56.7%)

Conclusion: The study concluded that the Nurses in hospitals have good knowledge of voluntary donation and a positive attitude towards donation, but there were disparities in their practices of blood donation.

Recommendation: The study recommended there is an urgent need to create and strengthen programs for motivation, recruitment and retention of voluntary blood Donors in our country.

Keywords: Knowledge, Attitude , Practice, Nurses , Voluntary blood donation.

INTRODUCTION

Blood can save millions of lives. The requirement of blood and blood products in a country depends on the population, health care structure, prevalence of conditions requiring regular transfusions, such as haemophilia and thalassaemia etc., availability of surgical centers using modern sophisticated techniques, and awareness amongst clinicians regarding judicious use of blood. However problem regarding a permanent shortage of blood is observed in blood services all over the world (Sojka *et al.*, 2003). The only source of blood is by blood donation (Olaiya, 2004). However, recruitment of voluntary, non-remunerated blood donors poses major challenges to transfusion services throughout the world (Misje *et al.*, 2010). As per World Health Organization (WHO) norms, 1% of the population is generally the minimum needed to meet the country's most basic requirements for blood (WHO, 2008). Donating blood is an act that

can save the lives of thousands of people worldwide because blood is an essential element of human life and there are no substitutes for it. In spite of extensive efforts and a number of blood donation programmes being organized worldwide, the availability of blood still remains short to meet the increased demand for it. World Health Organization advocates that 3-5% of the population should donate blood every year, which would be the ideal rate for maintaining a country's stock of blood and blood products at acceptable level (Zago *et al.*, 2010). The collection of blood should only be from voluntary donors (low risk population), that is one of the four components of WHO's integral strategy to promote global safety and minimize risk associated with transfusion (WHO, 2001). Unfortunately, 83% of the global population who are living in developing countries have access to only 40% of blood supplied, and this blood in

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60% of cases is collected from paid or replacement blood donors rather than from voluntary non-remunerated low risk donors (Mitra *et. al.*, 2001). In India there is a need of about 8 million units of blood every year, out of which only about one third are obtained from voluntary donors (Ghose and Basu, 1996). In spite of extensive promising research, a true substitute for blood and blood components may not be available for many years (Lowe and Ferguson, 2003). Therefore, blood donation by humans will continue to be the major source for blood and blood components. There are no national data in Iraq on blood donor demand (WHO, 2011). The task of recruiting voluntary blood donors remains one of the major challenges for any blood transfusion service (Dorothy *et. al.*, 2008). The numbers of potential donors were often reduced due to the strict selection criteria which were imposed to ensure the safety of the blood supplies. In addition to this, the blood centres find it difficult to recruit new donors and to retain them for arranging a regular blood supply for needy people. Consequently, the blood services need to organize more frequent blood drives to maintain a regular blood supply and to adopt an approach for enhancing new blood donor recruitment and retention of the donors (Ministry of Health and Family Welfare, India, 2003). One of the objectives of the National Blood Policy is to encourage research and development in the field of Transfusion Medicine. One of its strategies is to take the appropriate decision and/or to introduce policy initiatives on the basis of the factual information, the operational

research on various aspects such as transfusion transmissible diseases, the Knowledge, Attitude and Practice (KAP) among donors, the clinical use of blood, etc (WHO, 2008). The aim of the study is to assess of knowledge, attitude, and practice (KAP) of voluntary blood donation among nurses in Mosul Teaching Hospital.

MATERIALS AND METHOD:-

Cross-sectional design was applied in this study that aimed to assessment of knowledge, Attitude, and practice of voluntary blood donation among nurses in Mosul Teaching Hospitals. Random sample consists of (152) nurses (99) Male, (53) Female, and the sample age range (median age) 18–60 (26.3±) years. Period of data collection extended from 1st December 2013 to 1st February 2014. Data were collected from all Mosul Teaching hospitals (Ibn-Sena Teaching Hospital, AL-Zahrawee Teaching Hospital, AL-Salm Teaching Hospital, Ibn-AL Ather Teaching Hospital and AL-Khansa Teaching Hospital). Questionnaire tool was used, data collection consisting of Four parts, **Part one:** This part included (6) items which focus on the nurses' demographic characteristics such as (age, sex, marital status, Level of education, experience and work setting). **Part two:** Knowledge of blood transfusion contains (8) items. **Part three:** Attitude towards blood donation. It consists of (5) items. **Part four:** Practice of blood donation included (6) items. An interview method was used for data collection. Data were analyzed as Frequency, percentage and Chi-Square to calculate the score of true answer.

RESULTS

Table (1) Demographic Characteristics of the Study Sample (N=152)

Variables	No.	Percentage(%)
(A) Gender		
Male	99	65.1
Female	53	34.9
Total	152	100%
(B) Age		
< 20 years	6	3.9
21-29 years	71	46.7
30-39 years	52	34.2
40-49 years	13	8.6
50 years or more	10	6.6
Total	152	100%
(C) Marital status		
Married	108	71.1
Single	42	27.6
Widowed	2	1.3
Total	152	100%

(D) Educational level		
Training course	6	3.9
Secondary	44	28.9
Institution	48	31.6
College	54	35.6
Total	152	100%
(E) Experience		
1-5 years	80	52.6
6-10 years	42	27.6
11-15 years	11	7.2
16-20 years	4	2.6
More than 20 years	15	9.9
Total	152	100%
(F) Work setting		
Emergency	26	17.1
Ward	76	50.0
Operation unit	29	19.1
Intensive unit	21	13.8
Total	152	100%
(G) Hospitals		
IBN- Sena	35	23.03
AL-Zahrawee	32	21.06
AL-Salm	30	19.73
Ibn-Al Ather	27	17.76
AL-khansa	28	18.42
Total	152	100%

Figure (1) :- Distribution of the nurses knowledge towards blood Donation.

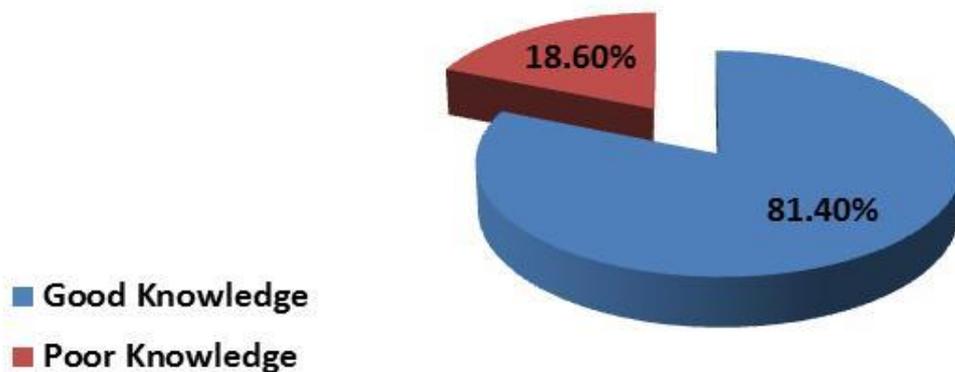


Table (2): Knowledge on Blood Donation

N=152%

Do you know the common blood group?	
Yes	146 (96.1%)
No	6 (3.6%)
Do you know your blood group?	
Yes	150(98.7%)
No	2(1.3%)
Blood group of respondent ?	
A	36(23.7%)
B	36(23.7%)
AB	19(12.5)
O	40(26.3)
Don't know	21(13.8)
Can a person be infected by receiving blood transfusion?	
Yes(correct)	150(98.7%)
No(incorrect)	2(1.3%)
What diseases are transmissible by blood transfusion?	
HIV	122(80.3%)
HBV	135(88.8%)
HCV	120(78.9%)
Syphilis	50(32.9%)
Malaria	70(46.1%)
How often can an individual donate?	
Monthly	20(13.2%)
3 Monthly	52(34.2%)
6 Monthly	57(37.5%)
Annually	6(3.9%)
Don't know	17(11.2%)
Who should donate blood?	
Men (correct)	125(82.2%)
Woman (correct)	86(56.6%)
Young (<18 years)(incorrect)	26(17.1%)
Old(>60 years)(incorrect)	5(3.3%)
Weight less than 50 kg (incorrect)	19(12.5%)
Healthy(correct)	132(86.8%)
Diseased (incorrect)	2(1.3%)
What volume of blood is collected duration each donation ?	
≤ 500 mls (correct)	94(61.8%)
500-1000 mls (incorrect)	27(17.8%)
Don't know	31(20.4%)
What is the duration of a donation Process?	
< 20 minutes	75(49.3%)
20-60 minutes	59(38.8%)
Don't know	18(11.8%)

Figure (2):- Distribution of the nurses attitude toward blood donation.

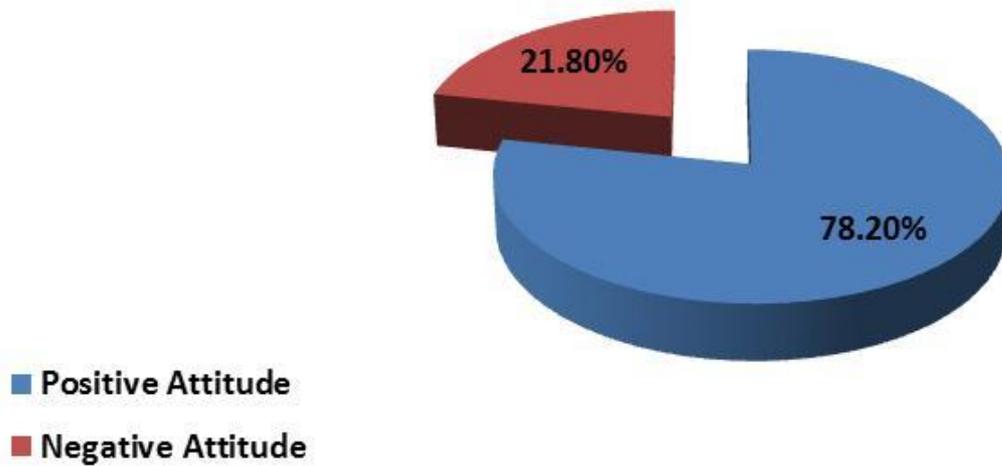


Table (3):Attitude of Blood Donation

What do you think about blood donation?	N(%)
Good	117(77.0%)
Bad	4(2.6%)
Neutral	31(20.4%)
What do you think is the best source of blood donors?	
Voluntary donor	130(85.5%)
Replacement donor	5(3.3%)
Remunerated donor	2(1.3%)
Self-donor	15(9.9%)
Can something harmful happened to blood donor during or after donation?	
Yes	111(73.0%)
No	22(14.5%)
I don't know	19(12.5%)
What can be happened to the blood donor during or after donation?	
Contract Infection	12(7.9%)
Temporary Weakness	136(89.5%)
Fall sick	4(2.6%)
Should patient relatives be asked to donate?	
Yes	119(78.3%)
No	23(15.1%)
I don't know	10(6.6%)

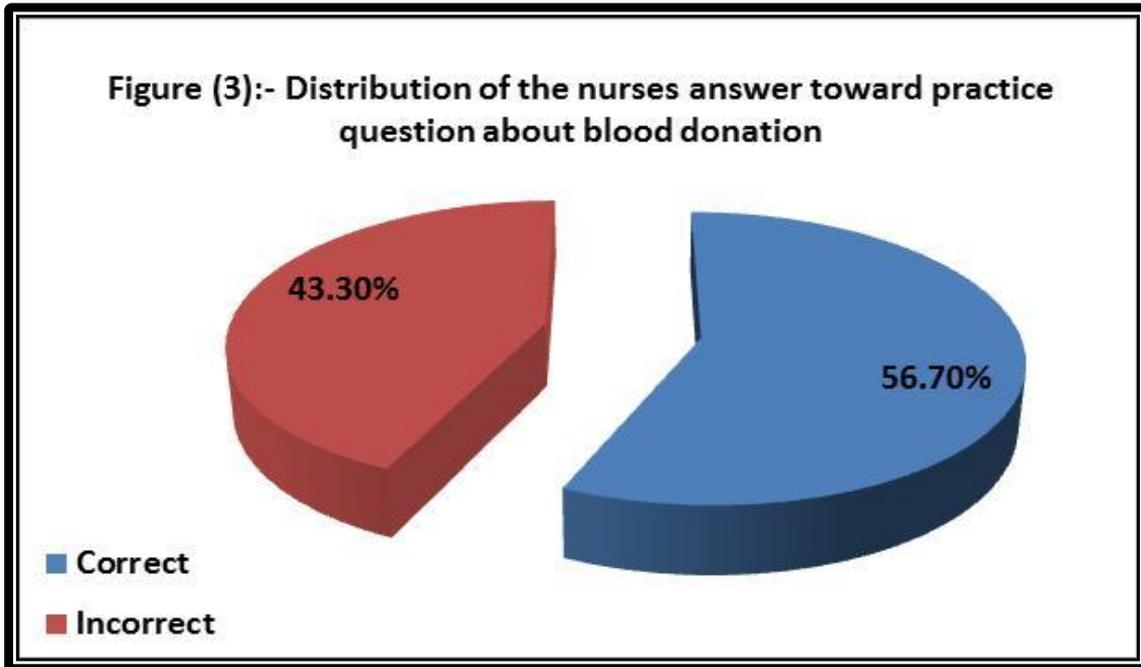


Table (4):Practice of Blood Donation (N=152)

Have you donated before ?	
Yes	53(34.9%)
No	99(65.1%)
How often do you donate?	
1 time < a year	23(43.4%)
1-3 times a year	25(47.2%)
>3 times a year	5(9.4%)
Why did you donate ?	
A friend or relative needed blood	18(34.0%)
Voluntary	33(62.3%)
Remuneration	1(1.9%)
To know my screening status	1(1.9%)
Will you donate if called upon or reminded to do so?	
Yes	120(78.9%)
No	32(21.1%)
Number of those who stated their contact?	
Yes	41(77.4%)
No	12(22.6%)
Reasons for non-donation by no donors?	
Not approached to donate	70(46.1%)
Unfit to donate	30(19.7%)
Need to donate for friends or relatives in future	29(19.1%)
Fear of needles	5(3.3%)
Fear of knowing my status	13(8.6%)
Donated blood may be sold	4(2.6%)
No remuneration	1(0.7%)
Do you encourage relatives to donate ?	
Yes	120(78.9%)
No	32(21.1%)

Table (5):The Association between Gender and Blood Donation.

Gender	Donors(%)	Non-donors(%)	Total
Male	50(94.33%)	49 (49.5%)	99
Female	3(5.67%)	50 (50.5%)	53
Total	53(100%)	99 (100%)	152(100%)
$\chi^2_{crit.} = 30.56$ $P \leq 0.05$ $df = 1$ $\chi^2_{obs.} = 3.84$ Sig.			

This table indicated that the man were blood donation more than women.

Table (6): Distributions of Sample According their Experience.

Experience	Donors(%)	Non-donors(%)	Total
1-5 years	2 (3.77%)	4 (4.04%)	6
6-10 years	11(20.76%)	60 (60.6%)	71
11-15 years	30 (56.6%)	22 (22.22%)	52
16-20 years	4 (7.54%)	9 (9.1%)	13
More than 20 years	6 (11.33%)	4 (4.04%)	10
Total	53(100%)	99 (100%)	152(100%)

Table (7): Distributions of sample according their level of education .

Educational level	Donors(%)	Non-donors(%)	Total
Training course	1(1.88%)	5 (5.06%)	6
Secondary	21(39.63%)	23 (23.23%)	44
Institute	21(39.63%)	27 (27.27%)	48
College	10(18.86%)	44 (44.44%)	54
Total	53(100%)	99(100%)	152(100%)

DISCUSSION

There are lots of publications assessing the knowledge, attitude, and practice of voluntary blood donation; however, very few studies have been published which assess the same on the healthcare workers in our environment and globally (Benedict *et. al.*, 2013). The nurses who respondent in this study were (152) and (18-50 years or more) median age was (26.3±) years. Males in our society are more likely to donate blood than females approximately (65.1%), and the majority of the study sample were married (71.1%), while (27.6%) were singles (Table 1). These studies found the majority of nurses with (1-5 years) experience approximately (52.6%). Nurses worker in four departments, including ward (50.0%), operational unit (19.1%), emergency (17.1%), and intensive unit (13.8%). Their education level, most of the sample were college of nursing (35.5%). Table (1). Figure (1) shows that there is the nurses knowledge toward blood donation is good knowledge (81.40%). Table (2) knowledge of blood transfusion. A total of 152 respondents expressed good knowledge of the common blood group types. And 131(85.2%) knew their own blood group. A(23.7%), B (23.7%), AB (12,5%), O (26.3%) and (13.8%)

did not know the blood group, (Table 2). The current study is in agreement with the study of (Benedict *et.al*, 2013) shown as expected that healthcare workers have a good knowledge of blood groups. Most respondents (91.3%) were aware of the risk of transmission of infection by transfusion. The risk of transmission of HBV, HIV, HCV, Malaria and Syphilis (88.8%), (80.3%), (78.9%), (46.1%) and (32.9%) respectively. In a similar study in Iran, (Reza *et al.*, 2009) assessed the knowledge of 122 health care workers and found that 51.6% (just above average) have an acceptable knowledge on proper methods of blood and component transfusion. Fifty- seven (37.5%) stated that the minimum interval between donation is 6 months , 52(34.2%) said 3 months, and 20(13.2%) said a month, 6(3.9%) said annually, while 17(11.2%) they have no knowledge of this. With knowledge of the volume of blood collected at each donation, 94(61.8%) stated less than 500 ml , 27(17.8%) ticked 500-1000 ml while 31 (20.4%) experts no knowledge of it.

Figure(2) show that there are the nurses attitude toward blood donation is a positive attitude (78.20%). Table (3) Attitude towards blood donation. A hundred and seventeen

(77.0%) respondents said blood donation was good. Voluntary donation was accepted as the best source of blood donors by 130(85.5%), replacement donors by 5(3.3%), remunerated by 2(1.3%) and self-donation by 15(9.9%). One hundred and thirty-six (89.5%) said the donor may experience temporary weakness, and 12(7.9%) said a donor can contract infection and 4(2.6%) said the donor may fall sick. One hundred and forty-two (93.4%) feels that patient relative should be asked to donate, and 142 respondent have asked relatives in the past to donate. The results of my study are in agreement with the study of (Hossain *et. al.*, 1997) Found that (82%) of participants showed a positive attitude towards blood donation. In this study, we recorded (34.9%) blood donated by nurses in the past with 23(43.4%) of them donating less than once a year, 25(47.2%) between 1-3 times a year and 5(9.4%) more than thrice a year. This was a far cry from the knowledge and attitude indicated by the questionnaire. Voluntary blood donation among nurses though low generally, nurses in this study performed higher than their colleagues in the developed countries as documented in the studies by (Gilani *et. al.*, 2007). Most (62.3%) donated voluntary, (34.0%) donated for friends and relatives (1.9%), for remuneration. The reasons for non-donation by those who have not donated include no body approached them for donation 70 (46%), unfit to donate 30(19.7%), need to donate for a friend or relative in future 29 (19.1%), fear of knowing my status 13(8.6%), fear of needle 5(3.3%) the donated blood may be sold 4 (2.6%) and no remuneration 1(0.7%). This study is in Disagreement with study that (Rajagopalan and Pulimood, 1998) Attitudes of medical and nursing students towards blood donation mention that Ninety percent of the respondents in this study intended to donate blood in future and they thought that fear (40.9%), ignorance (31%) and lack of motivations (19.1%) were the main reasons for not donating blood by people. One hundred and twenty (78.9%) encourage relatives to donate Table(4). Figure(3) show that there are the nurses disparities in their practices of blood donation about (56.7%) have answer correct. This study found a significant association between blood donation and gender. The results are in agreement with the study of (Gillespie *et al.*, 2002) The reasons for the less percentage of female donors could be a low donor turnover and temporary deferral conditions like low hemoglobin values, low weight, and fear of pain. In a study which was done by (Hollingsworth and

Wildman 2004), female donors constituted only 1% of the donor population. (WHO) in report affirmation (2011) mention that the causes less female donation frequent menstrual cycles, pregnancy, and lactation. Table(5). Table (6) demonstrated the sample of the study according to their experience of nurses work that more ratio of blood donation between (1-6 years) about (20.76%). Table (7) demonstrated the sample of the study according to their level of education more nurses of blood donation those obtaining the certificate of the Institute of Nursing approximately (39.63%). There is need to properly harness this potential pool of donors if the drive for 100% voluntary donor targeted by the WHO will be achieved. For a sustainable blood banking system aimed at providing adequate and safe blood to all in need, a proper sensitization, and massive donor recruitment from all potential donors must be implemented.

CONCLUSION

The study concluded that the Nurses in hospitals have good knowledge of voluntary donation and a positive attitude towards donation but there were disparities in their practices of blood donation and the study elicits the importance of adopting effective measures in hospitals to motivate about voluntary blood donation among nurses.

RECOMMENDATIONS

There is an urgent need to create and strengthen programs for motivation, recruitment and retention of voluntary blood Donors in our country and implementation a larger study needs to be conducted with a wider pool of participants in order to gain more insights about nurses knowledge, attitudes and practices about blood donation.

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