

Original Research Article

Role of Educational Intervention in Knowledge, Attitude and Practice Regarding Voluntary Blood Donation Among Paramedical Students

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Abstract

Introduction: Blood Donation is a major concern in the society as the safe human blood saves many lives at various medical and surgical illnesses. The concept of safe blood is currently stressed since deadly complications of transfusion transmitted infections are commonly encountered in paid and replacement donors. According to WHO, source of safe blood is procured from voluntary non remunerated blood donors. Hence healthy, active and receptive huge student population can be potential blood donors. Paramedical students by virtue of their technical exposure and clinical knowledge in medical field constitute a right group to donate, educate and motivate others for voluntary blood donation. *Aims and objectives:* 1. To assess the knowledge, attitude and practice of blood donation. 2. To understand the role of educational intervention regarding voluntary blood donation among paramedical students. *Materials and methods:* A descriptive analytical study is conducted in the department of pathology of a government medical college. Fifty paramedical students were randomly selected for the study. All the students were asked to fill the prepared simple questionnaire regarding VBD. After this a powerpoint presentation is delivered to the students regarding the knowledge, attitude, practice and awareness of VBD. Results obtained after pre- and post-test are tabulated, analyzed using appropriate statistical methods and discussed.

Keywords: Voluntary blood donation; Safe blood; Awareness.

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Introduction

Blood is an essential component of human life and is defined as most valuable drug by the WHO that can be substituted only by blood.¹ Blood transfusion is a major concern in the society as safe human blood saves many lives at various medical and surgical illnesses.² However, there must always be a sound

physiological reason for transfusion in any patient, because it exposes the patient to several types of risks including the possibility of transmission of infectious diseases. Hence, safe blood is crucial to prevent spread of deadly infectious diseases. Due to inadequate resources of blood and increasing demands in a developing country like India, it becomes necessary to make a valuable use of blood.³

Blood from a voluntary, non remunerated donor is considered to be the safest for transfusion.⁴ Voluntary unpaid blood donors who donate blood without any pressure and monetary benefits for unknown patients has been reported with low prevalence of blood borne infectious diseases. Hence the World Health Organization has adopted a policy aimed at 100% voluntary non-remunerated donor blood procurement by the year 2020.⁵

Youngsters, especially the student population plays a very crucial role as they form a large and healthy group eligible for voluntary donation. Hence they should be inspired and educated for this noble service so that they volunteer for donation.⁶

Hence healthy, active and receptive huge student population can be potential blood donors and as well as motivators of safe voluntary blood donation.⁶ Paramedical students by virtue of their technical exposure and clinical knowledge in medical field constitute a right group to donate, educate and motivate others for voluntary blood donation.

Aims and objectives

1. To assess the knowledge, attitude and practice of voluntary blood donation.
2. To know the impact of educational intervention regarding voluntary blood donation among paramedical students.

Materials and Methods

This study was conducted in the department of pathology of a government medical college. Fifty paramedical students were randomly selected for the study. All the students were asked to

answer the prepared, simple questionnaire about the knowledge, attitude and practice regarding voluntary blood donation. After this, a lecture using powerpoint presentation comprising of information about blood donation also including answers for the above questionnaire, was delivered to the students. The same questionnaire was regiven to the students and reassessed. Results obtained after pre- and post-test were tabulated, analyzed using appropriate statistical methods. Ethical approval for the study was obtained from the institutional ethical committee.

Results

In our study, all 50 students belonged to the age group of 18–21 years. There were 32 females (64%) and 18 males (16%). We have tabulated the results as pre test (before delivering the lecture) and post test (after the lecture).

Pre-test results (before the lecture)

Regarding knowledge part of the questionnaire, all 50 participants (100%) had good knowledge regarding diseases transmitted through blood (Table 1). 48 (96%) of them had knowledge about age range for blood donation. 40 students (80%) were familiar with hemoglobin percentage and tests performed before transfusion.

As shown in Table 2, 50 (100%) students and 46 (92%) students had information regarding HIV and HBV transmission through transfusion respectively. Whereas only 8 students (16%) of the study group were knowing about transmission of malaria through blood.

As shown in Table 3, 50 (100%) students had a

Table 1: Knowledge about blood donation

S. No.	Questions	Correct response	Wrong response	Neutral
1	Hemoglobin percentage required for blood donation	40 (80%)	2 (4%)	8(16%)
2	Age range for blood donation	48 (96%)	2 (4%)	0
3	Minimum weight for donation	14 (28%)	36 (72%)	0
4	Diseases transmitted through Blood	50 (100%)	0	0
5	Components preparation	8 (16%)	40 (80%)	2 (4%)
6	Tests performed before transfusion	40 (80%)	4 (8%)	6 (12%)

Table 2: Awareness about various transfusion transmitted infections

HIV	50 (100%)
HBV	46 (92%)
HCV	22 (44%)
Syphilis	30 (60%)
Malaria	8 (16%)

Table 3: Depicting attitude and practice about blood donation

S. No	Questions	Yes	No
1	Prior blood donation	14 (28%)	36 (72%)
2	Multiple blood donations	0	14 (28%)
3	Blood donation to relatives	50 (100%)	0
4	Motivate others	50 (100%)	0
5	Benefits of blood donation to others	50 (100%)	0
6	Are you ready to donate blood during emergency?	50 (100%)	0
7	Encourage voluntary blood donation	50 (100%)	0

Table 4: Knowledge about blood transfusion

S. No	Question	Pre-lecture response	Post-lecture response	Comment
1	Hb level required	40 (80%)	50	Not significant
2	Age range	48 (96%)	50	Not significant
3	Minimum weight	14	46	Chi sq value 10.03 <i>p</i> value: 0.001
4	Diseases transmitted	50	50	Not significant
5	Components separation	8	45	Chi sq value: 14.48 <i>p</i> value: 0.001
6	Tests performed	40	59	Not significant

Table 5: Awareness about diseases transmitted through blood

S. No	Disease	Before lecture	After lecture	Comment
1	HIV	50	50	Not significant
2	HBV	40	50	Not significant
3	HCV	22	48	Chi sq value: 5.08 <i>p</i> value: 0.01
4	Syphilis	30	50	Chi sq value: 2.33 <i>p</i> value: 0.06
5	Malaria	8	45	Chi sq value: 16.48 <i>p</i> value: 0.001

positive attitude towards donation to relatives, donation during emergency situation, voluntary blood donation, motivating others for blood donation and benefits of donation. Out of 50 students, 36 of them (72%) had not donated blood earlier. Chi-square test was used statistically to analyze pre-test and post-test results. Significance of *p* value was set at 0.05.

Post test results (after the lecture)

As shown in Table 4, there was significant improvement in the knowledge regarding minimum weight required for donation and understanding about component separation. The *p* value was 0.001 in both the above cases.

The students showed better awareness regarding transfusion transmitted infections with respect to HCV and malaria; *P* value being 0.01 and 0.001 respectively (Table 5).

Regarding attitude and practice part of the questionnaire, 100% were oriented to donate blood to their own relatives, 100% were aware of benefits of blood donation and 100% had positive attitude towards motivating others to donate blood, to encourage voluntary blood donation and to donate blood during emergency situation.

Discussion

The need for blood transfusion is increasing day by day. There are limited studies regarding voluntary blood donation practices in the present era.⁵ Though voluntary non-remunerated blood donation is the safest and the ultimate way for improving the quality of collected blood, there is a wide gap between the supply and demand.⁷

In our study participants had sufficient knowledge about many important parameters of blood donation before classroom education (pre-test). All the 50 students (100%) knew about diseases transmitted through blood. This was in comparison with the study done by Benedict et al.⁵

Aslami et al. in their study showed that 85% of their study group had knowledge about the age range for blood transfusion, while in our study 96% of them had this knowledge.⁷ In our study, 80% were acquainted with both hemoglobin percentage required for donation and tests performed before transfusion. This is comparable with the study by Aslami et al. which showed 57% and 100% respectively.⁷

After the educational intervention (post-test), there was significant improvement in knowledge regarding minimum weight required for transfusion and component separation. Both these were statistically significant with p value being 0.001. This is comparable to Vaghar et al.⁸ and Rafii et al.⁹ As there are limited studies regarding educational intervention, we have also compared our study with a study done by Li AHT et al.¹⁰

In the current study, students having awareness regarding HIV and HBV were 100% and 92% respectively which is similar to a study done by Benedict et al. where the awareness regarding the above two were 99.3% and 97.9% respectively. Minimum awareness about transmission of malaria through transfusion was observed in only 16% which was also a similar finding in Benedict et al. (19.3%).⁵

Post-teaching program we observed that significant improvement was seen in the awareness of spread of HCV ($p=0.01$) and Malaria ($p=0.001$). Due to limited number of studies in this aspect we have compared our study with Aghajani M et al.¹¹ who obtained similar results after educational intervention.

Before educating the students, all the (100%) participants had positive attitude towards blood donation for relatives, during emergency, also encouraging and motivating others for voluntary blood donation. Only 28% have donated blood, the most common reason for not donating blood was having no opportunity. This was similar to Aslami et al.⁷ and Bachhotiya A et al.¹²

Conclusion

In our study, paramedical students who participated had adequate knowledge and positive attitude towards blood transfusion practices. Our study also shows that educational intervention definitely brings about a positive impact on the participants in this regard. As regular intervention can be readily carried out especially in a medical college by the teaching faculty, we can encourage the healthy, active and receptive student population for non-remunerated voluntary blood donation and thereby form a great source of safe blood and contribute to a noble cause.

References

1. The World Health Organization 1211 Geneva 27, Blood safety and clinical technology progress; 2000-2001.
2. World Health Organisation. Blood safety and availability. WHO Fact sheet no. 279, World Health Organisation 2014.
3. Makroo RN. Principles and Practice of Transfusion Medicine, 2nd edition, Kongposh publication, 2018; chapter 14.
4. Action Plan for blood safety. Control Organization, Ministry of health and Family Welfare, Government of India, New Delhi 2007.
5. Benedict N, Usimenahon A, Alexander NI, Isi A. Knowledge, Attitude and practice of voluntary blood donation among physicians in a tertiary health facility of a developing country IJBTI 2012; 2:4-10.
6. Ahmed Z, Zafar M, Khan AA, et al. Knowledge, Attitude and practices about Blood Donation among Undergraduate Medical students in Karachi. J Infect Dis Ther 2014;2(2):1-4.
7. Aslami AN, Jobby A, Simon S, et al. Assessment of Knowledge, Attitude and Practice (KAP) of Blood Donation among MBBS Students of a Medical College in Kollam, Kerala. Journal of Evolution of Medical and Dental Sciences 2015 April;4(35):6086-95.
8. Vaghar MI. The impact of educational program on blood and blood products transfusion on Nurses' level of knowledge and performance. Journal of medicine and life 2018;11(3):238-42.
9. Rafii F, Jan Amiri M, Dehnad A, et al. The Effect of Workshop and Multimedia Training Methods on Nurses' Knowledge and Performance on Blood Transfusion. Journal of Client-Centered Nursing Care 2016;2(4):223-30.
10. Li AHT, Rosenblum AM, Nevis IF, et al. Adolescent classroom education on knowledge and attitudes about deceased organ donation: A systematic review. Pediatric Transplantation 2013;17(2):119-28.
11. Aghajani M, Ajorpaz NM, Mohammadi S, et al. Designing Multi-media learning software (MLS): Effects on surgical technology students' knowledge, attitude and practice. Life Science Journal. 2013;10(SPL. IS):7-11.
12. Bachhotiya A, Arora VK, Mahashabde P. Evaluation of intervention on voluntary blood donation among 1st prof medical and dental students of index medical college, Indore (MP), India. Natl J Community Med 2014;5(2):223-26.

