Knowledge And Attitude Regarding Blood Donation Among Students in Selected Colleges.

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ABSTRACT:

Introduction: Blood can save million lives. Blood and blood products transfusion is required for many medical and surgical conditions and emergency surgeries, trauma victims, pregnancy related complications like severe anaemia and post-partum haemorrhage, severe fluid loss and shock to name a few. The current study aimed as at assessing knowledge attitude regrading blood donation and to determine association between the knowledge among the students with their demographic variables.

Methodology: a quantitative pre-experimental group pretest- post-test design was used for this study. The subjects were selected by purposive sampling which comprised of 60 UG students between the age group of 18-24 years in Koshys Institute of Management Studies, Bangalore. Tools used for the study were tool to measure Demographic variables, structured knowledge questionnaire and attitude scale on blood donation. The data was analysed using descriptive and inferential statistics.

Result and interpretation: from the study, it was found that majority of the students have inadequate knowledge and unfavourable attitude regarding blood donation during the pre-test and the effect of a structured teaching programme was assessed by comparing the pretest and post-test scores of knowledge and attitude using paired "t-test".

The result revealed that there was a significant improvement (t = 18.418, p<0.05) in knowledge and attitude (t = 1.068, p< 0.05). An association of knowledge scores with demographic variable using $\mathcal{X}^2$ test, it was found to be significant (p < 0.05) for previous knowledge and previous experience.

Discussion and conclusion: The study concluded that structured teaching programme is an effective method to improve knowledge of under graduate students and motivate and develop a positive attitude in them to donate blood.

Keywords: Structured Teaching Programme[1], Knowledge[2], Attitude[3], Blood Donation[4], Students[5].

INTRODUCTION:

Blood can save millions of lives. Blood and blood products' transfusion is required for many medical and surgical conditions like elective and emergency surgeries, trauma victims, pregnancy related complications like severe anaemia and post-partum haemorrhage, severe fluid loss and shock to name a few. Additionally, persons with disorders like sickle cell anaemia, thalassemia and haemophilia require frequent blood transfusions. The collection of blood from voluntary, non-remunerated donors from low-

risk populations is an important measure for ensuring the safety, availability, quality and accessibility of blood transfusion. World Health Organisation has adopted a policy aimed at 100% voluntary blood donation procurement by the year 2020. In India, this figure has steadily risen from 54% in 2006-07 to 79% in 2015- 16 but still there is shortage of almost 2 million units annually. Since the shelf life of donated blood is short, there is a constant need to replenish the stock in the blood banks. This problem can be addressed if 2% more Indians donate blood. Most studies conducted to assess blood donation practices have found the level of voluntary donation among people to be very less. [1]

Because of background knowledge, medical science students have a positive attitude toward voluntary blood donation and can be a core group to educate many friends and relatives about the need for blood transfusion. There is also a need to encourage, inspire, and motivate students to donate blood voluntarily and become a nonremunerated donor. Voluntary blood donors who donate blood once or twice a year are considered to be the safest as they have no reason to give false information about lifestyle factors which might place them at risk of transmitting infectious diseases.[2] Students can play a vital role in spreading public awareness about the importance and need of blood donation by organizing yearly rally and or even conduct teaching programmes to bring about awareness on the importance of blood donation among other streams of studies and courses in various campuses.

NEED FOR THE STUDY:

According to 2021 statistics, India's annual blood requirement is around 1.5 crore units. In every two seconds, a patient in India needs blood and one out of every three people will need blood in their lifetime. Blood scarcity is frequently encountered in health-care settings and is attributable to an imbalance between increasing demand for safe blood and blood products on the one hand and failure to organize regular blood supply due to misconceptions, perceived harms and risks, and lack of motivation among potential donors. The shortage of blood products has been a major public health problem in India. It is estimated that nearly 12,000 people lose their lives every single day due to the lack of blood products. Supporting a population of 1.4 billion, the present blood transfusion service is fragmented with a little over 3,700 blood centres of which about 70% are located in eight states only. As of 2020, 63 districts in India do not have a blood centre. Space crunch and a burgeoning population have led to the establishment of health care facilities without blood centres on their premises, which in turn depend on nearby blood or storage centres for access to safe blood.

A descriptive study was undertaken to assess the effectiveness of Structured Teaching Programme on blood donation among the college going students of selected colleges of Ludhiana, Punjab. A quasi-experimental study with single group pre-test post-test design was conducted on a total of 50 college going students. Structured Teaching Programme on blood donation was developed. Based on Structured Teaching Programme, a Self-Structured Questionnaire was prepared to assess the pre-test post-test knowledge scores of study subjects regarding blood donation. Descriptive and inferential statistical tests were used for data analysis. Findings of the study revealed that the mean post-test knowledge scores (23.78) of subjects regarding blood donation were significantly ($p<0.01$) higher than their pre-test knowledge scores (12.64) after administration of Structured Knowledge Programme. Hence, administration of Structured Teaching Programme on blood donation was very effective on college going students.[24]

In the view of this, the investigators understood the effectiveness of providing information about blood donation and also the need to educate the general student population will develop a positive attitude among students towards blood donation and also help in improving the demand and supply of blood products which could save many lives.

OBJECTIVES: The objectives of the studies are to;
1. Assess the pre-test and post-test of knowledge score among students regarding blood donation.
2. Assess the pre-test and post-test attitude scores of students towards blood donation.
3. Evaluate the effectiveness of structured teaching programme on knowledge regrading blood donation.
4. Evaluate the effectiveness of structured teaching programme on attitude regarding blood donation.
5. Find out association between pre-test knowledge scores regarding blood donation with their selected demographic variables.

RESEARCH HYPOTHESIS:

All hypothesis will be tested at 0.05 level of significance

H1 – There will be a significant difference between the pre-test & post-test knowledge scores of students regarding blood donation.

H2 – There will be a significant difference between pre-test and post-test attitude level of students regarding blood donation.

H3 – There will be significant association between pre-test knowledge scores of college students regarding blood donation with their selected demographic variables

ASSUMPTION
1. Students have no exposure to training or education on blood donation.
2. Students may have some knowledge regarding blood donation.

LIMITATIONS

The study is delimited to:
1. The study is conducted only for undergraduate students.
2. Respondents who are not available during the period of study

RESEARCH APPROACH:

In this study quantitative evaluator approach is used to assess the effectiveness of structure teaching programme on knowledge and attitude of blood donation among students.

RESEARCH DESIGN:

Pre-experimental one group pre-test & post-test design was used to assess the effectiveness of structured teaching programme on knowledge and attitude regrading on blood donation among students.

SAMPLE SIZE

60 Under-graduate students in Koshys Institute of Management Studies, Bangalore.

SAMPLING TECHNIQUE
Probability convenient sampling

INCLUSION CRITERIA
Students who:
1. Are studying any UG programme
2. Are willing to participate in the study
3. Read and write English.
4. Are present at the time of data collection.
5. Are in the age group of 18-24 years.

EXCLUSION CRITERIA
Students who;
1. Have attended a class on blood donation
2. worked as a volunteer for any blood donation camp.

MATERIALS AND METHODS:
The methods and techniques adopted for the study with an aim to assess the effectiveness of a structured teaching programme on knowledge and attitude regarding blood donation among under graduate students in colleges, Bangalore. A pre-experimental pretest-post-test approach was used to conduct this study and meet the research objectives and test the research hypothesis.

Hypothesis:
All hypothesis will be tested at 0.05 level of significance
H1 – There will be a significant difference between the pre-test & post-test knowledge scores of under graduate students regarding blood donation.
H2 – There will be a significant difference between pre-test and post-test attitude score of under-graduate students regarding blood donation.
H3 – There will be significant association between post-test knowledge scores of college students regarding blood donation with their selected demographic variables.

A self-administered knowledge questionnaire which was developed by the researchers with its validity and reliability assessed by nursing experts. The knowledge questionnaire consisted of 20 multiple choice questions related to knowledge regarding blood donation. Each correct answer was given the score of "one" and the wrong answer given the score of zero. The total score was 20. The level of knowledge was interpreted as adequate (score 15-20), moderate (score 10 -15) and inadequate (score <10). The level of attitude was assessed using a modified Likert scale of 5 response such as strongly agree, agree, uncertain, disagree and strongly disagree. The content validity and reliability of the tool was assessed and validated.

RESULTS:
The data collected are summarized, compared and tested based on the objectives. Analysis of the data was both by manual computation and SPSS package The analysis of data is organised under the following sections;

Section 1: Effectiveness of structured teaching programme on Knowledge of students regarding blood donation.

Section 2: Effectiveness of structured teaching programme on attitude of students regarding blood donation.

Section 3: Association between pre-test knowledge of students regarding blood donation and selected sociodemographic variables.

Section 1 : Effectiveness of structured teaching programme on Knowledge of students regarding blood donation.

The result revealed that out of 60 students, 34 students (56.67%) had inadequate level of knowledge. 26 students (43.3%) had moderate level of knowledge and none of them had adequate level of knowledge regarding Blood Donation in pre-test. In Post-test 19 students (31.67%) had moderate level of knowledge and 41 student (31.67%) had adequate level of knowledge regarding blood donation. There was a lack of knowledge among students regarding blood donation before administering structured teaching programme. In post-test, the knowledge of the students was increased. In pre-test the overall mean score was 8.37±3.247 whereas the mean post test score was 10.20±2.081. To find the effectiveness of the structured teaching programme on knowledge a paired t test was done. The calculated "t" (18.418) value is found greater than the table "t" (0.029) value at $p<0.05$. Hence the research hypothesis (H01) was accepted.

Table -1.1: Distribution of students based on their knowledge level during the pre-test.
N =60

Knowledge level	Level	Frequency	Percentage (%)
Adequate	>75	0	0
Moderate	75-50	26	43.3
Inadequate	<50	34	56.67

Table 1.2: Distribution of students based on their knowledge level during the post-test
N = 60

Knowledge level	Level	Frequency	Percentage (%)
Adequate	>75	41	68.33
Moderate	75-50	49	31.67
Inadequate	<50	0	0

Table -1.3: Overall mean, mean percentage, standard deviation and effectiveness of structured teaching programme on knowledge of students.

N = 60

	Variable Knowledge			Paired 't' test
	Mean	Mean (%)	SD	t=18.418[*] df=59 (p<0.05)
Pre-test	8.37	41.83	3.247	
Post-test	10.20	80.67	2.081	

T59=0.029(p<0.05) *-Significant

The above table shows that in pre-test the overall mean score was 8.37±3.247 whereas the mean post test score was 10.20±2.081. To find the effectiveness of the structured teaching programme on knowledge a paired t test was done. The calculated "t" (18.418) value is found greater than the table "t" (0.029) value at p<0.05. Hence, the Null hypothesis H01 rejected and research hypotheses (H1) is accepted. This means that the structured teaching programme was effective in increasing the knowledge of students regarding blood donation.

Section 2: Effectiveness of structured teaching programme on attitude of students regarding blood donation.

The result revealed that out of 60 students, 49 students (.67%) had moderate level of attitude. 11 students (43.3%) had adequate level of attitude and none of them had inadequate level of attitude regarding blood donation in pre-test. In Post-test 43 students (71.67%) had moderate level of attitude and 21 student (35%) had adequate level of attitude towards blood donation. there was a lack of favourable attitude among students regarding blood donation before administering structured teaching programme. In post-test, the favourable attitude towards blood donation of the students was increased. In pre-test the overall mean score was 34.85±3.247 whereas the mean post test score was 35.95±5.998. To find the effectiveness of structured teaching programme on attitude a paired t test was done. The calculated "t" (1.068) value was greater than the table "t" (0.293) value at p<0.05. Hence the research hypothesis (H02) was accepted.

Table 2.1: Distribution of student based on their attitude level during the pre-test.

N= 60

Attitude level	Level	Frequency	Percentage (%)
Adequate	>37	11	18.33
Moderate	37-25	49	81.67
Inadequate	<25	0	0

The above table represents the distribution of students based on their attitude during pre-test majority (18.33%) had adequate attitude regarding blood donation, and (81.67%) had moderate and none of them had inadequate attitude

Table 2.2: Distribution of student based on their attitude level during the post-test.

Attitude level	Level	Frequency	Percentage (%)
Adequate	>37	21	35
Moderate	37-25	43	71.67
Inadequate	<25	0	0

The above table represents the distribution of students based on their attitude during post-test majority (35%) had adequate attitude regarding blood donation, and (71.67%) had moderate and none of them had inadequate attitude.

Table :2.3 Overall mean, mean percentage, standard deviation of attitude scores regarding blood donation

N=60

	Pre-Likert			Post-Likert			Paired 't' test
Variable Attitude	Mean	Mean (%)	SD	Mean	Mean (%)	SD	1.068 df=58 S*
	34.85	58.04	3.247	35.95	71.75	5.998	

$T_{59}=0.293 (p<0.05)$ S*-Significant

The above table shows that in pre-test the overall mean score was 34.85 ± 3.247 whereas the mean post test score was 35.95 ± 5.998. To find the effectiveness of structured teaching programme on attitude a paired t was done. The calculated "t" (1.068) value is greater than the table "t" (0.293) value at $p<0.05$. Hence, the null hypothesis H02 rejected and hypotheses (H2) is accepted. This means that the structured teaching programme was effective in increasing the knowledge of student regarding blood donation.

SECTION 3:

Table: 3.1.Association of pre-test knowledge scores with its demographic variables

Statistical analysis shows that there is no significant association between knowledge and the demographic variables except previous knowledge and previous experience. Therefore, null hypothesis (H03) is accepted for gender, age, residence, religion, income, family and blood group, except previous knowledge, and previous experience. Research hypothesis (H3) is accepted for previous knowledge and previous experience

DEMOGRAPIC VARIABLES	Below 50 %		Above 50%		$\chi2$
1.Gender	F	%	F	%	$\chi2=0.000$

a. Female	3	1.8	3	1.8	Df - 1 P>0.05 NS
b. Male	27	16.2	27	16.2	
2.Age in year					$\chi2$=0.539 Df-2 P>0.05 NS
a. 18-19	20	12	17	10.2	
b. 20-21	9	5.4	10	6	
c. 22-23	1	0.6	3	1.8	
3. Place of Residence					$\chi2$=4.866 Df-2 P>0.05 NS
a. Urban	19	11.4	12	7.2	
b. Rural	10	6	18	10.8	
c. Slum	1	0.6	0	0	
4. Religion					$\chi2$=0.372 Df-2 P>0.05 NS
a. Hindu	20	12	22	13.2	
b. Muslim	3	1.8	2	1.2	
c. Christian	7	4.2	6	3.6	
5.Income				3 9.6 5.4	$\chi2$=0.164 Df-2 P>0.05 NS
a. Below 5000	4	2.4	5		
b. 5000- 20,000	16	9.6	16		
c. Above 20,000	10	6	9		
6. Type of family				12.6 5.4 18	$\chi2$=0.082 Df-1 P>0.05 NS
a. Nuclear	22	13.2	21		
b. Joint	8	4.8	9		
c. Extended	30	18	30		

7. Type of blood group					
a. A blood group	6	3.6	3	1.8	$\chi 2$=2.054 Df-3 P>0.05 NS
b. B blood group	9	5.4	13	7.8	
c. AB blood group	6	3.6	7	4.2	
d. O blood group	9	5.4	7	4.2	
8. Previous experience of blood donation.					
a. Yes	10	10	21	41.67	$\chi 2$=8.076 Df-1 P<0.05 S
b. No	20	12	9	5.4	
9.Undergone any teaching previously					
a. Yes	8	4.8	19	11.4	$\chi 2$ = 8.148 Df -1 P < 0.05 S
b. No	22	13.2	11	6.6	

*NS- Non-Significant. *S-significant

Statistical analysis shows that there is no significant association between knowledge and the demographic variables except previous knowledge and previous experience. Therefore, null hypothesis(H03) is accepted for gender, age, residence, religion, income, family and blood group, except previous knowledge, and previous experience. Research hypothesis (H3) is accepted for previous knowledge and previous experience.

DISCUSSION:

This study was conducted to assess the effectiveness of structured teaching progamme on knowledge and attitude regarding blood donation among under graduate students in selected colleges, Bangalore. 60 students in the age group 18- 24 years were selected by convenient sampling technique.

The objectives of the study were to;

1. Assess the pre-test and post-test of knowledge score among students regarding blood donation.
2. Assess the pre-test and post-test attitude scores of students towards blood donation.

3. Evaluate the effectiveness of structured teaching programme on knowledge regrading blood donation.

4. Evaluate the effectiveness of structured teaching programme on attitude regarding blood donation.

5. Find out association between pre-test knowledge scores regarding blood donation with their selected demographic variables.

Descriptive statistics was used to calculate the frequency and percentage distribution of socio-demographic variables and inferential statistics to evaluate the effectiveness of the structured teaching programme on knowledge and attitude regarding blood donation among college students. Chi-square was used to determine the relationship between knowledge and attitude scores of students with their socio-demographic variables.

Discussion of the findings are done under the following headings.

Section I: Description of demographic variables

- · Majority of the subject (90%) were female.
- · Majority of the subject (61.67%) belonged to the age group of 18 to 19 years 39
- · Majority of the subject (51.7%) lived in urban area
- · Majority of the subject (70%) belonged to Hindu religion
- · Majority of the subject (53.3%) had income Rs.5000 to 20,000
- · Majority of the subject (71.7%) belonged to nuclear family
- · Majority of the subject (36.7%) had B blood group
- · Majority of the subject (51.7%) had previous experience of blood donation
- · Majority of the subject (55%) had undergone teaching on blood donation previously.

Section II: Effectiveness of structured teaching program on knowledge and attitude regrading blood donation among students.

The result revealed that out of 60 students, 34 students (56.67%) had inadequate level of knowledge. 26 students (43.3%) had moderate level of knowledge and none of them had adequate level of knowledge regarding Blood Donation in pre-test. In Post-test 19 students (31.67%) had Moderate level of knowledge and 41 student (31.67%) had adequate level of knowledge regarding Blood Donation. there was a lack of knowledge among students regarding Blood Donation before administering structured teaching programme. In post-test, the knowledge of the students was increased. In pre-test the overall mean score was 8.37±3.247 whereas the mean post test score was 10.20±2.081. To find the effectiveness of the structured teaching programme on knowledge a paired t test was done. The calculated "t" (18.418) value is found greater than the table "t" (0.029) value at p<0.05.

Attitude level of students before and after attending the structured teaching programme

The result revealed that out of 60 students, 49 students (.67%) had moderate level of attitude. 11 students (43.3%) had adequate level of attitude and none of them had inadequate level of attitude regarding Blood Donation in pre-test. In Post-test 43 students (71.67%) had Moderate level of attitude and 21 student (35%) had adequate level of attitude towards Blood Donation. there was a lack of favourable attitude among students regarding Blood Donation before administering structured teaching programme. In post-test, the favourable attitude towards blood donation of the students was increased. in pre-test the overall mean score was 34.85±3.247 whereas the mean post test score was 35.95±5.998. To find the effectiveness of

structured teaching programme on attitude a paired t was done. The calculated "t" (1.068) value is greater than the table "t" (0.293) value at p<0.05.

Section III: **Association Between Knowledge and Demographic Variables**
Statistical analysis shows that there is no significant association between knowledge and the demographic variables except previous knowledge and previous experience. Therefore, null hypothesis(H03) is accepted for gender, age, residence, religion, income, family and blood group, except previous knowledge, and previous experience. Research hypothesis (H3) is accepted for previous knowledge and previous experience.

CONCLUSION:
The focus of the study was to assess the knowledge and attitude regarding Blood donation among students in selected college of Bangalore.
Convenient sampling technique was used in this study. The data was collected among 60 UG students of Koshys Institute of Management Studies, Bangalore.
The conclusion of the study was that there is a significant increase of knowledge and positive attitude in UG students regarding blood donation after conducting a structured teaching programme.

IMPLICATIONS FOR NURSING
The findings of the present study have implication in the field of nursing education, nursing practice, community set-up and nursing research.

NURSING PRACTICE
Educating and creating awareness is an integral part of the nursing service.

NURSING ADMINISTRATION
With advanced technology and ever-growing challenges of health care needs. The college and hospital administration, have a responsibility to provide nurses, nurse educators and nurse students with continuing education on recent advancements in blood donation. This will enable them to update their knowledge and skills.
The study finding will help the administrator to arrange continuing education programme for nurses regarding blood donation. It helps to prepare adequate learning material for giving health education.
The nurse administrator should take active part in the policy making, developing protocol, standing orders related health care measures during blood donation.

NURSING EDUCATION
Nurse as an educator plays a major role in educating the students regarding knowledge of blood donation. So, the nurse educator must be educated regarding knowledge of blood donation and its strategies in order to impart the knowledge to the students and guide them properly in all the settings.
Nurse educators should provide opportunities for the students to gain knowledge and skills regarding blood donation.
Nursing personnel should be given in-service education to update their knowledge.

NURSING RESEARCH

There is a need for intensive and extensive research in this area. It opens a big avenue for research on innovative methods of creating awareness, development of teaching material and setting up multimedia centres for teaching and for creating awareness among the students, nurses, public and other health care professionals.

The study findings will reveal the current knowledge status about the blood donation strategies and the extent to which the knowledge should be improved.

This study will motivate other investigator to conduct future studies regarding blood donation. · This study will help the nurse researchers to develop insight into the developing modules and set information towards creating awareness regarding blood donation.

Awareness, development of teaching material and setting up multimedia centres for teaching and for creating awareness among the public regarding blood donation.

These study findings will identify the present knowledge about blood donation to know extent of necessary information to be given.

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