Nanotechnology Perceptions
ISSN 1660-6795
www.nano-ntp.com

"Effectiveness Of Educational Programme On Knowledge & Attitude Regarding Blood Donation Among Nursing Students- Quasi Experimental Study"

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Blood is a vital, life-giving substance. The human body's cells cannot obtain the necessary oxygen and nutrients for survival if there is insufficient blood. As a result, blood transfusions are regarded as a crucial and fundamental part of the medical system. A vital part of a functioning health system is the availability of safe and adequate blood and blood products, which can be guaranteed by regular voluntary non-paid blood donations. However, it is still difficult to provide enough safe blood products in many nations.5. Donating blood can significantly save lives. Blood centers are seeing an increase in demand for blood due to the ongoing need for transfusions, as well as concerns over the quality of donated blood. Only voluntary, unpaid donations will be able to remedy this issue. By 2020, all donations must be non-paid, according to WHO guidelines.

Objectives:

1. To assess the level of knowledge regarding blood donation among nursing students.
2. To assess the level of attitude regarding blood donation among nursing students.
3. To assess the effectiveness of educational programme on knowledge regarding blood donation among nursing students.
4. To assess the effectiveness of educational programme on attitude regarding blood donation among nursing students.
5. To find out the co-relation between knowledge and attitude score among nursing students regarding blood donation.
6. To find the association between pretest level of knowledge score of nursing students regarding blood donation with their selected demographic variables.
7. To find the association between pretest level of attitude score of nursing students regarding blood donation with their selected demographic variables.

Design: A quantitative research approach & Quasi experimental research design (one group pretest posttest design). was adopted for the study.

Setting: The study was conducted in Rohilkhand College of Nursing, Bareilly, U.P. The selection of the study setting was done on the basis of feasibility and availability of the sample.

Participants: 180 Sample size was determination by using power analysis.
Sampling technique: Non- probability convenient sampling technique was used to select the sample.

RESULTS:

- Majority of the students 112(62.2%) were 20-25 years of age, 52(28.8%) were in B.Sc. Nursing II year, 109(60.6%) were hindu, 99(55%) were from rural area,144(80%) had habit of blood donation,72(40%) had educational programme as a source of information regarding blood donation.
- The study result shows that in pretest, majority of students 100(55.6%) had moderate knowledge, 58(32.2%) had inadequate knowledge and 22(12.2%) had adequate level of knowledge regarding blood donation. In posttest, majority of the students 130(72.2%) had adequate knowledge whereas 50(27.8%) had moderate level of knowledge regarding blood donation.
- The study result shows that in pretest, majority of students 117(65%) had positive attitude, 43(23.9%) had neutral attitude and 20(11.1%) had negative attitude regarding blood donation. In posttest, majority of the students 170(94.4%) had positive attitude and 10(5.6%) had neutral attitude regarding blood donation.
- The study result shows that at pretest the mean knowledge score and SD was 12.93 ± 4.234 whereas mean and SD was 22.87 ± 2.819 in post-test. The obtained t & p value was t = 39.152, p =0.0001. The t-test revealed that there was significant difference within pretest and posttest scores.
- The attitude score of nursing students shows that at pretest the mean attitude score and SD was 9.22 ± 3.267 whereas mean and SD was 13.38 ± 1.702 in post-test. The obtained t & p value was t = 27.112, p =0.0001. The t-test revealed that there was significant difference within pretest and posttest scores among nursing students.
- The study result depicts that a moderate positive significant correlation was found between level of knowledge and attitude in pretest i.e. r= 0.509, p= 0.0001. A moderate positive significant correlation was found between level of knowledge and attitude in posttest i.e. r= 0.424, p=0.0001.
- The study findings interpret that demographic variables did not have any influence on knowledge of students regarding blood donation except age, course & year of study and area of living.
- The study findings interpret that demographic variables did not have any influence on attitude of students regarding blood donation.

CONCLUSIONS: The present study assessed the effectiveness of educational programme on attitude regarding blood donation among nursing students. The study concluded that after the administration of educational programme; most student had adequate knowledge & positive attitude whereas only few nursing students had moderate level of knowledge and neutral attitude regarding blood donation. Hence, it was concluded that educational programme was effective as method to improve knowledge and attitude among nursing students regarding blood donation.

KEY WORDS: Blood Donation, Effectiveness, Knowledge, Attitude, assess, Structured Educational programme, Nursing Students.

INTRODUCTION:

"The background of life is not in its duration, but in its donation. You are not important because of how long you live; you are important because of how effective you live."

In the circulatory systems of humans and other animals, blood is a bodily fluid that carries metabolic waste products away from the cells while also supplying nourishment and oxygen to the cells. Peripheral blood and peripheral blood cells are terms used to describe blood in the circulatory system. (1)

Human blood volume varies depending on age, sex, body type, weight, and other factors; nevertheless, an approximate average for adults is approximately 60 millilitres per kilogram of body weight. (2)

Significant blood loss is well tolerated due to the sufficient reserve that a normal blood volume affords. It is safe to remove 500 millilitres, or around one pint, of blood from healthy blood donors. (3)

Given that blood transfusion is one of the eight essential life-saving interventions, giving blood is the most amazing contribution a person can make to save lives. This easy intervention can save millions of lives every year. (4)

It is safe for healthy persons to donate blood. There's not a chance of becoming sick. For every donor, brand-new, sterilized equipment is used. After giving blood, some persons may experience nausea, light headedness, or vertigo. It should only last a few minutes if this occurs. Until they feel better, the donor can lie down with their feet up at the.[9].

NEED OF THE STUDY

The population that donates blood still lacks access to safe blood, and millions of individuals owe their lives to millions of others they never meet. Even though 82% of the world's population lives in developing nations, where only 38% of the donation of bloods are made annually, over 80 million units of blood are donated annually. On the other hand, the vast majority of the world's regular availability is significant everywhere. Blood donation eligibility is not particularly strict.[11]

Less than 10% of American citizens can donate blood every year, making up about 37% of the total population. Roughly one in seven patients who check into a hospital require blood.14 1776658 U blood were collected in India, and as of July 2023, 1939448 donors have registered.[7].

The need for health care professionals, including students, to be knowledgeable about blood donation is growing. If we teach our nursing students the fundamentals of the blood donation, they will be able to dispel others' misconceptions about the practice and encourage others to donate blood. Hence the study was undertaken to assess the effectiveness of educational programme on knowledge & attitude regarding Blood Donation among nursing students of selected college of nursing, Bareilly, U.P."

RESEARCH APPROACH: Quantitative research approach was chosen for the study as the research approach

RESEARCH DESIGN: Quasi experimental research design (one group pretest post-test design) was adopted for the present study.

SETTING OF THE STUDY: The study was conducted in Rohilkhand College of Nursing, Bareilly, U.P. The selection of the study setting was done on the basis of feasibility and availability of the sample.

SAMPLE: The sample of the study consist of Nursing Students in selected colleges, Bareilly, U.P. who fulfilled the inclusive criteria.

SAMPLE SIZE: Sample size was determination by using power analysis after pilot study and the sample size was 180.

SAMPLING TECHNIQUE: Non- probability convenient sampling technique was used to select the sample from the population.

DEVELOPMENT & DESCRIPTION OF THE TOOLS: A self-administered structured questionnaire and attitude scale was selected as tool after an extensive review of literature and discussion with the experts, the structured knowledge questionnaire was prepared to assess the effectiveness of educational programme on knowledge & attitude regarding Blood Donation among nursing students. It consists of three sections:

Section A- Demographic variables: Age, course & year of study, religion, area of living, history of blood donation and source of information on blood donation.

Section B- Structured knowledge questionnaire:
It consists of closed ended multiple choice questions with four options for each question including a correct answer. One score was awarded for each correct answer and zero score was given for the wrong answer. The maximum score was 30.

Scoring Key:

Level of knowledge	**Scores**
Inadequate knowledge	0-10
Moderate knowledge	11-20
Adequate knowledge	21-30

Section -C: Attitude scale
This section seeks the statements regarding the attitude on blood donation; it was considering 15 statements.

Scoring Key:

Attitude	**Scores**
Negative attitude	0-5
Neutral attitude	6-10
Positive attitude	11-15

DATA COLLECTION PROCEDURE:
The data collected from 13th April to 19th April 2024 after getting ethical clearance from the thesis review committee of BIU and getting permission from principals of Rohilkhand college of nursing, Bareilly, U.P.

After the eligible subjects were identified the purpose of the study was explained and informed written consent was obtained from the nursing students who met the inclusive criteria. They were assured for the confidentiality of their identity and response. Demographic

data and pretest were administered on the first day to the nursing students. Educational programme was given to all the students on the same day. The post-test had been taken after 3 days of pre-test. All the students co-operated well during the entire period of data collection and the collected data was then complied for data analysis.

DATA ANALYSIS: The data was entered in a master sheet for tabulation and statistical processing. In order to find the relationship, the data was tabulated, analyzed and interpreted using descriptive and inferential statistical methods. The data was analyzed and inferences were drawn. The level of significance chosen was at $p \leq 0.05$.

SECTION- A: Description of demographic variables of study participants

Table no. 1: Frequency and percentage distribution of demographic variables of study participants.
N= 180

S. No.	Demographic variables	Frequency	Percentage (%)
1.	**Age**		
	a) Below 20 years	54	30
	b) 20-25 years	112	62.2
	c) Above 25 years	14	7.8
2.	**Course & year of study**		
	a) B.Sc. Nursing I year	50	27.8
	b) B.Sc. Nursing II year	52	28.8
	c) B.Sc. Nursing III year	48	26.7
	d) B.Sc. Nursing IV year	30	16.7
3.	**Religion**		
	a) Hindu	109	60.6
	b) Muslim	36	20
	c) Christian	28	15.6
	d) Other	07	3.8
4.	**Area of living**		
	a) Urban area	81	45
	b) Rural area	99	55
5.	**Habit of blood donation**		
	a) Yes	144	80
	b) No	36	20

6.	**Sources of information regarding blood donation**		
	a) Friend & family members	44	24.4
	b) Mass media & printed media	28	15.6
	c) Personal experience		
	d) Educational programme	18	10
	e) Others	72	40
		18	10

Table No. 1 shows frequency and percentage distribution of demographic variables of study participants & it depicts that majority of the students 112(62.2%) were 20-25 years of age and many of the students 52(28.8%) were in B.Sc. Nursing II year. Majority of the students 109(60.6%) were hindu whereas maximum of the students 99(55%) were from rural area. Most of the students 144(80%) had habit of blood donation and majority of the students 72(40%) had educational programme as a source of information regarding blood donation.

Table no. 2: Frequency & percentage distribution of pre-test & posttest level of knowledge regarding blood donation among nursing students.
N=180

Level of Knowledge	**Scores**	**Pretest**		**Posttest**	
		Frequency	**%**	**Frequency**	**%**
Adequate	21 & above	22	12.2	130	72.2
Moderate	11 to 20	100	55.6	50	27.8
Inadequate	10 & below	58	32.2	00	00

Maximum score=30

Table no. 2 shows frequency & percentage distribution of pre-test and posttest level of knowledge regarding blood donation among nursing students & it depicts that in pretest, majority of students 100(55.6%) had moderate knowledge, 58(32.2%) had inadequate knowledge and 22(12.2%) had adequate level of knowledge regarding blood donation. In posttest, majority of the students 130(72.2%) had adequate knowledge whereas 50(27.8%) had moderate level of knowledge regarding blood donation.

Table no. 3: Frequency & percentage distribution of pretest & post-test level of attitude regarding blood donation among nursing students.
N=180

	Scores	**Pretest**	**Posttest**

Level of Attitude		**Frequency**	**%**	**Frequency**	**%**
Positive attitude	11-15	117	65	170	94.4
Neutral attitude	6-10	43	23.9	10	5.6
Negative attitude	0-5	20	11.1	00	00

Maximum score=15

Table no. 3 shows frequency & percentage distribution of pretest and post-test level of attitude regarding blood donation among nursing students & it depicts that in pretest, majority of students 117(65%) had positive attitude, 43(23.9%) had neutral attitude and 20(11.1%) had negative attitude regarding blood donation. In posttest, majority of the students 170(94.4%) had positive attitude and 10(5.6%) had neutral attitude regarding blood donation.

Table no. 4: Comparison of mean and SD of pre and post-test interventional knowledge score of nursing students regarding blood donation.
N=180

Level of Knowledge	**Mean**	**SD**	**Df**	**Paired 't' value**	**p-value**
Pretest	12.93	4.234			
Post test	22.87	2.819	179	39.152	**0.0001**

Dependent t- test
t_{179}= 1.6534 at p<0.05 level of significance, *significant

Table no. 4 shows comparison of mean and SD of pre and post-test interventional knowledge score of nursing students regarding blood donation & it depicts that at pretest the mean knowledge score and SD was 12.93 ± 4.234 whereas mean and SD was 22.87 ± 2.819 in post-test.

Dependent's'-test was performed to compare the knowledge score within pretest and post-test. The obtained t & p value was t = 39.152, p =0.0001. The t-test revealed that there was significant difference within pretest and posttest scores.

Table no. 5: Comparison of mean and SD of pre and post-test interventional attitude score of nursing students regarding blood donation.
N=180

Attitude level	**Mean**	**SD**	**Df**	**Paired 't' value**	**p-value**
Pretest	9.22	3.267			
Post test	13.38	1.702	179	27.112	**0.0001**

Dependent t- test
t_{179}= 1.6534 at p<0.05 level of significance, *significant

Table no. 5 shows comparison of mean and SD of pre and post-test interventional attitude score of nursing students regarding blood donation & it depicts that at pretest the mean attitude score and SD was 9.22 ± 3.267 whereas mean and SD was 13.38 ± 1.702 in post-test.

Dependent's'-test was performed to compare the attitude score within pretest and post-test. The obtained t & p value was t = 27.112, p =0.0001. The t-test revealed that there was significant difference within pretest and post-test scores among nursing students.

Table no 6: Correlation between the level of knowledge and attitude among nursing students.
N= 180

Correlational variables	**Spearman coefficient r- value**		**p- value**	
	Pretest	**Posttest**	**Pretest**	**Posttest**
Level of knowledge	0.509	0.424	0.0001	0.0001
Level of attitude				

Table no. 6 shows correlation between the level of knowledge and attitude among nursing students & it depicts that a moderate positive significant correlation was found between level of knowledge and attitude in pretest i.e. r= 0.509, p= 0.0001. A moderate positive significant correlation was found between level of knowledge and attitude in post-test i.e. r= 0.424, p=0.0001.

Hence the null hypothesis was rejected and research hypothesis was accepted. Thus, it interprets that higher the level of knowledge, the attitude level also gets positive regarding blood donation.

Table 7: Association between pre-test level of knowledge and demographic variables among nursing students regarding blood donation
N= 180

S. No	**Demographic variables**	**Level of knowledge**			**Chi**	**df**	**p-value**
		Adequate	Moderate	Inadequate			
1.	**Age** a) Below 20 years b) 20-25 years c) Above 25 years	04 13 05	29 67 04	21 32 05	10.877	4	**0.027**

2.	**Course & year of study** a) B.Sc. Nursing I year b) B.Sc. Nursing II year c) B.Sc. Nursing III year d) B.Sc. Nursing IV year	04 03 07 08	27 37 23 13	19 12 18 09	13.780	6	**0.031**
3.	**Religion** a) Hindu b) Muslim c) Christian d) Other	17 05 00 00	59 17 19 05	33 14 09 02	7.599	6	0.268
4.	**Area of living** a) Urban area b) Rural area	12 10	36 64	33 25	7.399	2	**0.026**
5.	**Habit of blood donation** a) Yes b) No	17 05	82 18	45 13	0.563	2	0.804
6.	**Sources of information regarding blood donation** a) Friend & family members b) Mass media & printed media c) Personal experience	08 04 01 08	23 17 07 40	13 07 10 24	8.956	8	0.349

	d) Educational programme e) Others	01	13	04			

df_2=5.99, df_4=9.48 df_6= 12.59, df_8= 15.50 at p<0.05 level of significance

Table no. 7 depicts the description about association between pre-test level of knowledge and demographic variables among nursing students regarding blood donation. Chi square test was performed to find the association on knowledge of blood donation among nursing students with their selected demographic variables. And it shows that there was no significant association between religion (χ^2 =7.599; p=0.268), Habit of blood donation (χ^2 =0.563; p=0.804) and source of information regarding blood donation (χ^2 =8.956; p=0.349). Whereas there was significant association between age (χ^2 =10.877; p=0.027), course & year of study (χ^2 =13.780; p=0.031) and area of living (χ^2 =7.399; p=0.026).

Table 8: Association between pre-test level of attitude and demographic variables among nursing students regarding blood donation
N= 180

S. No	**Demographic variables**	**Level of attitude**			**Chi-square**	**df**	**p-value**
		Positive	**Neutral**	**Negative**			
1.	**Age** a) Below 20 years b) 20-25 years c) Above 25 years	 36 72 09	 11 30 02	 07 10 03	3.235	4	0.527
2.	**Course & year of study** a) B.Sc. Nursing I year b) B.Sc. Nursing II year c) B.Sc. Nursing III year d) B.Sc. Nursing IV year	 29 36 32 20	 13 12 09 09	 08 04 07 01	5.437	6	0.497
3.	**Religion** a) Hindu b) Muslim c) Christian d) Other	 73 20 18 06	 27 08 07 01	 09 08 03 00	6.967	6	0.318
4.	**Area of living** a) Urban area b) Rural area	 51	 18	 12	2.083	2	0.372

		66	25	08			
5.	**Habit of blood donation** a) Yes b) No	 97 20	 32 11	 15 05	1.767	2	0.401
6.	**Sources of information regarding blood donation** **a)** Friend & family members **b)** Mass media & printed media **c)** Personal experience **d)** Educational programme **e)** Others	 32 19 09 45 12	 09 07 06 17 04	 03 02 03 10 02	4.193	8	0.850

df_2=5.99, df_4=9.48 df_6= 12.59, df_8= 15.50 at p<0.05 level of significance

Table no. 8 depicts the description about association between pre-test level of attitude and demographic variables among nursing students regarding blood donation. Chi square test was performed to find the association on attitude of blood donation among nursing students with their selected demographic variables. And it shows that there was no significant association between age (χ^2 =3.235; p=0.527), course & year of study (χ^2 =5.437; p=0.497), religion (χ^2 =6.967; p=0.318), area of living (χ^2 =2.083; p=0.372), Habit of blood donation (χ^2 =1.767; p=0.401) and source of information regarding blood donation (χ^2 =4.193; p=0.850).

LIMITATIONS

The limitations of the present study:

- Generalization of the study finding may be limited due to selection the single setting.

RECOMMENDATION

- A similar study may be replicated on a large sample for wider generalization.
- A similar study may be replicated on a sample with different demographic characteristics.

CONCLUSION

The present study assessed the effectiveness of educational programme on attitude regarding blood donation among nursing students. The study concluded that after the administration of educational programme; most of nursing student had adequate knowledge & positive attitude whereas only few nursing student had moderate level of knowledge and neutral attitude regarding blood donation. The 't' test which was computed between pre-test and post-test knowledge & attitude score indicate a true gain knowledge and had positive attitude. Hence, it was concluded that educational programme was effective as method to improve knowledge and attitude among nursing students regarding blood donation.

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