

A study to evaluate the effectiveness of planned teaching programme (PTP) on knowledge regarding voluntary blood donation among adolescence in a selected area of Gulbarga, Karnataka.

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DOI: 10.29322/IJSRP.12.05.2022.p12556

<http://dx.doi.org/10.29322/IJSRP.12.05.2022.p12556>

Paper Received Date: 4th May 2022

Paper Acceptance Date: 19th May 2022

Paper Publication Date: 26th May 2022

Abstract- Blood is a vital fluid. Its loss due to any injury or disease is life threatening. Though Science has made countless discoveries and inventions, we are not yet able to make this magic potion, which has no substitute. Requirement of safe blood is increasing and regular voluntary blood donations are vital for blood transfusion services.¹To evaluate the effectiveness of planned teaching programme regarding voluntary blood donation on adolescents in a selected area of Gulbarga, Karnataka.

A quasi experimental, pre-test- post-test design, non probability convenient sampling technique was used. Checklist was used to collect data. Data Analysis was done by using descriptive and inferential statistics

The results of the study shown that pre-test overall knowledge score of adolescents regarding voluntary blood donation was 43.7%, mean and the standard deviation was 2.3. During post-test overall knowledge score of adolescents was 76.0% mean and standard deviation was 2.7. Hence the difference between pretest and post-test overall knowledge score was 32.3%. So, the results of the study shown the difference between the pre-test and post-test knowledge score of the adolescents regarding voluntary blood donation was statistically significant and the difference is due to the administration of planned teaching programme to adolescents regarding voluntary blood donation. There is significant association between some demographic variables and knowledge level. Results show that the planned teaching programme was effective in increasing the knowledge of adolescents of Gulbarga as the pair t test value is significant at the level of 0.01

Index Terms- Planned teaching Programme, blood donation, Adolescents

I. INTRODUCTION

Requirement of safe blood is increasing and regular voluntary blood donations are vital for blood transfusion services.¹ Though Science has made countless discoveries and inventions,

we are not yet able to make this magic potion, which has no substitute. The blood supply is critically low in all societies. Blood is considered a national resource; hence it is the responsibility of the State to secure that blood reserves are sufficient and safe. Blood donation is an example of genuine altruism where the altruistic behavior is incorporated into the self as a role.²

Our body has approximately. 5.5 liter of blood of which only 350 ml - 450 ml of blood is taken depending upon weight of donor. The withdrawn blood volume is restored within 24 hours and the hemoglobin and cell components are restored in 2 months. Therefore, it is perfectly safe to donate blood every three months. One pint of blood given by a donor can save the lives of as many as three people. The blood goes to those suffering from cancer, severe burns, leukemia, anemia and hemophilia and others undergoing surgery. A donor's body will not weaken or miss that one-pint, and donors can donate blood again after 56 days. The simple process of donating blood takes less than an hour and can save numerous lives. And it might just make your life a little healthier.¹

There has been a steady decline of blood donation while the demand for transfusion continues to rise Recruitment and retention of donors to sustain and increase the donor base are critical for blood banks.⁴ Over 80 million units of blood are donated every year but only 38% are collected in developing countries, where 82% of global population resides. Hence, the need to increase the number of voluntary donors to ensure blood freely and without any reward. The decision to donate blood is motivated by a host of factors including altruism, social behaviors, social pressure and replacement.³

The eligibility to blood donation is not very demanding. A donor only needs to be between 18-60 years of age with a weight of 50 kg or above with pulse rate, body temperature and blood pressure should be normal. Both men and women can donate. Young people, in particular, are in demand because they are, generally, healthier than other age groups and thus, more able to give.⁵

Less than a quarter of countries have achieved 100% voluntary blood donation. Many countries are still dependent on donation by families or friends of the patient who requires blood. In addition, some countries like Bangladesh still have paid donors. Yet, evidence from around the world demonstrates that voluntary unpaid donors are the foundation of a safe blood supply because they are least likely to transmit potentially life-threatening infections such as HIV and hepatitis virus to recipient.⁵

It is to these unsung heroes that World Blood Donors Day (WBDD) is dedicated. This day is celebrated on 14th June to coincide with the birthday of Karl Land Steiner, the Nobel Prize winner and discoverer of ABO blood group system. World Blood Donor Day is an annual event officially designated by world health assembly to recognize and thank millions of voluntary blood donors. The aim is to create wide awareness to the importance of voluntary blood donation and to encourage more people to become regular blood donors. The sole purpose is not to attract a big influx of new donors on 14th June. Rather, it is designed to celebrate and thank those individuals who voluntarily donate their blood without any reward except the knowledge that they have helped some lives especially those who give blood on regular basis (2-3 or more times/year).⁵

Adolescents for voluntary work because youth are healthy, active, dynamic and receptive and constitute a greater proportion of populating a healthy attitude. Among adolescents will bring changes as they are the backbone of the country they have to be encouraged. Inspired and motivated to donate blood voluntarily.⁶ In India for a population of 900 million and bed strength of little over half a million, blood needs met in relation to population per 1000 are less than 10 donations per year. As is seen, blood is always in short supply and recruitment of donors is never met fully. This state of affairs could be overcome to a large extent by optimization of blood usage by way of component therapy. Adoption of novel techniques for the recruitment of voluntary blood donors will motivate people at large to donate blood. Apart from the overall shortage of blood, there is still a dependency on the professional donors and other problems like inadequate infrastructure and shortage of trained personnel. Blood transfusion is an essential component for modern medicine and saves tens and thousands of lives every day. In a country like India for safe blood transfusion the only way open is switching blood donation programme.⁷

The WHO recommends that all countries should be self-sufficient in all blood products and that all blood donation should be voluntary, anonymous and non-remunerated. To achieve this goal, government, blood banks and volunteers must work together, every part of the world understand for voluntary blood donation now-a-days but still lack of knowledge and have many confusions and factors such as social, economic, fear (psychological), to obstruct any blood donation practice. WHO, Govt. of every states and voluntary health agencies such as red cross doing best job on motivation for voluntary blood donation including health education, camps, motivations, etc.⁸

II. NEED OF THE STUDY

India with a population of about one hundred crores is naturally the country which requires lot of blood to save lives of

its citizens. It has been quoted that there is a need of about 8 million units of blood every year in our country.¹²

The blood is needed every minute to replace blood lost because of accident, to treat shock, for minor and major surgeries, for burn victims. Patient suffering from anemia, during childbirth for the mothers, for children suffering from ailments like thalassaemia, hemophilia, leukemia & blood cancer. In India 60% of population are eligible to donate blood, yet less than 5% do. Unfortunately, 83% of global population living in developing countries have access to only 40% of blood supplied rather than voluntary non-remunerated low risk donors & this blood in 60% of cases is collected from paid & replace donors.¹³

Today there are 1,659 blood banks in the country with 45.5% run by the government. It would thus seem that there is just one government blood bank for a population of more than a million. Rough estimates tell us that eight million units of blood are required.¹⁴ According to WHO, India's total requirement of blood (life saver) calculated on the basis of WHO criterion of 10-11 units per hospital bed in the range of 60,00,000 per year.⁴ Rough estimate tell us that eight million units of blood are required.¹⁷ However, it is the people who donate regularly whose blood saves lives during emergency situations because it is they're waiting on the hospital shelves.¹⁶

The health department is yet to wake up from its deep slumber in order to meet blood requirement of patients across the state. Even after decade since they became districts in 1998, Koppal, Bangalore rural and Chamarajanagar do not have a single blood bank. Ramnagar and Chickaballapur, which became districts in 2007, also lack blood banks.¹⁷

Nearly 100 blood banks are situated in southern Karnataka, while the number of blood banks in 11 districts of north Karnataka is just 43! Bangalore city and Mysore district alone have 75 blood banks. As per Karnataka state AIDS prevention society (KSAPS) statistics, the state currently has 170 blood banks, of them, Bangalore city has 64 blood banks, Mysore 11, Mangalore 11, Hubli-Dharwad 8, Belgaum 6, Gulbarga 4, Bellary 5, Bidar 2, Bijapur 6, Karwar 4, Haveri 1, Gadag 2 and Bagalkot.¹⁷

The Government needs to set up at least one blood bank in every district ensured equal distribution. According to this study the annual blood requirement in Andhra Pradesh 5,60,000 and total collection 4,28,874; in Assam 1,70,000 and collection 87,943; in Goa 13,500 and collection 12, 499; in Karnataka 5,30,000 and collection 3,82,968.¹⁷

The investigator out of his own experience during his practice in the nursing field, found that many times patients relatives searching for blood and blood donors in the institutes & colleges, but there no body aware to donate blood which could have been easily promote by acquiring adequate knowledge. Thus, investigator felt that planned teaching programme would increase the knowledge and attitude towards the blood donation. Also not forgoing the facts, the student investigator acknowledges that very few studies has been conducted regarding blood donation.

III. METHODOLOGY

Statement of problem: A study to evaluate the effectiveness of planned teaching programme (PTP) on knowledge regarding voluntary blood donation among adolescence in a selected area of Gulbarga, Karnataka.

Objectives of the study:

1. To assess the knowledge of adolescents regarding voluntary blood donation before administering the planned teaching programme.
2. To develop and administer planned teaching programme on voluntary blood donation.
3. To assess the knowledge of adolescents regarding voluntary blood donation after administering the planned teaching programme.
4. To evaluate the effectiveness of planned teaching programme regarding voluntary blood donation.
5. To examine association between the level of knowledge and selected socio demographic variables of adolescents regarding voluntary blood donation.

Hypothesis

H1: There will be statistically significant difference between the scores obtained by the adolescents (study subjects) on the level of knowledge about voluntary blood donation prior to and after the planned teaching programme.

H2: There will be a statistically significant association between the scores obtained by the adolescents on knowledge with selected socio demographic variables towards voluntary blood donation.

Research approach: an evaluative research approach, one group pre-test post-test, quasi experimental design

Variable: Dependent: Knowledge regarding awareness of voluntary blood donation

Extraneous variable: Demographic variables viz. age, religion, education, marital status, occupation, income per month, and source of information regarding blood donation.

Independent Variable: Planned teaching programme.

Target population: adolescents who are residing in selected area of Gulbarga.

Description of the tool used in the study

Tool consists of 2 sections

Section A: Socio-demographic data of the participant. It consists of 07 items for obtaining information about selected base line data such as- age, religion, educational status, marital status, occupation, monthly income, and source of information about Voluntary blood donation.

Section B: The structured knowledge questionnaire includes 30 MCQS (Multiple- choice question). Each MCQS

carries 3 options out of them one correct answers and others are distracters. Scoring key is, ‘one’ was awarded to correct response and ‘zero’ for wrong response. It consists of, Introduction about blood donation, Importance of blood donation, Meaning of blood donation, Criteria for blood donation, Contraindications for blood donation, Preparation for blood donation, Procedure for blood donation, Donor recovery, Health benefits of blood donation, Myths and facts about blood donation, Complications and risk to donors.

Validation of the tool

The prepared tool along with objectives of the study, problem statement and blue print were submitted to 09 experts for content validity. Seven were from the field of nursing, and one was from statistics department to obtain content validity in order to obtain content validity.

Reliability of the instrument

The reliability of the tool is computed by using split half technique employing spearman Brown’s Prophecy formula. Karl-Pearson’s co-efficient of Correlation was, $r = 0.90$ and hence the tool was found to be reliable.

Method of data collection

After the completion of the pilot study, written permission was obtained from Medical Officer In Charge , Nandur PHC, Gulbarga and the investigator obtained consent from 60 Adolescents who were willing to participate. The information pertaining to socio-demographic data was collected. A self-administered questionnaire was used to obtain knowledge about Voluntary blood donation. The intervention which includes, the sample of planned teaching programme with the assistance of power point. There after the planned teaching was administered for 2 hours after 7 days of interval post-test was conducted from the same adolescences.

Plan for data analysis

1. Descriptive statistics analysis includes percentage (%) mean, median, frequency and standard deviation for Voluntary blood donation among the Adolescents of selected area of Gulbarga

2. Inferential statistics: Includes paired t test and chi-square test for the assessment knowledge of Adolescents and to associate with socio-demographic variables is planned.

IV. RESULT AND ANALYSIS

Objective -1: To assess the knowledge of Adolescents regarding Voluntary blood donation before administering the planned teaching programme.

Classification of Adolescents on pre-test knowledge level regarding Voluntary blood donation

			[1] n=60
[1] Level of knowledge	[2] Score	[3] No of Respondents	
		[4] No	[5] %
[6] Inadequate	[7] < 50%	[8] 48	[9] 80.00

[10] Moderate	[11] 50--75%	[12] 12	[13] 20.00
[14] Adequate	[15] >75%	[16] 0	[17] 0.00
[18] Total		[19] 60	[20] 100

Table-1 depicted that majority of Adolescents 48(80%) had inadequate level of knowledge about Voluntary blood donation, whereas 12(20%) of Adolescents had moderate level of knowledge and none of Adolescents had adequate knowledge regarding Voluntary blood donation before administration of planned teaching programme.

3. To assess the knowledge of adolescents regarding voluntary blood donation after administering the planned teaching programme.

Classification of Adolescents on post-test knowledge level regarding Voluntary blood donation

			[21] n=60
[1] Level of knowledge	[2] Score	[3] No of Respondents	
		[4] No	[5] %
[6] Inadequate	[7] < 50%	[8] 0	[9] 0.00
[10] Moderate	[11] 50--75%	[12] 20	[13] 33.33
[14] Average	[15] >75%	[16] 40	[17] 66.67
[18] Total		[19] 60	[20] 100

The above **table-2** depicted that the post-test level of knowledge of Adolescents on Voluntary blood donation, in which majority of Adolescents 40(66.67%) had average level of knowledge about Voluntary blood donation whereas 20(33.33%) of Adolescents had moderate level of knowledge and none of

Adolescents had inadequate knowledge regarding Voluntary blood donation after administration of planned teaching programme.

Objective 3: To evaluate the effectiveness of planned teaching programme to Adolescents regarding the knowledge about Voluntary blood donation

				[21] n=60
[1] Domain	[2] Mean	[3] SD	[4] Mean%	[5] Paired 't' test
[6] Importance, meaning of donor and recipient for blood	[7] 2.1	[8] 0.89	[9] 30.0	[10] 18.2**
[11] Criteria, contraindications and preparation for blood donation	[12] 5.1	[13] 1.6	[14] 34.0	[15] 24.6**
[16] Procedure, health benefits, myths and complications of	[17] 2.5	[18] 1	[19] 31.3	[20] 27.6**
[21] Overall	[22] 9.7	[23] 2.2	[24] 32.3	[25] 34**
[26] **Significant at P<0.01 level, df 59, t value 2				

Table-3 depicted that the mean and standard deviation of knowledge score obtained by Adolescents in each aspect of

Voluntary blood donation after the administration of the planned teaching programme with mean of 11.2, S.D of 2.9 and mean% of

37.33. The table shows that Adolescents had scored more in Voluntary blood donation- Importance, meaning of donor and recipient for blood donation, Criteria, contraindications and

[1] S.No	[2] Demographic variables	[3] No	[4] %	[5] Knowledge		[8] >	[12] %	[6] Chi-square
				[7] < Median				
				[9] No	[10] %	[11] No		
[13] 1	[14] Age in years	[15]	[16]	[17]	[18]	[19]	[20]	[21]
[22]	[23] a) 19-20	[24] 12	[25] 20.0	[26] 6	[27] 50	[28] 6	[29] 50	[30] 4
[31]	[32] b) 21-22	[33] 18	[34] 30.0	[35] 11	[36] 61.1	[37] 7	[38] 38.9	[39] df 3
[40]	[41] c) 23-24	[42] 21	[43] 35.0	[44] 12	[45] 57.1	[46] 9	[47] 42.9	[48] N.S
[49]	[50] d) 25years	[51] 9	[52] 15.0	[53] 2	[54] 22.2	[55] 7	[56] 77.8	[57]
[58] 2	[59] Gender	[60]	[61]	[62]	[63]	[64]	[65]	[66]
[67]	[68] a) Male	[69] 43	[70] 71.7	[71] 21	[72] 48.8	[73] 22	[74] 51.2	[75] 0.5
[76]	[77] b) Female	[78] 17	[79] 28.3	[80] 10	[81] 58.8	[82] 7	[83] 41.2	[84] df 1
[85] 3	[86] Religion	[87]	[88]	[89]	[90]	[91]	[92]	[93]
[94]	[95] a) Hindu	[96] 38	[97] 63.3	[98] 24	[99] 63.2	[100] 14	[101] 36.8	[102] 5.99
[103]	[104] b) Christian	[105] 10	[106] 16.7	[107] 4	[108] 40.0	[109] 6	[110] 60.0	[111] df 2
[112]	[113] c) Muslim	[114] 12	[115] 20.0	[116] 3	[117] 25.0	[118] 9	[119] 75.0	[120] S
[121]	[122] d) Others	[123] 0	[124] 0.0	[125] 0	[126] 0.0	[127] 0	[128] 0.0	[129]
[130] 4	[131] Educational	[132]	[133]	[134]	[135]	[136]	[137]	[138]
[139]	[140] a) Illiterate	[141] 4	[142] 6.7	[143] 4	[144] 100	[145] 0	[146] 0.0	[147] 11.8
[148]	[149] b) Primary	[150] 14	[151] 23.3	[152] 9	[153] 64.3	[154] 5	[155] 35.7	[156] df 3
[157]	[158] c) High	[159] 20	[160] 33.3	[161] 12	[162] 60.0	[163] 8	[164] 40.0	[165] S
[166]	[167] d) PUC	[168] 18	[169] 30.0	[170] 6	[171] 33.3	[172] 12	[173] 66.7	[174]
[175]	[176] e) Degree	[177] 4	[178] 6.7	[179] 0	[180] 0.0	[181] 4	[182] 100	[183]
[184] 5	[185] Marital status	[186]	[187]	[188]	[189]	[190]	[191]	[192]
[193]	[194] a) Married	[195] 42	[196] 70.0	[197] 26	[198] 61.9	[199] 16	[200] 38.1	[201] 5.8
[202]	[203] b) Unmarried	[204] 18	[205] 30.0	[206] 5	[207] 27.8	[208] 13	[209] 72.2	[210] df 1
[211]	[212] c) Divorced	[213] 0	[214] 0.0	[215] 0	[216] 0.0	[217] 0	[218] 0.0	[219] S
[220] 6	[221] Occupation	[222]	[223]	[224]	[225]	[226]	[227]	[228]
[229]	[230] a) Agriculture	[231] 8	[232] 13.3	[233] 5	[234] 62.5	[235] 3	[236] 37.5	[237] 8.2
[238]	[239] b) Self-	[240] 28	[241] 46.7	[242] 19	[243] 67.9	[244] 9	[245] 32.1	[246] df 2
[247]	[248] c) Private	[249] 24	[250] 40.0	[251] 7	[252] 29.2	[253] 17	[254] 70.8	[255] S

preparation for blood donation, Procedure, health benefits, myths and complications of blood donation after the administration of planned teaching programme .The calculated value is greater than the tabulated value at the level of significant $p < 0.001$ level, df 59 by paired 't' test so the null hypothesis is rejected hence the planned teaching programme was effective in improving knowledge of adolescents.

Objective-4: To examine association between the level of knowledge and selected socio demographic variables of Adolescents towards Voluntary blood donation

Table 4 depicted that the association of knowledge level of Adolescents towards Voluntary blood donation before administering the planned teaching programme with their selected demographical variables by using Chi-square test. The analysis revealed that there is significant association was found with – religion, educational qualification, marital status and occupation at $p < 0.05$ and no association found with age and age and gender with knowledge level of adolescences at level of significance 0.05

V. CONCLUSION

From the data analysis and findings of the present study, it is concluded that there was significant difference between the pre-test knowledge level and post-test knowledge level of Adolescents regarding Voluntary blood donation. The mean knowledge score of 60 Adolescents during the pre-test was 39.3% where as it had increased up to 76.0% during the post-test as an effectiveness of planned teaching programme. Therefore, the difference assessed was 32.3% between pre-test and post-test. Hence on-going teaching and health education programs can further improve the knowledge of adolescents.

Implications:

The assessment of knowledge about Voluntary blood donation among Adolescents will help Nurses to plan organize health education in deficit areas of knowledge, guidance and counseling services for adolescents and general public. This will assist in adopting healthy living and promote mental health.

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