Effectiveness of Structured Teaching Programme on Knowledge Regarding Blood Components Transfusion and its Complications among Staff Nurses

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Abstract

Blood components transfusion, commonly referred to as blood transfusion in general term for the transfusion of red blood cells, platelets, fresh frozen plasma, cryoprecipitate, or white blood cells directly into patients circulation. This study aims to assist the staff nurses in safe and effective administration of blood components and prevention of complications.

Methodology: An evaluative approach with pre-experimental one group pre-test post-test design was used for the study. A structured interview schedule was used to collect the data. The sample includes 50 staff nurses from selected hospitals of Bagalkot District was selected with simple random sampling technique. The data collected before and after the administration of STP were analyzed using descriptive and inferential statistics.

Results: The mean percentage of knowledge scores of the staff nurses in the pre-test was 60.91% with mean and SD (17.9±3.53), whereas the mean percentage of knowledge scores in post-test was 84.39% with mean and SD (25.42±3.07).. Significance of difference between the pre-test and post-test knowledge scores was found to be highly significant [t= 16.64, $p<0.05$]. There was a significant association found between pre-test knowledge scores of the staff nurses and socio demographic variable like training in blood components transfusion ($\chi^2 = 5.0585$; $P<0.05$).

Conclusion: The study proved that structured teaching programme was effectiveness in improving the knowledge of staff nurses on blood components transfusion and its complications.

Keywords: *Effectiveness, Structured Teaching Programme, Knowledge, Blood Components, Transfusion, Complications, Staff Nurses.*

Introduction

Life begins not at the time of fertilization or conception but when blood first appears in the embryo, at about 20 days following conception. A person can experience a relatively minor injury, and suffer the total process of exsanguinations the complete loss of blood. Their body may appear almost entirely intact and yet the person would lie dead in a pool of their own blood. Ancient people would have noticed this. Blood would come to be viewed as the life force, or as a fluid that contains the life force.[1]

Blood components are an important and precious health resource. Transfusion of blood components is an important therapeutic modality and can be life saving

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in certain circumstances. However, the decision to transfuse blood components is also important as there are significant dangers associated with it.[2]

India faced a 10 per cent shortage in its estimated blood requirement in 2015-16. The estimated requirement is around 1.2 crore units per annum. Blood collection through various sources, including blood donation camps, was 1.1 crore units, a shortage of 11.5 lakh units, according to data released by the Ministry of Health and family welfare.[3]

Blood transfusion is saves life, if any error occur during blood transfusion, at the same time, takes life of patient or person. Nurses are being responsible for the final bedside check before transfusion, have the final opportunity to prevent a mis-transfusion. An understanding and knowledge of the pathophysiology of transfusion reactions, symptoms and treatment is essential to safely administer and monitor transfusion. So researcher has come across many nurses negligence in blood transfusion which leads to increased in morbidity and mortality.[4]

Hence, the investigator felt the need to assess the effectiveness of structured teaching programme on blood components transfusion and its complications among staff nurses working in selected hospitals of Bagalkot.

Statement of the Problem: "A study to assess the effectiveness of structured teaching programme on knowledge regarding blood components transfusion and its complications among staff nurses working in selected hospitals of bagalkot."

Objective of the Study:

- To assess the existing knowledge of staff nurses regarding blood components transfusion and its complications through pre-test knowledge score.
- To evaluate the effectiveness of structured teaching programme on knowledge regarding blood components transfusion and its complications by post-test knowledge score.
- To find out the association between Pre test knowledge scores of staff nurses regarding blood components transfusion and its complications with their selected socio demographic variables.

Methodology

Research Approach: An evaluative approach was used for the present study.

Research Design: Pre-experimental one group pre-test, post-test design.

Variables under the Study:

Dependent Variable: Knowledge of staff nurses regarding blood components transfusion and its complications.

Independent Variable: Structured teaching programme on knowledge regarding blood components transfusion and its complications among staff nurses.

Socio-demographic Variables: age, gender, religion, Educational qualification, training in blood transfusion skills, years of experience, area of work,working in blood bank.

Setting of the Study: The present study was conducted at B.V.V. Sangha's Hanagal Shri Kumareshwar Hospital and Research Centre Bagalkot and District Govt. Hospital, Bagalkot.

Population: The population for this study was Nurses of selected hospitals of Bagalkot.

Sample size: The sample for the present study composed of 50 Nurses of selected hospitals of Bagalkot.

Criteria for Selection of Sample:

Inclusive Criteria: The study includes the staff nurses;

1. Staff Nurses who are willing to participate in study.
2. Registered staff nurses who are working in selected hospitals of bagalkot.
3. Staff Nurses who all are able to co-operate to the study.

Exclusive Criteria: The study excludes the staff nurses;

1. Staff Nurses who are not interested to participate in study.
2. Staff Nurses who are not present at the time of study.
3. Staff Nurses who are ill at the time of study and unable to provide data.

Sampling Technique: Simple random sampling technique.

Description of the final Tool: The Self administered knowledge Questionnaire was used for this study which consists of two parts:

- **Part I:** Items related to socio-demographic data of staff nurses.
- **Part II:** Self administered knowledge Questionnaire regarding Blood components transfusion and its complications. it further divided into 4 sections
- **Section A:** General items related to blood and its components.
- **Section B:** Items related to blood components transfusion
- **Section C:** Items related to complications of Blood components transfusion. Section-D: Items related to prevention of complications of components transfusion.

Scoring of the Items: The maximum obtainable scores were 30. To find out the association between the selected socio-demographic variables and knowledge scores, respondents are categorized in to five groups.

Category	Score
Very good	25-30
Good	19-24
Average	13-18
Poor	7-12
Very poor	0-6

Data collection procedure: Pretest was administered on day one. Then STP was administered on the same day after one hour of pre-test. On the 8th day after the administration of STP the post test was conducted using the same interview schedule.

Plan of Data Analysis: The data obtained was analyzed in terms of achieving the objectives of the study using descriptive and inferential statistics.

Results

Part I: Level of pre-test knowledge of the staff nurses regarding blood components transfusion and its complications.

Table 1: Percentage wise distribution of study subjects according to levels of knowledge in pre test. N=50

Level of knowledge	Range of scores	Number of respondents	Percentage (%)
Very poor	0-6	00	0.0
Poor	7-12	05	10
Average	13-18	27	54%
Good	19-24	16	32%
Very good	25-30	02	4%
Total	0-30	50	100

Assessment of the level of knowledge of the Staff nurses reveals that majority (54%) of the Staff nurses had average knowledge**.**

Part II: Significance of the difference between the pre-test and post-test knowledge scores of the staff nurses.

Table 2: Significance of the difference between the pre-test and post-test knowledge scores of the staff nurses.

Knowledge area	Test	Mean	SD	Paired t-value
Blood components transfusion and its complications	Pre test	17.9	3.53	
	Post test	5.42	07	**16.638***

*Significant ($p<0.05$)

Findings reveal that the difference between mean pre-test (17.9±3.5) and post-test (25.42±3.07) knowledge scores of staff nurses found to be statistically significant at 0.05 level of significance [$t= 16.638$, $p<0.05$].

Part III: Association between the pre-test knowledge scores of staff nurses regarding Blood components transfusion and its complications and selected socio - demographic variables.

Table 3: Association between the pre-test knowledge scores of staff nurses regarding Blood components transfusion and its complications and selected socio-demographic variables.

Sl.No.	Socio-demographic variables	Df	Chi-square value	Table value	Level of significance
1.	Age	2	1.914	5.99	P>0.05 **NS**
2.	Gender	1	2.991	3.84	P>0.05 **NS**
3.	Religion	1	0.415	3.84	P>0.05 **NS**
4.	Educational Qualification	1	2.880	3.84	P>0.05 **NS**
5.	Year of experience in ward	1	0.930	3.84	P>0.05 **NS**
6.	Area of work	1	0.349	3.84	P>0.05 **NS**
7.	Training in blood components transfusion and its complications	1	5.0585	3.84	P>0.05 **S**
8	Working in blood bank	1	0.1488	3.84	P>0.05 **NS**
9	Assisted in blood components transfusion.	1	0.0707	3.84L	P>0.05**NS**

Df–Degree of freedom, *Significant, NS–Not significant

Findings of the study revealed that there is significant association found between pre-test knowledge scores of the nurses with selected socio demographic variables such as Training in blood components transfusion(5,058:p<0.05) but there was no significant association found between other demographic variables like age, gender, religion, Educational qualification experience Area of work, and experience.

Discussion

The findings of the study were discussed according to the objectives which were stated. The present study has showed that the difference between mean pre-test (17.9±3.5) and post-test (25.42±3.07) knowledge scores of staff nurses found to be statistically significant at 0.05 level of significance [t= 16.638, p<0.05].

These findings were supported, by the study conducted to find the effectiveness of structured teaching program on knowledge regarding blood transfusion among 50 student nurses in Raichur, where the overall pretest mean knowledge score was 23.45(sd=5.76), post test mean score was (sd=6.48) with paired t-value of 49.57.[5]

Conclusion

From the present study it was found that STP was very effective teaching method. The investigator as a nurse felt the need that student nurses should be educated well before they are posted to wards, so that they could act responsibly to practice the blood components transfusion meticulously to prevent complications.

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Conflict of Interest:

Author has no conflict of interest.

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