



Medical Surgical Nursing

EFFECT OF INFORMATION BOOKLET ON KNOWLEDGE REGARDING CARDIOVASCULAR DRUGS AMONG NURSING STUDENTS IN SELECTED NURSING COLLEGES OF GUWAHATI, ASSAM: A PRE-EXPERIMENTAL STUDY

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ABSTRACT

Background: Vasoactive drugs may be administered to support cardiac output, especially blood flow to the heart and brain. These medicines have lots of harmful effects when administered improperly. **Aim and Objective:** To evaluate the efficacy of information booklet on knowledge regarding cardiovascular drugs. **Method and Materials:** Pre experimental one group pre-test post test design was used to accomplish the objectives, 100 nursing students were selected by using purposive sampling technique. Pre-test knowledge was checked by using self-structured knowledge questionnaire and on the same day information booklet on cardiovascular drugs was administered. The post test was conducted on the seventh day in the same manner. **Results:** Out of 100 nursing student's, In pre-test, majority i.e.92 (92%) had inadequate knowledge, 8(8%) had moderate knowledge whereas in the post test, majority i.e.74 (74%) had adequate knowledge and 24(24%) had moderate and only 2(2%) had inadequate knowledge regarding cardiovascular drugs. The mean knowledge score in pre-test was 10.91 with standard deviation of 3.35. In post-test the mean knowledge score was 27.85 with standard deviation of 4.00. The improvement was statistically tested by Paired 't' test. The calculated Paired 't' test Value of $t=30.847$ and $p=0.0001$ was found to be statistically significant at $p<0.001$ level. The association was statistically tested by fisher exact test and analysis depicted that there was no significant association between pretest knowledge score and selected demographic variables at the 0.01 level of significant. **Conclusion:** There was evident increase in the knowledge after administration of information booklet on cardiovascular drugs. Thus, it was proved that the information booklet was an effective teaching method for improving the knowledge on cardiovascular drugs.

KEYWORDS : Effect, information booklet, knowledge, cardiovascular drugs, nursing student**INTRODUCTION**

Cardiovascular disease is the leading global cause of death, accounting for 17.3 million deaths per year, a number that is expected to grow to more than 23.6 million by 2030. In India, 9 crore Indian suffer from heart disease and 30% more are at high risk, the count of "hypertensive" individuals is expected to rise from 118 million in 2000 to 214 million in 2025.¹ According to the American Heart Association's 2017, the number of people diagnosed with heart failure is increasing and projected to rise by 46% by 2030, it results more than 8 million people who are suffering with heart failure.² Vasoactive drugs may be administered to support cardiac output, especially blood flow to the heart and brain. Drugs may be selected to improve heart rate (chronotropic effects), myocardial contractility (inotropic effects) or arterial pressure (vasoconstrictive effects), or to widening the blood vessels (vasodilator effects). Prompt titration is best accomplished by the bedside nurse with continuous monitoring to parameters specified in medications orders by the physician.³ These medicines have lots of harmful effects when administered improperly. Medication administration errors (MAES) occur in 3-8% of all non- intravenous drug doses given in UK hospitals; higher rates have been reported for intravenous drugs.¹ Administration of medication is a basic nursing function that involves knowledge and skill. The safe and accurate administration of medication is one of the most important responsibilities of a nurse.⁵ To ensure safe medication administration, the nurse should be aware of what is ordered, and need to recognize when a prescribed dose of a medication is too high or low. More education and experience are associated with improved patients' safety. When administering medications, nurses are accountable for knowing why the medication is being used, what are the possible side effects to be monitored. Awareness is essential to the judicious use of those agents to prevent any undesirable side-effects.⁴

Statement Of The Problem

"Effect of information booklet on knowledge regarding cardiovascular drugs among nursing students in selected nursing colleges of Guwahati, Assam: A pre-experimental study."

OBJECTIVES

1. To assess the pre and post test knowledge score regarding cardiovascular drugs among nursing students in selected nursing colleges of Guwahati, Assam before and after administration of information booklet.
2. To assess the effect of information booklet on knowledge regarding cardiovascular drugs among nursing students in selected nursing colleges of Guwahati, Assam.
3. To find out the association between pre test knowledge score of

cardiovascular drugs with selected demographic variables among nursing students in selected nursing colleges of Guwahati, Assam.

MATERIALS & METHODS

The research approach adopted for the study was quantitative research approach. Pre experimental one group pre-test post test design was used in this study to accomplish the objectives. Study was undertaken on 100 nursing students studying in selected nursing colleges of Guwahati, Assam by using purposive sampling technique: 4th year B.Sc. Nursing student and 2nd year Post Basic B.Sc. nursing student were selected on the basis of inclusion and exclusion criteria. Pre-test knowledge regarding cardiovascular drugs was checked by using self-structured knowledge questionnaire and on the same day information booklet on cardiovascular drugs was administered. The post test was conducted on the seventh day in the same manner.

Description of the tool: The tools used for the study consisted of two sections:

Section I: Demographic variables:

Age, class, handling of patient with cardiovascular drugs, attended any workshop, conference related to cardiovascular drugs, experience of any medication error related to cardiovascular drugs.

Section II: Structured knowledge questionnaire:

This part of the tool consisted of 36 questions on cardiovascular drugs which includes the inotropic drugs and vasodilators.

Scoring key:

Each question had only one correct answer. For every correct response a score of 1 mark was given and a score of 0 mark for incorrect response. Hence the maximum score was 36 and the minimum score was 0. To interpret the level of knowledge, the scores were converted to percentage and were categorized as follows:

Table 1: Categorization of knowledge scores:

Inadequate knowledge	Moderately adequate knowledge	Adequate knowledge
<50% (<18)	51% -75% (19-28)	>75% (>28)

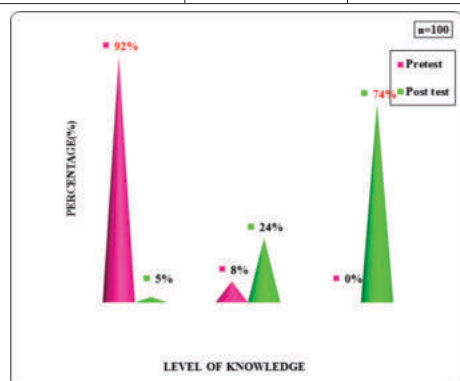
RESULT**Section I: Description of demographic variables**

Out of 100 nursing student's, majority 43(43%) belongs to 21-22 years of age, 42(42%) belongs to 23-24 years of age, 14(14%) belongs to 25-

26 years of age and the rest 1(1%) of the nursing students belongs to >26 years of age; 70(70%) were B. Sc nursing 4th year and rest 30(30%) were belongs to Post Basic B. Sc nursing 2nd year; 81(81%) of the student handled the patient with cardiovascular drugs and 19(19%) of student did not handle the patient with cardiovascular drugs; 76(76%) of student were not attended any workshop, conference related to cardiovascular drugs and 24 (24%) of the student attended the workshop, conference related to cardiovascular drugs; 91(91%) of the student were not experienced any medication error related to cardiovascular drugs and 9 (9%) of the student experienced medication error related to cardiovascular drugs.

Table 2: Frequency and percentage distribution of nursing students with their demographic variables, n=100

DEMOGRAPHIC VARIABLES	FREQUENCY(f)	PERCENTAGE (%)
Age in years		
21-22 years	43	43%
23-24 years	42	42%
25-26 years	14	14%
26 years above	1	1%
Class		
B.Sc nursing 4th year	70	70%
Post basic B.Sc nursing 1st year	30	30%
Handling of patient with cardiovascular drugs		
Yes	81	81%
No	19	19%
Attended any workshop, conference related to cardiovascular drugs		
Yes	24	24%
No	76	76%
Experience of any medication error related to cardiovascular drugs		
Yes	9	9%
No	91	91%



Section-II: Assessment of knowledge score regarding cardiovascular drugs among nursing students before and after administration of information booklet.

In pre-test, majority i.e.92 (92%) had inadequate knowledge, 8(8%) had moderate knowledge whereas in the post test, majority i.e.74 (74%) had adequate knowledge and 24(24%) had moderate and only 2(2%) had inadequate knowledge regarding cardiovascular drugs.

Table 3: Mean, range of score and standard deviation of knowledge of the student nurse regarding cardiovascular drugs before and after administration of information booklet

VARIABLES	TOTAL SCORE	RANGE OF SCORES	MEAN	SD
PRE-TEST KNOWLEDGE	36	7-21	10.91	3.35
POST-TEST KNOWLEDGE	36	15-33	27.85	4.00

The table 3 shows that the comparison of values of overall knowledge

of the student nurses before and after administration of information booklet with mean=10.91, SD=27.85, range of score from 7-21 during pre-test and mean=27.85, SD=4.00, range of score from 15-33 during the post test.

Section-III: Effectiveness of information booklet on knowledge regarding cardiovascular drugs among nursing students in selected nursing colleges Guwahati, Assam.

H1: There will be significance difference between mean pretest knowledge score and post test knowledge score among the nursing student regarding cardiovascular drugs

H0: There will be no significance difference between mean pretest knowledge score and post test knowledge score among the nursing student regarding cardiovascular drugs

Table 4: Effect of information booklet on knowledge regarding cardiovascular drugs among the nursing students

Variables	Mean	S.D	Mean difference	Level of significance	Paired 't' Test Value & p-Value
PRE TEST	10.91	3.35	16.94	0.05	t=30.847 p=0.0001, S*** at <0.001
POST TEST	27.85	4.00			

The table 4 depicts that the pretest mean score of knowledge was 10.91 ± 3.35 and the post test mean score of knowledge was 27.85 ± 4.00 . The mean difference score was 16.94. The calculated paired 't' test value of $t=30.847$ and $p=0.0001$. Since p value is less than 0.001, H0 was rejected and H1 was accepted which infers that there will be significant difference between mean pre test knowledge score and post test knowledge score among the nursing student regarding cardiovascular drugs. This showed that the administration of information booklet on knowledge regarding cardiovascular drugs among nursing students was found to be effective in improving the post-test level of knowledge which was also evident from the increase in the mean score from 10.91 to 27.85.

Section-IV: Association between the pre-test levels of knowledge regarding cardiovascular drugs among nursing students with their selected demographic variables

H1= There is a significant association between mean pre-test knowledge scores regarding cardiovascular drugs with selected demographic variables among nursing students.

H0=There is no significant association between mean pre-test knowledge scores regarding cardiovascular drugs with selected demographic variables among nursing students.

Table 5: Association of pre test knowledge regarding cardiovascular drugs among the nursing students with their selected demographic variables

Demographic variables	Fisher Exact test p value	Remarks
Age	0.715	N S
Class	0.236	N S
Handling of patient with cardiovascular drugs	1.000	N S
Attended any workshop, conference related to cardiovascular drugs	0.092	N S
Experience of any medication error related to cardiovascular drugs	1.000	N S

N.S – Not Significant

Table 5 depicts the obtained p values of Fisher exact test. Since p values were greater than 0.05 level of significance, we accept the null hypothesis which shows that there was no significant association between pretest knowledge score and selected demographic variables such as age, class, handling of patient with cardiovascular drugs, attended any workshop, conference related to cardiovascular drugs, experience of any medication error related to cardiovascular drugs at the 0.01 level of significant.

DISCUSSION

In the present study, majority 43(43%) belongs to 21-22 years of age, 42(42%) belongs to 23-24 years of age, 14(14%) belongs to 25-26 years of age and the rest 1(1%) of the nursing students belongs to >26

years of age; 70(70%) were B. Sc nursing 4th year and rest 30(30%) were belongs to Post Basic B. Sc nursing 2nd year; 81(81%) of the student handled the patient with cardiovascular drugs and 19(19%) of student did not handle the patient with cardiovascular drugs; 76(76%) of student were not attended any workshop, conference related to cardiovascular drugs and 24 (24%) of the student attended the workshop, conference related to cardiovascular drugs; 91(91%) of the student were not experienced any medication error related to cardiovascular drugs and 9 (9%) of the student experienced medication error related to cardiovascular drugs.

The first objective was to assess the pre and post test knowledge score regarding cardiovascular drugs among nursing students in selected nursing colleges of Guwahati, Assam before and after administration of information booklet.

In the pretest, majority i.e. 92 (92%) had inadequate knowledge, 8(8%) had moderate knowledge and none of them had adequate knowledge. In the post test majority i.e. 74 (74%) had adequate knowledge and 24(24%) had moderate and 2(2%) had inadequate knowledge. The present study is supported by a pre experimental study conducted by Paul P (2019) on effectiveness of educational programme on knowledge regarding selective vasoactive and inotropic drugs among staff nurses working in ICU, SDM hospital, Dharwad. 10 samples were selected by using non probability, Purposive sampling technique. In the pretest, majority i.e. 27.5% had inadequate knowledge, 72.5% had moderate knowledge and none of them had adequate knowledge whereas in the post test majority i.e. 97.5% had adequate knowledge and 2.5% had moderate knowledge and none of them had inadequate knowledge. The findings of the study showed that educational programme was effective in increasing knowledge of staff nurses regarding pharmacodynamics of selective vasoactive and inotropic drugs.

The second objective was to assess the effect of information booklet on knowledge regarding cardiovascular drugs among nursing students in selected nursing colleges of Guwahati, Assam.

The analysis depicted that the mean knowledge score in pre-test was 10.91 with standard deviation of 3.35. In post-test the mean knowledge score was 27.85 with standard deviation of 4.00. The improvement was statistically tested by Paired 't' test. The calculated Paired 't' test Value of $t = 30.847$ and $p = 0.0001$ was found to be statistically significant at $p < 0.001$ level. So, it clearly infers that the administration of information booklet on knowledge regarding cardiovascular drugs among the nursing students was found to be effective in improving the post-test level of knowledge among nursing students. The present study was supported by a pre-experimental study conducted by Mathew S. (2021) on effect of information booklet on knowledge regarding inotropic drugs among 40 B. Sc nursing students. Study revealed that the mean knowledge score in pre-test was 11.75 with standard deviation of 3.14. In post-test, the mean knowledge score was 17.76 with standard deviation of 4.58 the computed paired 't' value is 7.74 which was significant at $p < 0.001$ showed that there was a significance difference between pre test and post test mean knowledge score.

The third objective was to find out the association between pre test knowledge score of cardiovascular drugs with selected demographic variables among nursing students in selected nursing colleges of Guwahati, Assam.

Hypothesis was formulated to see the significant association between pretest knowledge with selected demographic variables.

The analysis depicted that there was no significant association between pretest knowledge score and selected demographic variables such as age, class, handling of patient with cardiovascular drugs, attended any workshop, conference related to cardiovascular drugs, experience of any medication error related to cardiovascular drugs at the 0.05 level of significant.

CONCLUSION

Based on the analysis of the findings the study, the following inferences were drawn. There was evident increase in the knowledge in all areas included in the study after administration of information booklet on cardiovascular drugs. Thus, it was proved that the information booklet was an effective teaching method for improving the knowledge on cardiovascular drugs.

Declaration by Authors

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