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A Study to Assess the Effectiveness of Planned Teaching Program on Prevention of Deep Vein Thrombosis Among Nursing Interns Working in a Selected Hospital

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ABSTRACT

Background: Deep Vein Thrombosis may lead to many complications like Pulmonary embolism (PE), Postphlebitic syndrome and Treatment complications like Bleeding (haemorrhage) as a side effect of blood thinners. The knowledge of health care providers, especially the nurses would make a significant impact in the early risk identification speedy recovery and prevention of these complications.
Materials and Methods: A quantitative research approach was adopted for the study. A one group pre-test and post-test experimental design was used to determine the effect of planned teaching program on knowledge of staff nurses. The study comprised of 40 nursing interns working in a selected Hospital who fulfilled inclusive criteria drawn by Convenient Sampling method. A self-administered knowledge questionnaire was used for data collection. The content Validity of the tool was established in consultation with guide and 12 experts from the field of Medical Surgical Nursing, an educationist and a statistician. Reliability coefficient of knowledge questionnaire was calculated using the Karl Pearson correlation coefficient method. Further, a formal permission was obtained from authority concerned from selected hospital for data collection. Then, the Collected data were tabulated and analyzed.
Results: The study revealed that the mean score among nurses was 10.5 (42%) during pre-test rose up to 20(80%) in the post-test evaluation. Result interpreted that there was a significant increase in knowledge level of nursing interns after administration of the intervention. It is evident that the calculated' value was greater than the table value of 't' at 0.05 level. This indicates that Planned teaching program was effective in improving the knowledge of the nursing interns.
Conclusion: The study was done to assess the effectiveness of planned teaching program on prevention of Deep Vein Thrombosis among nursing interns. The result of this study shows that the most of the nursing interns had excellent knowledge after administration of planned teaching program. Hence, it can be concluded that the planned teaching program was found good method for achieving knowledge on DVT and its prevention.

Key Words: planned teaching program, knowledge, Deep Vein Thrombosis

INTRODUCTION

A blood clot known as deep vein thrombosis (DVT) forms inside a deep body vein, typically in the leg. Venous thrombosis is another name for blood clots that appear in a vein. A deep leg vein, a larger vein that passes through the calf and thigh muscles, is typically where DVT takes place. The abdomen or pelvis can also experience it. Leg pain and swelling are possible side

effects, and complications like pulmonary embolism may result.[1]

About 1 in 1000 adults experience pulmonary embolism and deep vein thrombosis on a yearly basis. After about 45 years, rates start to rise sharply, and men experience a slight increase in rates compared to women. In addition to age, exogenous risk factors like surgery, hospitalization, immobility, trauma, pregnancy, the puerperium, and hormone use are among the major thrombosis risk factor. Endogenous risks include cancer, obesity, inherited and acquired hypercoagulation disorders[2].

Three factors - venous stasis, vascular injury, and hypercoagulability are implicated in the formation of thrombosis, according to Virchow's Triad, which was first described in 1856. The most important of the three factors is venous stasis, but it does not seem like it can cause thrombus formation on its own. However, the risk of clot formation is significantly increased when venous stasis, vascular injury, or hypercoagulability are present at the same time. Surgery or trauma, malignancy, prolonged immobility, pregnancy, congestive heart failure, varicose veins, obesity, advancing age, and a history of DVT are the clinical conditions that are most closely related to the Virchow's Triad.[3]

Clinical risk factors for DVT should be eval uated for all hospitalized patients. Orthopedi c andsurgical patients are most at risk, and medical patients should be treated with thro mboprophylaxis. In order to activate the calf muscle pump, nurses can encourage atrisk p atients to mobilize and engage in leg exercis es. Exercises for breathing will also aid in v enous return. Patients should be instructed t o keep an eye out for symptoms that point to DVT and to alert nurses if necessary.[4]

Low-molecular-weight heparins, unfractionated heparin, and Fondaparinux are frequently used pharmacological agents for prophylaxis in medical patients. Mortality has been shown to be decreased by Direct oral anticoagulants (betrixaban versus subcutaneous enoxaparin). Currently, hospitalized patients are permitted to take betrixaban and rivaroxaban. Patients with a moderate to high risk of bleeding and DVT are treated mechanically. They include venous foot pumps, graduated compression stockings, and intermittent pneumatic compression.[5]

Nurses who provide continuous and uninterrupted care are crucial in determining the risk of venous thromboembolism and in carrying out prophylactic intervention because they take into account the various VTE risk factors among hospitalized patients. It is necessary to consider the definition of intervention in this context. A nursing intervention is a course of treatment that nurses select to enhance patient outcomes in accordance with clinical knowledge and logic. Nurses must, however, base their decisions on scientific research in order to prevent VTE and improve the ineffective care methods still used for hospitalized at-risk patients.[6]

Problem Statement

"A study to assess the effectiveness of planned teaching program on prevention of Deep Vein Thrombosis among nursing interns working in a selected hospital''.

Objectives of the Study

1. To assess the knowledge of the nursing interns regarding prevention of Deep Vein Thrombosis.
2. To find out the effectiveness of planned teaching program on prevention of Deep Vein Thrombosis, among nurses.

MATERIALS AND METHODS

Materials and methods: The research approach adopted for the study was a quantitative approach. A one group pre-test and post-test experimental design was used to evaluate the effectiveness of planned teaching program. The study comprised of 40 nursing interns of selected Hospital who fulfilled inclusive criteria drawn by Convenient Sampling method. A self administered questionnaire was used for data collection. The content Validity of the tool was established in consultation with

guide and 12 experts from the field of Medical Surgical Nursing. Reliability coefficient of the questionnaire was calculated using Karl Pearson correlation coefficient method. The items were coded and the reliability was calculated. The reliability co-efficient was found to be 0.8 which indicated that tool was reliable. Formal permission was obtained from authority concerned from selected hospital for data collection.

Hypotheses

H1: There is significant difference between pre-test and post-test knowledge scores regarding prevention of Deep Vein Thrombosis among nursing interns.

RESULTS

Analysis and interpretation is based on the objectives of the study. The analysis was done with the help of inferential and descriptive statistics.

Section I: Distribution of nursing interns according to their demographic characteristics.

Table 1: Percentage wise distribution of nursing interns according to their demographic characteristics. N=40

Demographic Variables	No. of Nurses	Percentage (%)
Age(yrs)		
21-22 years	18	45%
23-24years	10	25%
Above 25years	12	30%
Sex		
Male	22	55%
Female	18	45%
Religion		
Hindu	18	45%
Muslim	7	17.5%
Buddha	12	30%
Others	3	7.5%
Family Income per month (in Rupees)		
5000-10000	12	30%
10001-15000	12	30%
15001-20000	10	25%
Above 20000	6	15%

Section II: The assessment of nursing interns' knowledge regarding prevention of Deep Vein Thrombosis.

Table: 1 reveal that there is a major difference in the pre and post test scores and therefore it can be understood that a teaching programme can improve nursing interns' knowledge.

Level Of Knowledge Score	Pre test		Post test	
	f	%	f	%
Poor	12	30%	0	0
Average	24	60%	0	0
Good	4	10%	13	32.5%
Excellent	0	0%	27	67.5%

Section III: Effectiveness of teaching program regarding prevention of Deep Vein Thrombosis among nursing interns.

The table compares the pre and post test knowledge. It is seen that the mean score was 15 during pre test rose up to 24 in the post test evaluation. Therefore, the effectiveness of the study is proven.

Table 2: Effectiveness of teaching program regarding prevention of Deep Vein Thrombosis N=40

Knowledge score	Maximum score	Mean	Standard deviation	Mean percentage	t-value	p-value
Pre Test	15	10.50	4.08	42%	12.6	0.000 S,p<0.05
Post Test	24	20.00	2.56	80%		

DISCUSSION

Deep vein thrombosis and pulmonary embolism (DVT/ PE) are serious public health issues that have a negative impact on both the nation's economy and its population. Each year, hundreds of people are affected by this. However, given that many studies indicate that these diseases are frequently undiagnosed, there is cause to think that the actual incidence rate (and overall number of cases) may be significantly higher.

The present study was carried out among 40 nursing interns to assess the effectiveness of planned teaching program on prevention of Deep Vein Thrombosis.

A planned teaching program was administered to the subjects. The present study assessed the knowledge of nurses regarding prevention of Deep Vein Thrombosis before administration of planned teaching program and found that maximum number of patients 24 (60%) had average knowledge, 12 (30%) had good knowledge, remaining 4 (10%) had a poor knowledge. None of the subjects found to have excellent knowledge. After the planned teaching program the post-test showed that the maximum number of samples 27 (67.5%) had excellent knowledge, 13 (32.5%) had gained good knowledge and none of the sample had inadequate knowledge.

The comparison of pre-test knowledge scores and post-test knowledge scores of the subjects shows that the overall mean in the pre-test was 15.00 with SD 4.08 and in the post-test 20.00 with SD 2.56. The overall improvement mean was 9.5 with 't'- value 12.6 which was highly significant at P>0.05 level. This showed that there was a significant improvement in knowledge of nursing interns after the planned teaching programme.

The study results were found to be more or less similar to the results of a similar study conducted by Mr. Rakesh Sahu (2017) were mean pre-test total knowledge score was 16.55(55.1%) and mean post-test total knowledge score was 22.11 (73.7%).

CONCLUSION

The study was conducted among nursing interns to assess the effectiveness of planned teaching program on prevention of Deep Vein Thrombosis. The study revealed that a planned teaching program increase the knowledge of nursing interns regarding the prevention of Deep Vein Thrombosis. Prevention of Deep Vein Thrombosis is essential to the speedy recovery of patients and to reduce the duration of hospitalization and its associated expenditure. Deep Vein Thrombosis can be fatal if not properly managed and cared for. A key factor in preventing Deep Vein Thrombosis is increasing nurses' knowledge.

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

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