

Effectiveness of Self Instructional Module on Knowledge Regarding Varicose Vein Among Staff Nurses

Manju Amrutram Shahu¹, Pascaline David², Sukare Lata³

Abstract

Background: Varicose veins are permanently distended veins that develop from the loss of valvular competence. Faulty valves elevate venous pressure causing distension and tortuosity of the superficial veins. The greater and lesser saphenous veins and perforator veins in the ankle are common sites of varicosities.¹ Varicose vein is more common in women. However, the gender ratio decreases with advancing age and almost disappears in client older than 70 years. Prolonged standing has been implicated as a cause of varicose veins, but epidemiologic studies have not demonstrated an association between standing at work and an increased incidence of varicose veins.² Nursing profession is perceived as a high-risk occupation, in which positions such as long-time standing and sitting are inevitable during the work. In spite of varicose appearance, as the main patients' complaint, other symptoms such as dull pain, feeling heavy in legs, night cramps and sometimes varicose inflammation as thrombophlebitis are observed.³ **Objective:** To assess the pre test and post test knowledge regarding varicose veins, and to associate the knowledge score with demographic variables. **Methodology:** A pre experimental one group pre testpost test design was adopted for the study. It was conducted over 60 staff nurses and was selected by using non probability purposive sampling technique. Pre test was done using self structured questionnaire for knowledge. After pre test the researcher administered self instructional module regarding knowledge. Post test was done after seven days and analysis showed that there was significant increase in knowledge after administering self instructional module. The analysis reveals that post test mean knowledge score value which was 25.16 with SD of ± 3.74 when compared with the pretest mean knowledge score value which was 13.10 with SD of ± 3.54 . The calculated 't' value 30.13 is greater than table value 2.00 at 0.05 level of significance. Thus the H1 is accepted and H0 is rejected. **Conclusion:** The significantly association was found on knowledge with present work area. Thus, the study concluded that self instructional module was effective in improving knowledge regarding varicose vein.

Keywords: Varicose Vein; Staff Nurse; Intensive Care Unit; Self Instructional Module, Knowledge.

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Introduction

Veins are blood vessels. In healthy vein blood flows smoothly to the heart that return blood at low pressure to the heart. The walls of the veins are thinner than those of arteries but have the same three layers of tissue. They are thinner because there is less muscles and elastic tissue in the tunica media, because veins carry blood at a low pressure than arteries.¹

Some veins possess valves, which prevent backflow of blood, ensuring that it flows towards the heart. They are formed by a fold of tunica intima and strengthened by connective tissue. Valves are abundant in the veins of the limbs, especially the lower limbs where blood must travel a considerable distance against gravity when the individual is standing. Valves are assisted in maintaining one way flow by skeletal muscles surrounding the veins.¹

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Varicose veins are permanently distended veins that develop when the small valves inside the veins stop working that is the loss of valvular competence. Faulty valves elevate venous pressure causing distension and tortuosity of the superficial veins. The greater and lesser saphenous veins and perforator veins in the ankle are common sites of varicosities.²

Varicose veins may be either primary or secondary. Telangiectasia's varicose also called spider veins. This veins are dilated superficial capillaries, arterioles and venules. This types of varicose veins may be cosmetically unattractive but do not pose a threat to circulation.³

Varicose vein is more common in women. However, the gender ratio decreases with advancing age and almost disappears in client older than 70 years. Prolonged standing has been implicated as a cause of varicose veins, but epidemiologic studies have not demonstrated an association between the prolonged standing at work and an increased incidence of varicose veins in staff nurses.⁴

Background and need of the study

From the thousands of years the varicose veins have troubled for every human being. Varicose veins are mentioned as early as 1550 B.C. in the Ebers papyrus, where it was approve not to treat them. From the ancient Greece the varicose veins were also mentioned. The role of varicose veins and venous hypertension in creating venous ulcers was recognized as early as the days of Hippocrates. Compression therapy it was also recommended by Hippocrates for the treatment of varicose veins and venous ulcers, still it is used today. 'Varicose veins' is derived from the Latin word 'varix' which means twisted.⁵

According to the American Society for Vascular Surgery, at least 20 to 25 million Americans have varicose veins. Statistics further show that 17% of men and 33% of women have varicose veins. In fact, more people are unable to work due to vein disorders than due to arterial disease.⁶

Varicose veins affect a large percentage of the adult's population. The prevalence increases with age and peaks between the fifth and sixth decades of life. Varicose veins are more common in women, however, the gender ratio decreases with advancing age and almost disappear in client older than 70 years. Prolonged standing has been implicated as a cause of varicose veins, but epidemiologic studies have not demonstrated as association between prolonged standing at work and an increased incidence of varicose veins. Client with varicose veins often complaints of aching, a feeling of heaviness in the legs, itching, moderate swelling, and frequently, the unsightly appearance of their legs.²

Fatma abdel moneim, have conducted a study in al jouf region to assess the prevalence and clinical presentation of varicose veins among nurses working in hospitals. According to the findings, it

was identified that 73.9% of staff nurses developed leg varicose vein with varying size. The incidence of varicose is almost double in nurses as compared to other professional groups and the general population. There is highest prevalence of varicose intensity was related to telangiectasia. 3.31% of leg varicose cases developed lipodermosclerosis. The difference seems to be owing to nurses' more years of service and overtime hours. A trend was detected between regular exercises and varicose intensity, and therefore, protective effect of regular exercise might reduce the varicose intensity.⁷

Nursing is a profession which is recognize as a high-risk occupation, in which positions such as long-time standing and sitting are unavoidable during the work. The main complaints of patients is varicose appearance and other symptoms are dull pain, feeling heavy in legs, night cramps, varicose inflammation with thrombophlebitis are seen. Nurses are the major part of health-care systems, some factors like frustrating and overwhelming positions can lead to disruption in services from health therapeutic system, This issue is highly important, because it can affect working output and old age, health, underlying thrombotic problems, and other serious complications related to health.⁷

After reviewing many literatures investigator found that there are very less studies on nurses knowledge regarding varicose veins and they need to be educated regarding varicose vein to prevent and treat the painful disorders. Many studies have proved that planned teaching programme and video assisted teaching programme is very good strategies to improve knowledge. So, investigator felt to prepare self instructional module on knowledge regarding varicose veins in this study for staff nurses to increase their knowledge and to see the effectiveness of self instructional module.⁷

Statement of the problem

A study to assess the effectiveness of self instructional module on knowledge regarding varicose vein among staff nurses working in the intensive care units of selected hospitals of the city.

Objectives

1. To assess the pre test knowledge score regarding varicose veins among staff nurses working in intensive care units of the selected hospitals.
2. To assess the post test knowledge score regarding varicose veins among staff nurses working in intensive care units of the selected hospitals.

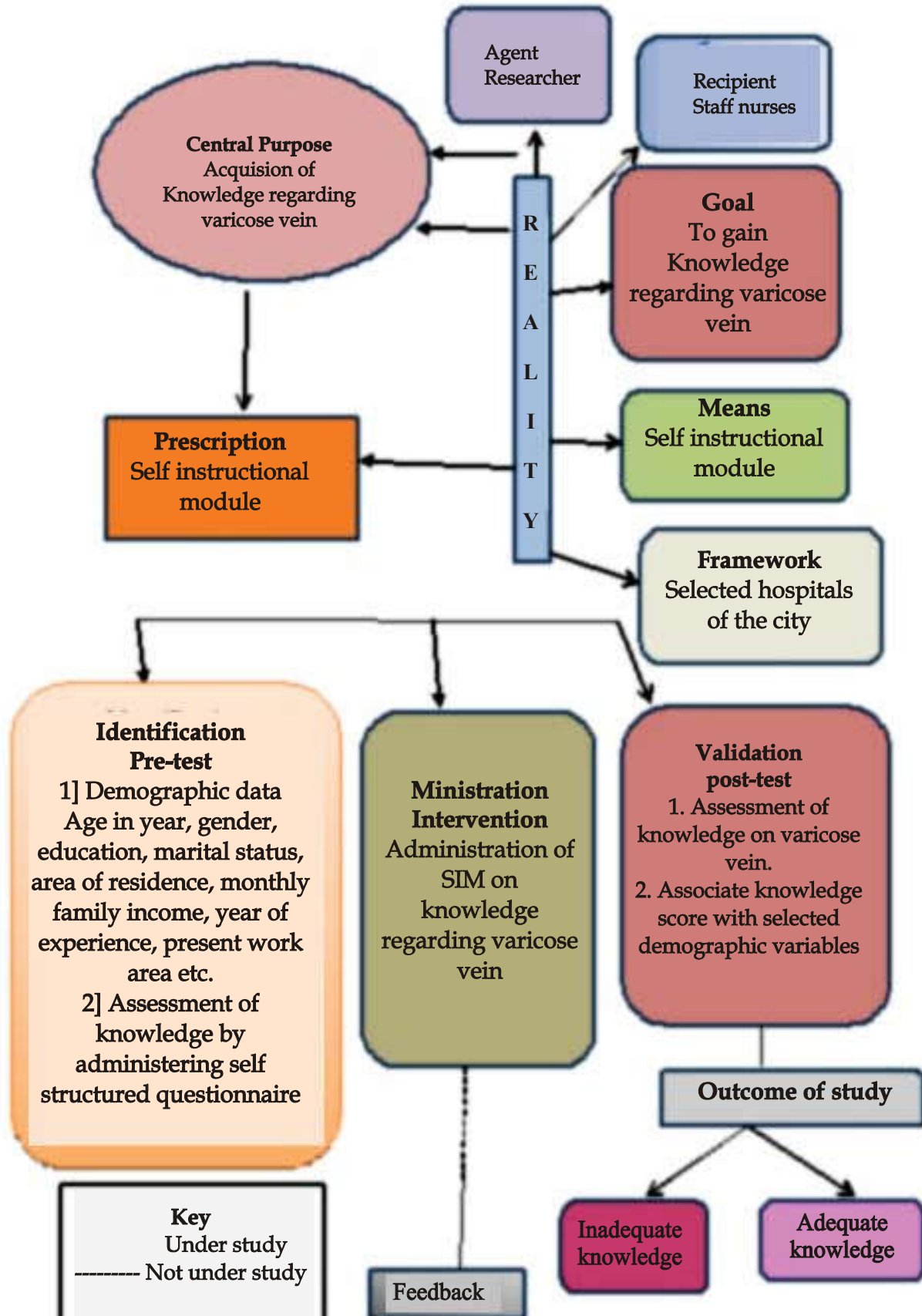


Fig..1: Conceptual framework based on modified Wiedenbach's Prescriptive Theory

3. To evaluate the effectiveness of self instructional module on knowledge regarding varicose veins among staff nurses working in intensive care units of the selected hospitals.
4. To associate the knowledge score with selected demographic variable.

Operational definition

1. *Assess*: In this study assess is refers to evaluate the knowledge of staff nurses regarding varicose veins.
2. *Effectiveness*: In this study the effectiveness means improvement of knowledge of staff nurses regarding varicose veins.
3. *Self instructional module*: In this study self instructional module is systematically made learning materials, arranged by investigator to improve / increase the knowledge of staff nurses regarding the varicose veins.
4. *Knowledge*: In this study knowledge is facts, information, skills acquired through education with regards to varicose vein among staff nurses in term of correct response to the items on structured knowledge questionnaire.
5. *Varicose veins*: In this study varicose vein is that has enlarged and twisted, often appearing as a bulging, blue blood vessel that is clearly visible through the skin.
6. *Staff nurses*: In this study staff nurses refers to GNM, B. Sc. Nursing/ B.B.Sc. nursing, and P.B.B.Sc.\P.C. B.Sc. Nursing qualified registered nurses working in the intensive care units of the selected hospitals of the city.
7. *Intensive care unit*: In this study intensive care unit means medical surgical intensive care unit, pediatric intensive care unit and neonatal intensive care unit.

Delimitation

The study is delimited to the staff nurses who are working in the intensive care units.

Hypothesis

Hypothesis will be tested at 0.05 level of significance

H_0 – There will be no significant difference between pre test and post test knowledge score regarding varicose veins among staff nurses working in intensive care units.

H_1 – There will be significant difference between pre test and post test knowledge score regarding varicose veins among staff nurses working in intensive care units.

Conceptual Framework

The conceptual framework used in the study was based on Ersestine Wiedenbach's "prospective theory".⁸

Review of literature:

In the present study the reviewed of literature has been organized into the following categories:

1. Literature related to varicose vein
2. Literature related to nurses
3. Literature related to effectiveness of Self instructional module

Methodology

Research approach: In this study quantitative research approach is used.

Research design: In this study the pre experimental pre test and post test one group research design is used.

Setting of the study: Lata Mangeskar hospital, Nagpur.

Independent variable:

Self instructional module on knowledge regarding varicose vein.

Dependent variable:

The dependent variable in this study is knowledge regarding varicose vein.

Demographic variable:

It includes age, gender, education, marital status, area of residence, monthly family income, year of experience, present work area, etc.-

Population:

Target population: All the staff nurses were working in intensive care units of the selected hospital of the city.

Accessible population

It comprises of staff nurses working in intensive care units of the selected hospitals of the city and are available at the time of data collection and who were fulfilling the inclusive criteria.

Sampling

Sample: Registered staff nurses working in intensive care units of the selected hospitals of the city who were available during the time of data collection.

Sample size: 60 staff nurses selected for the study.

Sampling technique: Non probability purposive sampling technique was adopted for study.

Sampling criteria:

Inclusive criteria:

1. Registered nurses having RGNM, B.Sc. nursing and P.B.B.Sc. Nursing/ P.C.B.Sc. Nsg. qualification.
2. Working in intensive care unit
3. Able to read and understand English.
4. Willing to participate in study.
5. Available at the time of data collection.

Exclusive criteria: Staff nurses who are

1. Working in other areas than intensive care units.

Description of tools

Section A-Demographic variables

Section B-Self structured knowledge questionnaire

Section C-Self instructional module on varicose veins

Validity

Content and construct validity of tool was determined by 20 experts including medical surgical nursing subjects experts, cardiologist and statistician etc.

Reliability

Karl Pearson correlation coefficient formula was used. The correlation coefficient 'r' of the questionnaire was 0.8372, which is more than 0.8. Hence the questionnaire was found to be reliable.

Pilot study: was conducted from 4th November 2018 to 11th November 2018 for a period of 7 days. The pilot study was feasible in terms of time, money, material and resources.

Data collection

The main study data was gathered from 12 December 2018 to 5 January 2019. Permission was obtained from concerned authority. The samples were approached in small groups on a daily basis. Before giving the questionnaire self introduction was given by the investigator and the purpose of the study mentioned. Consent of the samples were taken. The pre test questionnaire were distributed to the samples and collected back after 38 minutes. After the pre test the investigator administered the treatment (SIM). After 7 days post test was taken.

Result

Section-I: Description of staff nurses working in intensive care unit with regards to their demographic variables.

The table no. 1 shows that majority of the 58.3% of the staff nurses were in the age group of 21-30 years, while majority of the subjects 90% were females. Educational status reveals that 96.7% of them were educated up to GNM/ RGNM, while majority of the subject 68.3% of them were married, majority of subjects 53.3% were residing in the urban area, 45% of the staff nurses having monthly family income below 10,000 Rs., While majority of subjects 53.3 % of them had working experience in intensive care unit of 1-5 years. Majority of subjects 50 % of them were working in MICU.

Section-II: Description on pre test and post test knowledge score of staff nurses working in intensive care unit regarding varicose veins.

Section-III: Description on the effectiveness of SIM on knowledge of staff nurses working in intensive care unit regarding varicose veins.

Table 3 shows that the overall mean knowledge scores of pre test and post test which reveals that post test mean knowledge score was higher 25.16 with SD of ± 3.74 when compared with the pretest mean knowledge score value which was 13.10 with SD of ± 3.54 . The calculated 't' value 30.13 is greater than table value 2.00 at 0.05 level of significance. Hence it is statistically interpreted that the self instructional module on knowledge regarding varicose veins was effective. Thus the H1 is accepted and H0 is rejected.

Section IV: Description on association on knowledge with selected demographic variables.

The analysis shows that the present work area was associated with knowledge score while none of the other demographic variables were associated with knowledge score.

Table 1: Table showing frequency and percentage wise distribution of staff nurses according to their demographic variable
n = 60

.SR. NO	Demographic variables	(Frequency (f	(%) Percentage
Age (in year)	.yrs 21-30	35	58.3
	.yrs 31-40	15	25
	.yrs 41-50	10	16.7
	.yrs 51≤	0	0
Gender	Male	6	10
	Female	54	90
Education	GNM/RGNM	58	96.7
	B. Sc./B.B. Sc. Nursing	1	1.7
	P.C.B.Sc./P.B. BSc Nursing	1	1.7
Marital status	Married	41	68.3
	Unmarried	19	31.7
	Divorced	0	0
	Separated	0	0
	Widow/Widower	0	0
Area of residence	Rural	24	40
	Urban	32	53.3
	Semi Urban	4	6.7
Monthly family income (in rupees	10000>	27	45
	10001-15000	11	18.3
	15001-20000	8	13.3
	20001≤	14	23.3
Year of experience	.yr 1>	2	3.3
	.yrs 1-5	32	53.3
	.yrs 5-10	16	26.7
	.yrs 10<	10	16.7
Present work area	MICU	26	43.3
	SICU	18	30
	PICU	9	15
	Neonatal ICU	7	11.7

Table 2: Table showing comparison of pre test and post test knowledge grading score.

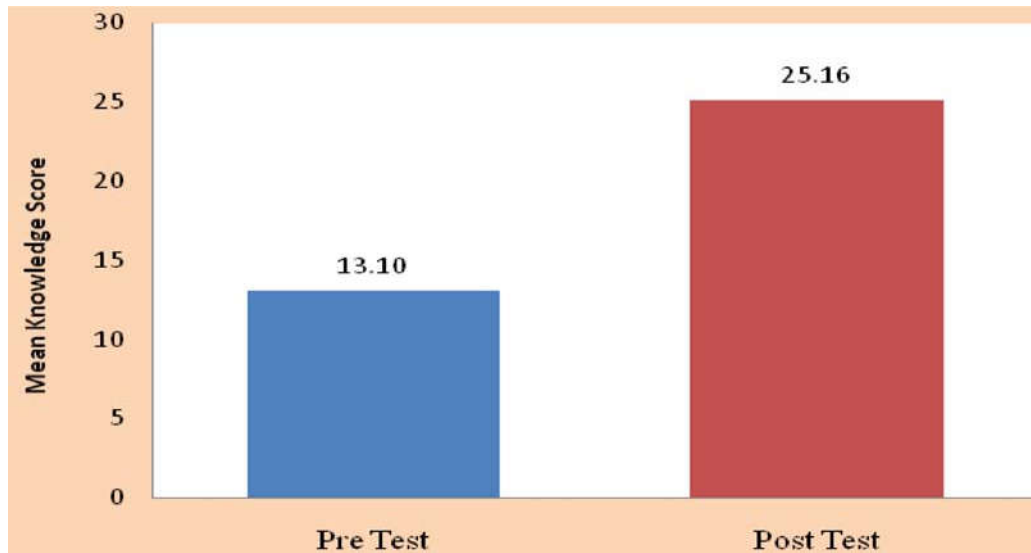
n=60

Grading	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
Excellent	0	0 %	35	58.33 %
Very Good	4	6.67 %	18	30 %
Good	26	43.33 %	7	11.67 %
Average	27	45 %	0	0 %
Poor	3	5 %	0	0 %

Table 3: Table showing effectiveness of self instructional module on knowledge regarding varicose vein among staff nurses working in intensive care unit.

Test	Mean	SD	Mean Difference	Calculated t-value	DF	Table value	p-value
Pre Test	13.10	3.54					
Post Test	25.16	3.74	12.06	30.13	59	2.00	0.002 Highly significant

n=60

Level of significance $p < 0.005$ **Fig. 2:** Bar diagram representing effectiveness of SIM on knowledge regarding varicose vein among staff nurses working in intensive care unit.

Discussion

Vinil Upendra babu, Rajat Singh, Afreen, Deeksha, Govind Kumar, have conducted A Study to assess the effectiveness of information booklet on knowledge regarding varicose vein and its prevention among staff nurses working in hospitals. The research approach for the study was pre experimental. In this study the pre test and post test one group research design was used. Sample size is 30 staff nurses taken from the Rama hospital, Kanpur. Non probability convenient sampling technique was used in which a sample is convenient to investigator with regards to the characteristics required under study. Consent of the samples was taken. The samples were approached in small groups on a daily basis. After getting the consent from the samples demographic data and knowledge were collected with the help of a structured questionnaire. The pretest knowledge on varicose vein was assessed on the first day of data collection then information booklet was given on the same day, after collecting the pre test questionnaire. After 7th day the knowledge was reassessed by the post test on the same sample by using the same tool. The total mean post-test knowledge score (12.6) was

higher than the mean pretest score (8.73). Hence the study was Statistical significant at 0.005 levels. Therefore it is statistically conclude that there was a significant improvement in the knowledge level of staff nurses after the administration of information booklet. So, information booklet is an effective strategy to improve the knowledge among staff nurses.⁹

In above study the total mean post-test knowledge score (12.6) was higher than the mean pretest score (8.73). Similarly in present study the total mean post-test knowledge score (25.16) was higher than the mean pre test score (13.10). So, self instructional module is an effective strategy to improve the knowledge among staff nurses working in intensive care unit.

Dr. Ravindra H.N, Mr. Ashish Thakor, Mr. Kevin Christian, have conducted a study on knowledge regarding risk factor and preventive measures of varicose vein among staff nurses. The setting of the study at Dhiraj general hospitals, waghodia, Vadodara. In this study an evaluative research approach was adopted and non-experimental descriptive research design was used. The non-probability convenience sampling technique was

used. The Majority (73.33 %) of staff nurses belong to the age group of 20-25 years, Majority of staff nurses (46.6%) were having 1-3 years work experience, majority (73.3%) staff nurses are belong from urban area, majority (61.7%) staff nurses are female, majority (73.3%) of staff nurses has studied B.Sc. Nursing. and the majority of the staff nurses (70%) had moderate knowledge, 20 % had adequate knowledge score and 10% had inadequate knowledge regarding risk factor and preventive measures of varicose vein. Hence result concluded that there was no significant association between age, and knowledge, experience and knowledge, residency and knowledge, gender and knowledge, education and knowledge regarding risk factor and preventive measures of varicose vein at 0.05 level of significance.¹⁰

The above study reveals that there is a significant association between education and knowledge regarding risk factor and preventive measures of varicose vein. While in my present study reveals that there is significant association of knowledge score with present work area.

Conclusion:

Thus it was concluded that self instructional module on knowledge regarding varicose veins among staff nurses working in intensive care unit of selected hospitals of the city was found to be effective as a teaching strategy to improve their knowledge. Hence, based on the above cited research findings, it was concluded undoubtedly that the written prepared material by the investigator in the form of self instructional module helped the staff nurses to increase knowledge regarding varicose vein.

Implication of the study:-

The findings of this study have implications for nursing practice, nursing education, nursing administration, and nursing research.

Nursing practice:

- Health care services are an essential component of community health care nursing, the role of the personnel is to conduct and participate in national programme to increase knowledge related to varicose vein among staff nurses.
- It will also help the nurses to keep update knowledge regarding varicose vein
- When professional liability is recognized, it defines the parameters of the profession and the standards of professional conduct. Nurses should therefore enhance their professional knowledge.

- Self instructional module would serve as a ready reference material for the health team members. The information is particularly useful for the nurses for educating the relatives and other health team members the benefits of varicose vein.

Nursing education:

- Nurse who are up to date with the knowledge regarding varicose vein are the better person to impart their knowledge to the nursing student which will ultimately decrease the mortality related to venous diseases.
- Now days, much emphasis is given on comprehensive care in the nursing curriculum. So this study can be used by nursing teachers as an informative illustration for nursing students.
- Self instructional module could help educators to use it as a tool for teaching.
- Students must be given clinical field assignment, in which they must be given opportunity to interact with people and create awareness regarding varicose vein.
- Teacher training programs must also include the varicose vein.

Nursing administration:

- Findings of the study can be used by the Nursing Administrator in creating policies and plans for providing education to the staff nurses and health professionals.
- It would help the nursing administrators to be planned and organized in giving continuing education to the nurses and to others for applying and updating the knowledge regarding varicose vein.
- In-service education must be conducted for the nurses to create awareness regarding varicose vein.

Nursing research:

- The findings of the study have added to the existing body of the knowledge in relation with knowledge of varicose vein which will enhance the knowledge and would help to keep it updated.
- Other researchers may utilize the suggestions and recommendations for conducting further study.
- The tool and technique used has added to the body of knowledge and can be used for further references.

Limitation:-

- The study was conducted only on staff nurses.
- The sample size was small to generalize the findings of the study.
- The study was limited to measure the knowledge of staff nurses in selected hospitals of the city.
- The tool for data collection was prepared by investigator herself. Standardized tool was not used.

Recommendations:-

- A similar study can be replicated on a larger population for a generalization of findings.
- A Study may be conducted to evaluate the effectiveness of planned teaching programme on knowledge regarding varicose vein.
- A similar study can be carried out to evaluate the effectiveness of video assisted teaching programme on knowledge regarding varicose vein.
- A descriptive study can be carried out to assess the prevalence of varicose vein among staff nurses working in intensive care unit.
- A descriptive study can be carried out to assess the prevalence of varicose vein among staff nurses working in operation theatre.

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