

A Study to Assess the Effectiveness of An Information Booklet on Knowledge regarding Varicose Veins and its Contributing Factors among ICU Nurses in Selected Hospital of Guwahati, Assam

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Abstract: A pre-experimental study has undertaken to assess the effectiveness of information booklet on knowledge regarding varicose veins and its contributing factors among ICU nurses. The study was conducted by using self-structured questionnaire among 65 ICU nurses by using non-probability convenience sampling technique. The findings reveal that, in pre-test knowledge score majority 63.1% of participants had moderately adequate knowledge and 36.9% of participants had adequate knowledge. Post-test knowledge score was 84.6% of participants had adequate knowledge and 15.4% of participants had moderately adequate knowledge. The Mean pre-test knowledge score was 20.12 and SD was 2.503 and mean post-test knowledge score was 25.09 and SD was 4.231 with paired “t” value 7.644. So the post mean score was highly significant than pre mean knowledge score of ICU nurses. Effectiveness of information was highly significant at the level of $p < 0.001$ level. The chi-square value computed for pre-test knowledge score and with some demographic variables like age, professional education, doing regular exercise, BMI which were significant at 0.05 level.

Keywords: Effectiveness, Information booklet, Varicose veins, ICU nurses

1. Introduction

Varicose veins are one of the chief preventable diseases which are associated with the veins. It is a serious disease, which poses threat to life of patient when effective and efficient measures are not taken. The term varicose derives from the Latin word ‘varix’, which means twisted. A varicose vein is usually tortuous and dilated. Under normal circumstances, blood collected from superficial venous capillaries is directed upward and inward via one-way valves into superficial veins. Many research articles in vascular disease showed, 15-20% of the population in India is suffering from varicose veins. Women suffer this disease four times more than men. A lot of occupations have sprung up where people are required to either prolong standing or sitting for a considerable time are more prone to get varicose veins. An analysis of occupation in varicose veins patients has shown that the incidence was greater (67 %) in people whose occupations involved prolonged standing and walking.

2. Literature Survey

Varicose veins are part of the spectrum of chronic venous disease. Current statistics reveal that nearly 2.7 million people worldwide, suffer from varicosities and the toll is ever increasing. Where India is concerned, experts are witnessing a growing prevalence of varicosities especially among women. Nearly, 20 per cent-15 per cent of women and 10 per cent-15 per cent of men suffer from varicose veins in India. The prevalence increases with age, peaking 50s and 60s and decreasing dramatically after 70s. It is

highly prevalent in people with prolonged standing and obesity. Especially common among teachers, nurses, shop workers, school supervisors, train drivers, engineers and traffic policeman all reported standing related health problems experienced varicose veins.

Problem Definition:

- **Assess:** In this study, assess refers to evaluate or estimate the knowledge regarding varicose veins and its contributing factors.
- **Effectiveness:** In this study, Effectiveness refers to the capability of producing desired result by adopting the information booklet regarding varicose veins and its contributing factors among ICU nurse.
- **Information booklet:** In this study, information booklet refers to a thin book design to help ICU nurses to understand important points regarding varicose veins which include definition, causes, clinical manifestation, diagnostic measures, management and its prevention.
- **Knowledge:** In this study, knowledge refers to the ideas expressed by ICU nurses regarding varicose veins and its contributing factors.
- **Varicose veins:** In this study, varicose veins refer to the veins that becomes enlarged, dilated and overfilled with blood.
- **ICU nurses:** In this study, ICU nurses refers to the registered nurses that are focus on the utmost care of the critically ill or unstable patients following extensive injury, surgery or life threatening diseases in intensive care setting.

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3. Methods/Approach

Research design: A research design is the framework or guide used for planning, implementation and analysis of a study.

Pre-experimental one group pre-test post-test design will be used for this study.

Schematic representation of research design:

Group	Pre-test	Intervention	Post-test
Study Group	O1	X	O2

Keys

- O1-Pre-test on knowledge regarding Varicose veins and its contributing factors.
- X: Intervention-Providing Information booklet regarding varicose veins and its contributing factors among ICU nurses in selected hospital of Guwahati, Assam.
- O2-Post-test knowledge regarding varicose veins and its contributing factors.

Setting of the study: This study was conducted in Narayana Multispeciality Hospital, Amingaon, Guwahati.

Target Population: The target population of the study comprises of all the ICU nurses working in Hospitals of Guwahati.

Accessible population: The accessible population of the study comprises of all the nurses of Narayana Multispeciality Hospital.

Sample size: The sample size consists of 65 ICU nurses in selected hospital of Guwahati, Assam.

Sampling Technique: Non-probability, convenience sampling technique

Criteria for sample selection:

Inclusion Criteria

- The ICU nurses who are available during the time of data collection
- The ICU nurses who are willing to take part in the research study.

Exclusion Criteria

- The ICU nurses who are on leave.
- The ICU nurses who does not shows interested towards the research study.

Variables:

- **Independent Variable:** In this study, the independent variable is an information booklet.
- **Dependent Variable:** In this study, dependent variable is knowledge of ICU nurses regarding varicose veins and its contributing factors.

Development of the tool: A research instrument is a device used to measure the concept of interest in a research project that a researcher uses to collect data. Based on the objectives of the study, tools were developed in order to generate data.

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The following sources were used for the development of questionnaire:

- Review of Literature
- Consultation and discussion with nursing experts.
- Personal experience and discussion with colleagues.

Description of the tool: Based on the objectives of the study, the following tool was developed to generate the data. The tool consists of the following section:

Section A: Demographic Data

It consists of demographic data which gives base line information of the nurses including age, gender, professional education, years of working experience in critical care unit, duration of duty per day, family history of varicose veins, doing regular exercise, height, weight, BMI.

Section B: Self-structured questionnaire on knowledge regarding varicose veins and its contributing factors.

It consists of self-structured questionnaire to assess the knowledge regarding varicose veins and its contributing factors in selected hospital of Guwahati, Assam This section consist of 30 items (MCQs) regarding varicose veins and its contributing factors. The self-structured questionnaire covers the area of definition, causes, clinical manifestations, diagnostic evaluation, management and its prevention regarding varicose veins.

The answer was interpreted by the investigator. For each question four options was given and only one correct answer. For each correct answer score is one (1) and for each wrong answer score is zero (0). In this study highest score is 30 and the lowest is 0. Thus scoring for each classification was done according to Mean± Standard deviation. Scores were allotted as follows:

Level of knowledge

> (Mean+ Standard deviation) = Adequate level of knowledge

(Mean + Standard deviation) to (Mean-Standard deviation)= Moderately adequate level of knowledge

< (Mean - Standard deviation)= Inadequate level of knowledge

4. Results/ Discussion

Hypotheses of the study:

Hypothesis was tested at 0.05 level of statistical significance.

- H₁: there is a significant difference in mean pre-test and mean post-test level of knowledge regarding varicose veins and its contributing factors among ICU nurses.
- H₂: there is significant association between knowledge regarding varicose veins and its contributing factors with selected demographic variables.

Presentation of data: The data was presented under the following headings:

Section I: Distribution of demographic characteristics of ICU nurses.

Section II: Distribution of pre-test and post-test knowledge of varicose veins and its contributing factors among ICU nurses

Section III: Effectiveness of an information booklet regarding varicose veins and its contributing factors among ICU nurses.

Section IV: Association between the pre-test knowledge regarding varicose veins and its contributing factors with selected demographic variables among ICU nurses.

Section I: Distribution of demographic characteristics of ICU nurses.

This section deals with the sample characteristics including age, gender, professional education, experience in critical care unit of ICU nurses, duty hours per day, family history of varicose veins, doing regular exercise, BMI. The data on sample characteristics were analysed by calculating descriptive statistics and presented in terms of percentage. Percentage distribution with respect to age, majority 50.8% of participants were in age group of 26-30 years, 30.8% of participants were in age group of 21-25 years and 18.4% of participants were in age group of 31-35 years respectively. Percentage distribution with respect to gender, majority 78.5% of participants were female and 21.5% were male respectively. Percentage distribution with respect to professional education, majority 67.7% of participants had professional education of degree in nursing and 32.3% of participants had professional education of diploma in nursing respectively. Percentage distribution with respect to years of working experience in critical care unit, majority 70.8% of participants had working experience in critical care unit for 0-5 years, 16.9% of participants had working experience in critical care unit for 6-10 years and 12.3% of participants had working experience in critical care unit for more than 10

years respectively. Percentage distribution with respect to duty hours per day majority 83.1% of participants had 6 hours duty hour per day and 16.9% of participants had 8 hours duty per day respectively. Percentage distribution with respect family history to varicose veins, majority 84.6% of participants had no family history of varicose vein and 15.4% of participants had family history of varicose veins respectively. Percentage distribution with respect to doing regular exercise, majority 66.2% of participants were not doing regular exercise and 33.8% of participants were doing regular exercise respectively. Percentage distribution with respect to BMI, majority 77% of participants BMI were normal, 13.8% of participants BMI were overweight and 9.2% of participants BMI were underweight respectively.

Section II: Distribution of pre-test and post-test knowledge of varicose veins and its contributing factors among ICU nurses.

Knowledge level of 65 ICU nurses was assessed by using self-structured questionnaire by using descriptive statistics and presented in the terms of table form.

Table-1 depicts the percentage distribution of pre-test knowledge on varicose veins and its contributing factors among ICU nurses. Results revealed that in pre-test majority 63.1% of participants had moderate knowledge and 36.9% of participants had adequate knowledge.

Table-2 depicts the percentage distribution of post-test knowledge of varicose veins and its contributing factors among ICU nurses. Results revealed that in post-test 84.6% of participants had adequate knowledge and 15.4% of participants had moderate knowledge regarding varicose veins and its contributing factors.

Table 1: Distribution of pre-test knowledge on varicose veins and its contributing factors among ICU nurses

Pre-test level of knowledge	Range	Frequency (f)	Percentage (%)	Mean	SD
Inadequate knowledge	0-17	0	0	20.12	2.503
Moderately adequate knowledge	18-22	41	63.1		
Adequate knowledge	23-30	24	36.9		

Table 2: Distribution of post-test knowledge on varicose veins and its contributing factors among ICU nurses, n=65

Pre-test level of knowledge	Range	Frequency (f)	Percentage (%)	Mean	SD
Inadequate knowledge	0-21	0	0	25.09	4.231
Moderately adequate knowledge	22-28	10	15.4		
Adequate knowledge	29-30	55	84.6		

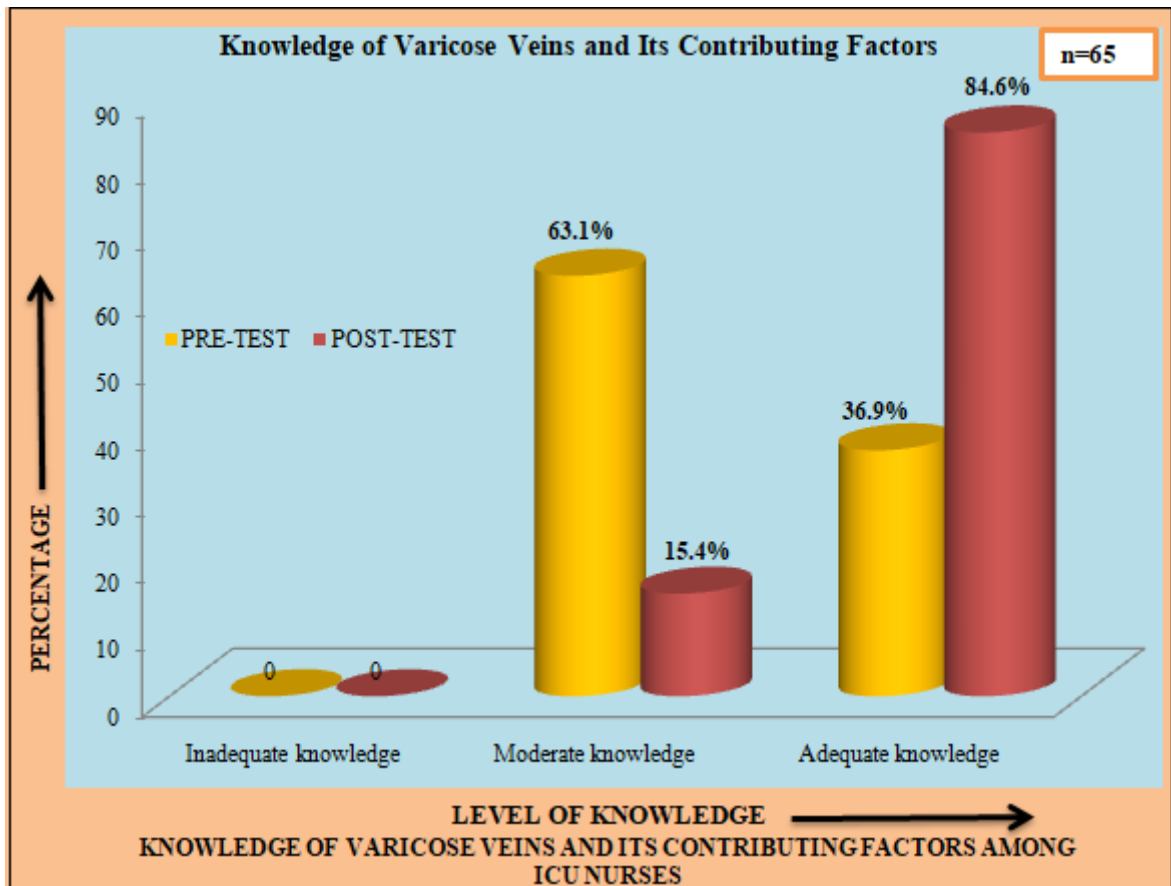


Figure 1: Cylindrical diagram showing percentage distribution of pre-test and post-test knowledge of varicose veins and its contributing factors among ICU nurses

Section III: Effectiveness of an information booklet regarding varicose veins and its contributing factors among ICU nurses.

Table 3: Paired “t” value of pre-test and post-test knowledge score of ICU nurses

Comparison	Mean	SD	Mean Difference	t value	p value	df	Remarks
Pre-Score	20.12	2.503	4.97	7.644	<0.001	64	S
Post-Score	25.09	4.231					

The pre-mean score was 20.12 and the post mean score was 25.09 and standard deviation of pre score was 2.503 and standard deviation of post score was 1.840 with paired “t” value 7.644. So the post mean score was highly significant than pre-mean knowledge score of ICU nurses. Effectiveness of an information booklet was highly significant at the level

of $p < 0.001$ level. Thus the research Hypothesis (H_1) was accepted.

Section IV: Association between the pre-test knowledge regarding varicose veins and its contributing factors with selected demographic variables among ICU nurses.

Table 4: Association between the pre-test knowledge score with selected demographic variables, n=65

Demography	Sub group	Pre-test knowledge level		Total	Chi-Square	df	T-value	Remarks
		Moderately adequate	Adequate					
Age in years	21-25 years	16	4	20	7.022	2	5.99	S
	26-30 years	21	12	33				
	31-35 years	4	8	12				
Gender	Male	10	4	14	0.534	1	3.84	NS
	Female	31	20	51				
Professional Education	Diploma in nursing	17	4	21	4.256	1	3.84	S
	Degree in nursing	24	20	44				
Years of Working experience	0-5 years	29	17	46	1.027	2	5.99	NS
	6-10 years	8	3	11				
	More than 10 years	4	4	8				
Duration of duty hours per day	6 hours	33	21	54	0.529	1	3.84	NS
	8hours	8	3	11				
Family history of Varicose veins	Yes	7	3	10	0.243	1	3.84	NS
	No	34	21	55				

Doing regular exercise	Yes	19	3	22	7.743	1	3.84	S
	No	22	21	43				
BMI	Under weight	6	0	6	6.949	2	5.99	S
	Normal	32	18	50				
	Overweight	3	6	9				
TOTAL		41	24	65				

The data in the table shows the chi-square value computed for pre-test knowledge score and with some demographic variables. Age, professional education, doing regular exercise, BMI were statistically found significant association at $p < 0.05$ level. Therefore, H_2 is accepted.

Similar study was done by **Devi S (2016)** conducted a study to assess the effectiveness of video assisted teaching programme on knowledge regarding prevention and management of varicose veins among nurses working in critical care unit at PSG hospitals in Coimbatore.

The result of the study revealed that in pre-test majority 63.1% of participants had moderate knowledge and 36.9% of participants had adequate knowledge. While in post-test 84.6% of participants had adequate knowledge and 15.4% of participants had moderate knowledge regarding varicose veins and its contributing factors. The study was supported by a relative study conducted by **Tauro PV, D'Souza V, Kuriakose A (2015)** conducted a descriptive study to assess the knowledge regarding risk factors and preventive measures of varicose veins among staff nurses of selected hospitals at Mangaluru with a view to develop an information booklet. The study was conducted in Yenepoya medical college hospital, Mangaluru. The study shows that the knowledge on prevention and management of varicose veins among nurses shows improvement in post test. Among 100 samples majority of the subjects (61%) were having good knowledge regarding varicose vein, followed by 26% having average knowledge, and 10% were having very good knowledge. The mean percentage of overall level of knowledge was 59.64%.

5. Conclusion

The present study to assess the effectiveness of an information booklet on knowledge regarding varicose veins and its contributing factors among ICU nurses in selected hospital of Guwahati, Assam revealed that in pre-test, majority 63.1% of participants had moderate knowledge and 36.9% of participants had adequate knowledge. While in post-test 84.6% of participants had adequate knowledge and 15.4% of participants had moderate knowledge regarding varicose veins and its contributing factors. Also, the study shows the an information booklet was effective as Mean pre-test knowledge score was 20.12, $SD=2.503$ and mean post-test knowledge score was 25.0, $SD=4.231$. There was also association between the pre-test knowledge about varicose veins and its contributing factors with selected demographic variables like age, professional education, doing regular exercise, BMI.

6. Future Scope

- A study can be conducted to assess the prevalence of varicose veins among various profession.

- A study can be conducted to assess the impact of varicose vein on quality of life to those profession that has to stand for several hours like teachers, traffic police, security guards etc.
- An experimental study can be conducted to establish the effectiveness of structured teaching program on varicose vein.
- A comparative studies can be carried out among ICU nurses and general ward nurses.

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