

An Evaluate the Effectiveness of Information Booklet on Knowledge regarding Varicose Veins and it's Prevention among Health Care Workers Working in Selected Area of Hospitals

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Abstract: ***Background:** Varicose veins are common in the superficial veins of the legs which are subjects to high pressure when standing. Accumulation of more and more venous blood in the superficial venous system makes the superficial veins dilated and tortuous. **Objectives:** 1) To assess the existing knowledge regarding varicose veins and its prevention among health care workers working in selected areas of selected hospitals. 2) To assess the pre - test and post - test knowledge scores to find out the effectiveness of information booklet. 3) To find out the association between the pre - test knowledge scores with selected demographic variables. **Method:** A study was conducted at selected areas of the selected hospitals to assess the effectiveness of information booklet on knowledge regarding varicose veins and its prevention among health care workers. The 60 samples was selected by using non - probability purposive sampling technique. The socio demographic data was collected by using structured knowledge questionnaire method on age, gender, weight in kg, Duty hours, Years of experience. The design selected was one group pre - test post-test design. **Result:** For the variables age in year, gender, weight in kg, duty hours, years of experience, the p value of the association test with knowledge was more than 0.05. concludes that, there was no significant association except years of experience of these demographic variables with the knowledge. The pre - test average score was 9.55 with standard deviation of 2.70. The post - test average score was 18.36 with standard deviation of 1.63. The test statistical value of the paired 't' test was 38.78 with p value 0.000 which is less than 0.05, hence null hypothesis (H_0) is rejected and H_1 is accepted. That means there is significant difference in pre - test and post - test knowledge scores. **Conclusion:** Thus study concludes that, information booklet on knowledge regarding varicose veins and its prevention among health care workers working at selected hospitals was effective.*

Keywords: Assess, Effectiveness, Knowledge, Varicose Veins, Information Booklet, Health Care Workers

1. Introduction

Health is the level of functional or metabolic efficiency of a living being. Health is deeply related to lifestyle.¹Varicose veins are twisted, enlarged veins, often dark blue in colour, near to or raised above the surface of the skin mainly seen in the lower limbs they are called varicose vein.³ Professions involving standing for prolonged periods of time have an increased risk of developing varicose veins.⁴ Varicose veins occur when the veins become distended or swollen and the valves in which blood moves to the heart cannot close properly and starts to leak. Blood which should have been pushed back up to the heart leaks downward, pooling in the lower extremities of the body and causing the veins to bulge.⁵ Standing and sitting is a natural human posture. Millions of workers spend majority of the working day on their feet and many hours in standing positions.

Standing uses 20% more energy than sitting and because human bodies are not designed to stand continuously at work, prolonged standing, can lead to tiredness, loss of concentration and increased health risks. Hospital employees working in a standing position on a regular basis will have health risks include sore feet, swelling of feet and legs, general muscular fatigue, low back pain, stiffness in the neck and shoulders, feet and joint damage, varicose veins,

heart and circulatory disorders, lower back problems and pregnancy complications. These common complaints among hospital staff as specially staff nurses whose jobs require prolonged standing.⁶

One of the most common conditions of venous disease in the legs are varicose veins. As per American Society for Vascular Surgery, at least 20 to 25 million Americans have varicose veins. In developed countries, the prevalence of chronic venous disease is about 40 to 60% in females and 15 to 30% in males, and the annual incidence is 2.6% in women and 1.9% in men. The prevalence of varicose veins varies from 2% to 56% in men and 1% to 60% in women. In most countries half of the adult population shows signs of venous diseases that are considered to be disfiguring (women 50 % - 55%, men 40% - 50%).¹

2. Statement of the Problem

An evaluate the effectiveness of information booklet on knowledge regarding varicose veins and it's prevention among health care workers working in selected areas of hospitals.

3. Objectives of the Study

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- 1) To assess the existing knowledge regarding varicose veins and its prevention among health care workers working in selected areas of selected hospitals.
- 2) To assess the pre - test and post - test knowledge scores to find out the effectiveness of information booklet.
- 3) To find out the association between the pre - test knowledge scores with selected demographic variables.

Hypothesis

H₀ – There will be no significant difference in the pre - test and post - test knowledge scores regarding varicose veins and its prevention among health care workers working in selected areas of selected hospitals.

H₁ - There will be significant difference in the pre - test and post - test knowledge scores regarding varicose veins and its prevention among health workers working in selected areas of selected hospitals.

H₂ - There will be significant association between pre - test knowledge scores with selected demographic variables.

4. Methodology

Research approach: Quantitative research approach

Research design: One group pre - test post–test design.

Setting of the study: Wanless Hospital Miraj, Synergy Multispecialty Hospital Miraj, Mahatma Gandhi Cancer Hospital Miraj.

Research variables

- 1) **Dependent variable:** In this study, knowledge regarding varicose veins and its prevention among health care workers was dependent variable.
- 2) **Independent variable:** In this study, effectiveness of Information booklet.

Demographic variables: This included Age, Gender, Weight in kg, Duty hours, Years of experience.

Target Population: In present study, the target population is health care workers.

Accessible Population: In the present study, the accessible population is health care workers working in selected areas of selected hospitals.

Sample Size: The sample size of present study was 60 subjects of health care workers of selected areas of selected hospitals.

Sampling Technique:

In this study, non - probability purposive sampling technique was adopted to select the subjects. Purposive sampling is a non - probability sampling where subjects are selected to be part of the sample with specific purpose in mind and the researcher believes that some subjects are fit for research compared to other individuals.

Criteria for Samples Selection:

1) Inclusion Criteria

- a) Health care workers includes OT assistants and housekeeping staff working in selected ICUs and OT.
- b) Those who are able to read, write and understand English and Marathi.

2) Exclusion Criteria

- a) Those who are not willing to participate in the study.
- b) Those who have varicosity.
- c) Those who are not available at the time of data collection.

Development of Tool:

The tool was developed by the researcher with references of books, review of literature, under the guidance of researcher. In this study the tool was prepared on the basis of the objectives of the study. Development of the tool is based on the following headings.

- 1) Literature review related to studies of knowledge and prevalence of varicose veins and its contributing factors.
- 2) Opinion of different experts
- 3) Personal experience of the investigator also taken into consideration.

Preparation of the Tool:

The tool consists of two sections,

Section A - Demographic data - It includes Age, Gender, Weight in kg, Duty hours, Years of experience.

Section B – Structured Knowledge Questionnaire.

Reliability:

The reliability of the tool was obtained by using Karl Pearson's correlation coefficient formula. The calculated r value of knowledge was = 0.94 which is reliable. Hence, the tool for the research study was considered reliable.

Data Collection Procedure

The present study was conducted in Wanless Hospital Miraj, Synergy Multispecialty Hospital Miraj, Mahatma Gandhi Cancer Hospital Miraj. Samples who met the inclusion criteria were selected by using the purposive sampling techniques for the study. Data was collected using Structured knowledge Questionnaire. Permission was obtained from institutional ethical committee and from the concerned authorities. Subjects was selected according to the selection criteria of the study. Informed consent was obtained from the subjects. The data was collected as per the objective of the study. Pre - test was conducted using structured knowledge questionnaire followed by administration of information booklet prepared by investigator. Post - test was conducted after 7 days using same tool. Data was analysed and interpreted.

Planfordata analysis:

The data obtained was tabulated and analyzed in terms of the objectives of the study by using the appropriate descriptive and inferential statistics.

Ethical consideration:

The study was approved by research committee of the institution. Assurance was given to the subjects that anonymity of each individual would be maintained.

5. Result

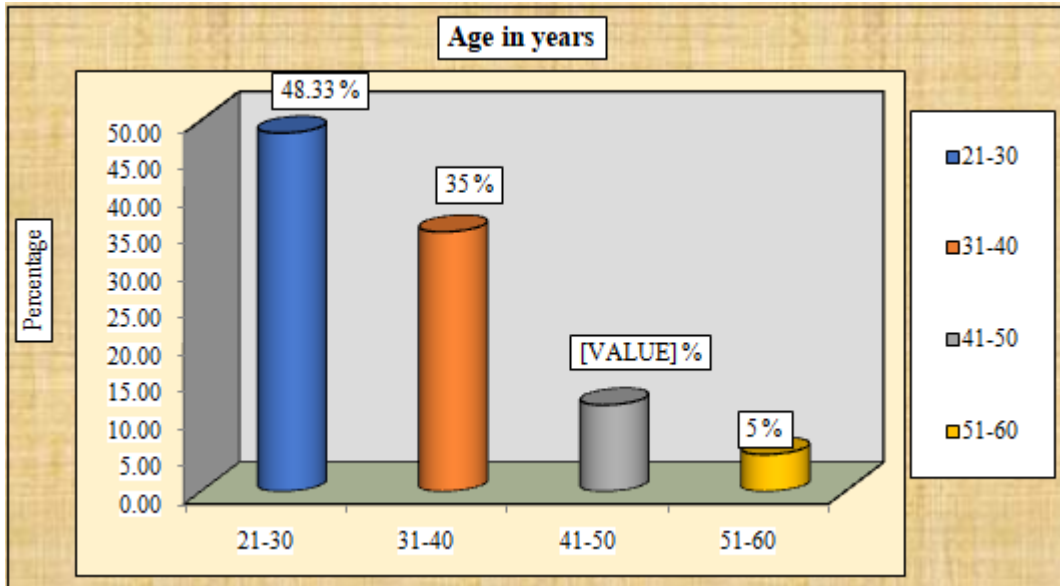
Section I

Analysis related to demographic data of the health care workers working at selected hospitals in terms of frequency and percentage.

Table 1: Frequency and percentage distribution of health care workers according to demographic variables, n = 60

Sr. No.	Variable	Groups	Frequency (f)	Percentage (%)
1	Age (in years)	21 - 30	29	48.33
		31 - 40	21	35.00
		41 - 50	7	11.67
		51 - 60	3	5.00

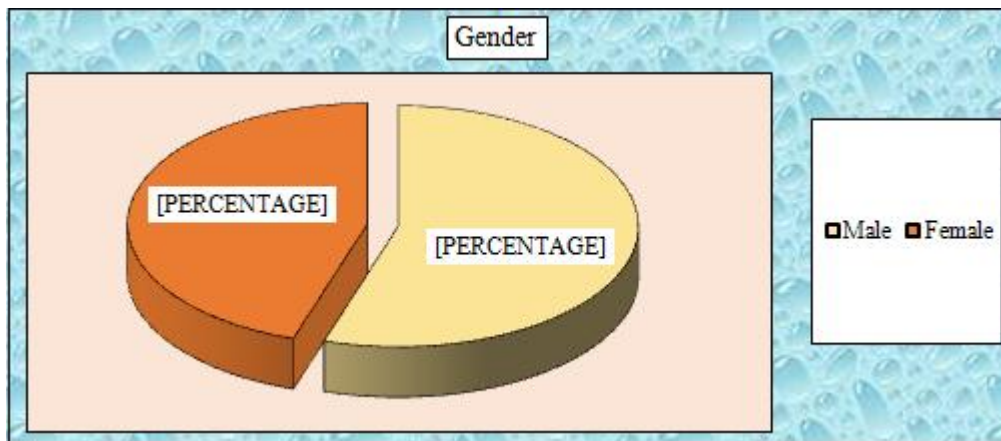
2	Gender	Male	33	55.00
		Female	27	45.00
3	Weight (in Kg)	41 - 50	13	21.67
		51 - 60	20	33.33
		61 - 70	17	28.33
		above 70	10	16.67
4	Duty Hours	6 Hours	4	6.67
		8 Hours	48	80.00
		12 Hours	8	13.33
5	Years of Experience	below 5	31	51.67
		6 - 10.	19	31.67
		11 - 15.	6	10.00
		above 15	4	6.67



Graph 1: Cylindrical bar graph showing frequency and percentage wise distribution of Health care workers according to Age

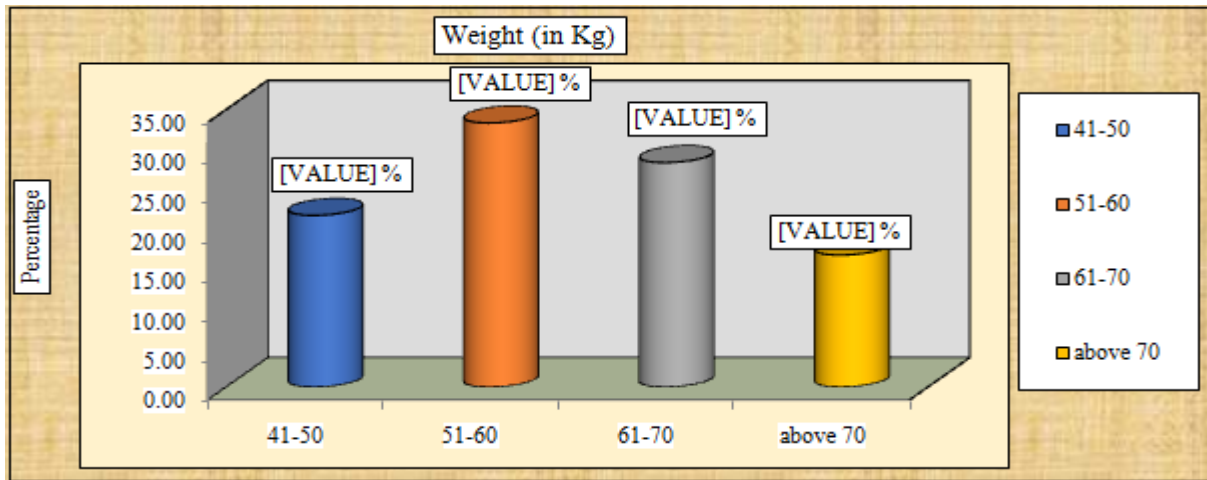
The above cylindrical bar graph shows that, according to age, majority of them, 29 (48.33%) health care workers were in the age group between 21 - 30 years, 21 (35%) were

between 31 - 40 years, 7 (11.67%) were between 41 - 50 years and 3 (5%) in between 51 - 60 years.



Graph 2: Pie graph showing frequency and percentage wise distribution of Health care workers according to gender

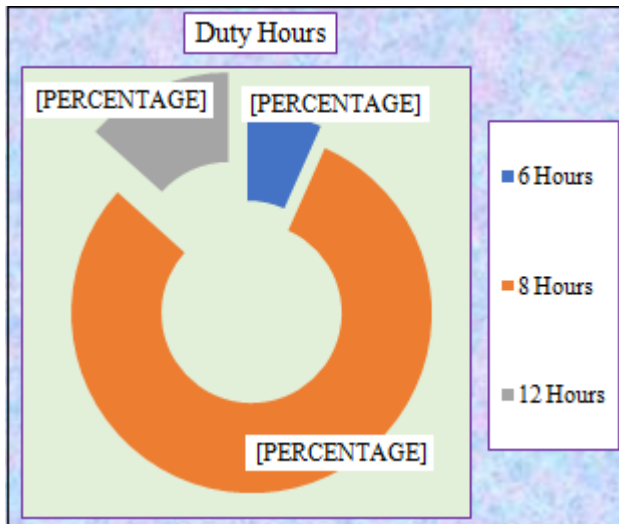
The above, pie graph shows that, according to gender, majority of health care workers 33 (55%) were males and 27 (45%) were females.



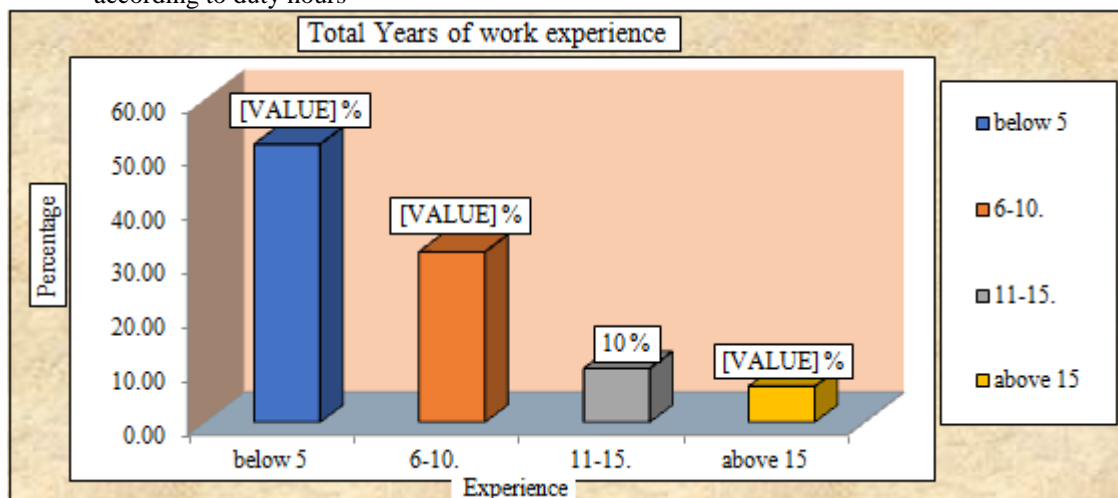
Graph 3: Cylindrical bar graph showing frequency and percentage wise distribution of health care workers according to weight

The above, cylindrical bar graph shows that, according to weight in Kg, majority of health care workers, 20 (33.33%) had weight in 51 - 60 Kg, 17 (28.33%) had weight in 61 - 70 Kg, 13 (21.67%) had weight in 41 - 50 Kg, and 10 (16.67%) had weight above 70 Kg.

The above Doughnut graph shows that, according to duty hours, majority of health care workers, 48 (80%) of them worked for 8 hours, 8 (13.33%) of them worked for 12 hours and 4 (6.67%) of them worked for 6 hours.



Graph 4: Doughnut graph showing frequency and percentage wise distribution of health care workers according to duty hours



Graph 5: Square diagram showing frequency and percentage wise distribution of health care workers according to total years of work experience

The above square graph shows that, according to years of work of experience, majority of health care workers, 31 (51.67%) were working since less than 5 years, 19 (31.67%) were working since 6 - 10 years, 6 (10%) were working since 11 - 15 years and 4 (6.67%) were working more than 15 years.

Section II

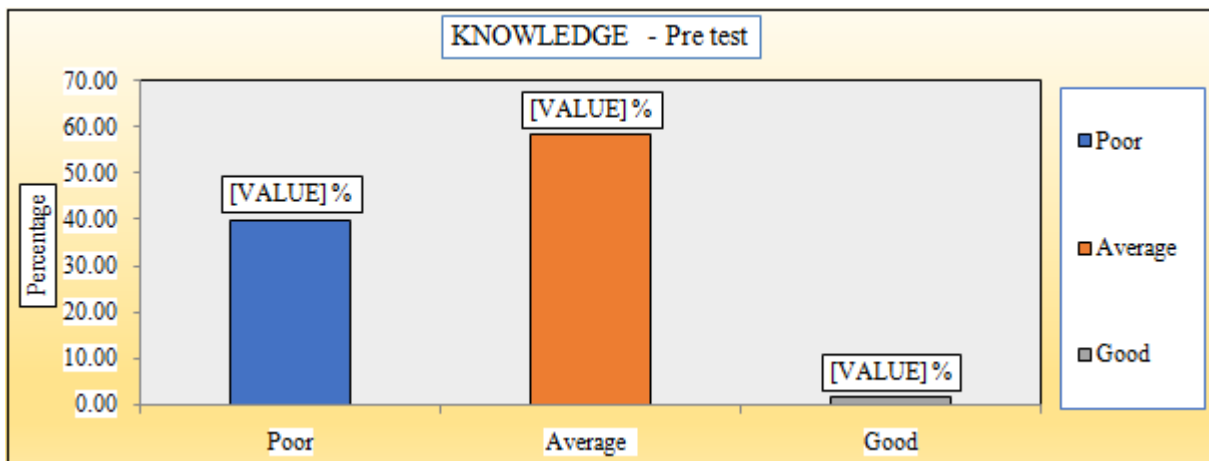
Analysis of data related to assessment of knowledge regarding varicose veins and its prevention among health care workers working at selected hospitals in terms of frequency and percentage.

Table 2: Frequency and percentage wise pre - test Knowledge score of varicose veins among health care workers, n =60

Variable	Groups	Score	Pre - Test	
			Frequency (f)	Percentage (%)
Knowledge	Poor	0 - 8	24	40.00
	Average	9 - 16.	35	58.33
	Good	17 - 25	1	1.67
		Minimum	3	
		Maximum	17	
		Average (SD)	9.55 (2.70)	

Above table and below simple bar graph shows that, at the time of pre - test, assessment of the knowledge scores, majority of 35 (58.33%) had average knowledge 24 (40%) of them had poor knowledge, and 1 (1.67%) had good knowledge regarding varicose veins and its prevention.

Average knowledge score at the time of pre - test was 9.55 with standard deviation of 2.70. The minimum score of knowledge was 3 with maximum score of 17.



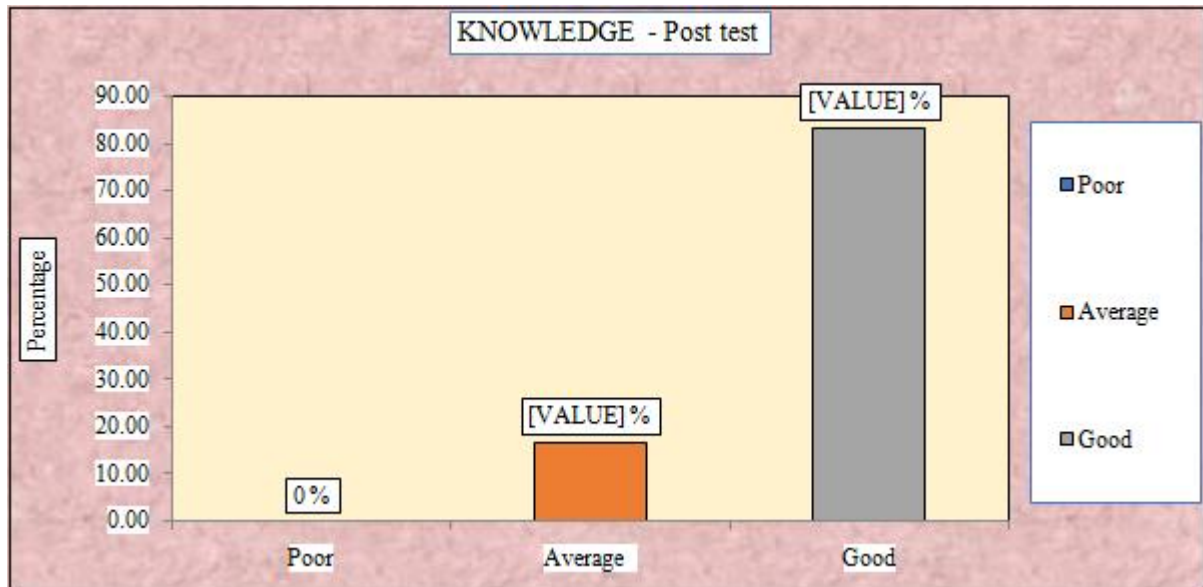
Graph 6: Simple bar showing pre - test Knowledge score of varicose veins among health care workers

Table 3: Frequency and percentage wise Post - test Knowledge score of varicose veins among health care workers, n =60

Variable	Groups	Score	Post Test	
			Frequency (f)	Percentage (%)
Knowledge	Poor	0 - 8	0	0.00
	Average	9 - 16.	10	16.67
	Good	17 - 25	50	83.33
		Minimum	15	
		Maximum	22	
		Average (SD)	18.36 (1.63)	

Above table and below simple bar diagram shows that, at the time of post - test, assessment of the knowledge scores, majority of 50 (83.33%) had good knowledge, 10 (16.67%) had average knowledge and no one of them (0%) had poor knowledge regarding varicose veins and its prevention.

Average knowledge score at the time of post - test was 18.36 with standard deviation of 1.63. The minimum score of knowledge was 15 with maximum score of 22.



Graph 7: Simple bar showing post - test Knowledge score of varicose veins among health care workers

Section III

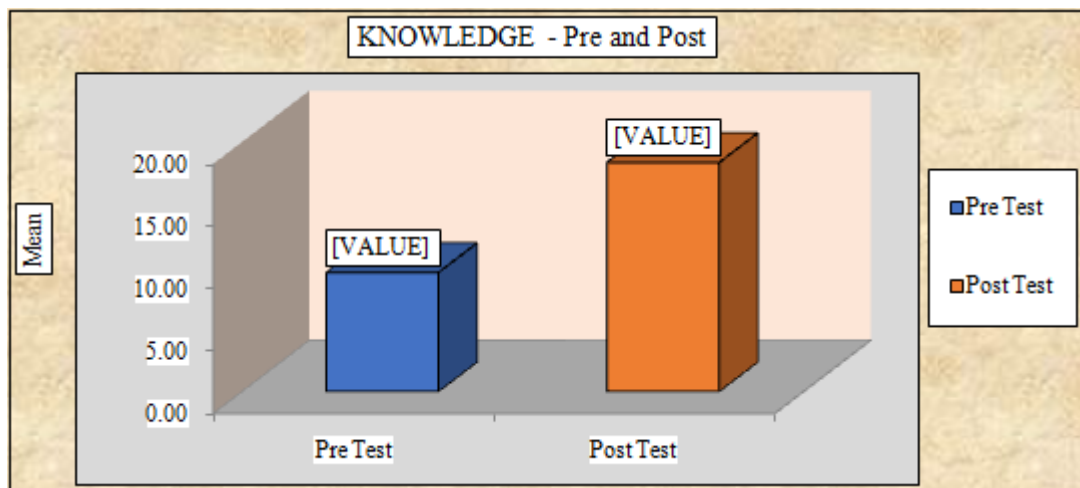
Analysis of the data related to the comparison of pre - test and post - test on knowledge regarding varicose veins and its prevention among health care workers working at selected hospitals.

The above table and below bar graph shows that, comparisons of the pre - test and post - test means of the knowledge were done by the paired 't' test. The test was conducted at 5% level of significance.

Table No.4: Mean and standard deviation of comparison of the pre - test and post - test Knowledge scores, n =60

Group	Frequency	Mean	S. D.	t value	P value
Pre - Test	60	9.55	2.70	38.78	0.000
Post Test	60	18.36	1.63		

The pre - test average score was 9.55 with standard deviation of 2.70. The post - test average score was 18.36 with standard deviation of 1.63. The test statistical value of the paired 't' test was 38.78 with p value 0.000 which is less than 0.05, hence null hypothesis (H_0) is rejected and H_1 is accepted. That means there is significant difference in pre - test and post - test knowledge scores.



Graph 8: Simple bar graph showing comparison of the pre - test and post - test knowledge scores

Section IV

Analysis of data related to pre - test and post - test knowledge score regarding effectiveness of information booklet on knowledge regarding varicose veins and its prevention among health care workers working at selected hospitals.

Table 5: Frequency and percentage wise Effectiveness of information booklet of varicose veins regarding health care workers, n =60

Variable	Groups	Score	Pre - Test		Post - Test	
			Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Knowledge	Poor	0 - 8	24	40.00	0	0.00
	Average	9 - 16.	35	58.33	10	16.67

Good	17 - 25	1	1.67	50	83.33
Minimum		3		15	
Maximum		17		22	
Average (SD)		9.55 (2.70)		18.36 (1.63)	

The above table and below bar graph showing that, at the time of pre - test assessment of the knowledge scores majority of 35 (58.33%) had average knowledge, 24 (40%) of them had poor knowledge, and 1 (1.67%) had good knowledge regarding varicose veins and its prevention.

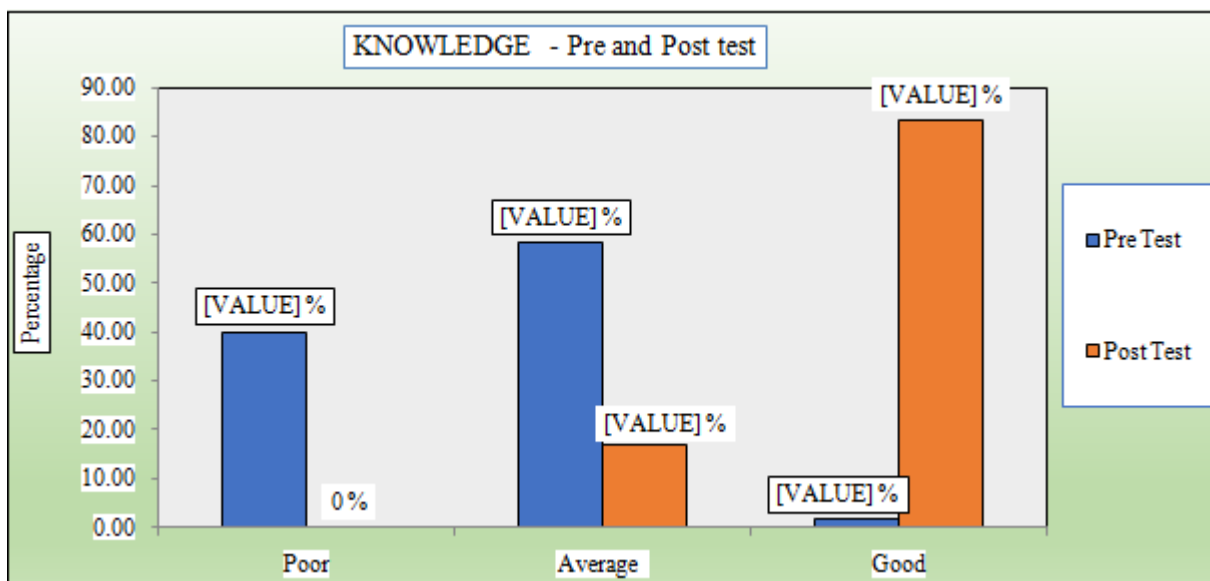
Average knowledge score at the time of pre - test was 9.55 with standard deviation of 2.70. The minimum score of knowledge was 3 with maximum score of 17.

At the time of post - test, assessment of the knowledge score majority of 50 (83.33%) had good knowledge, 10 (16.67%)

had average knowledge and no one of them (0%) had poor knowledge regarding varicose veins and its prevention.

Average knowledge score at the time of post - test was 18.36 with standard deviation of 1.63. The minimum score of knowledge was 15 with maximum score of 22.

Findings concluded that, information booklet on knowledge regarding varicose veins and its prevention among health care workers working at selected hospitals was effective.



Graph 9: Multiple bar graph showing Effectiveness of information booklet of varicose veins

Section V

Analysis of data related to association between pre - test knowledge scores regarding varicose veins and its prevention among health care workers working at selected hospitals with selected socio demographic variables.

Association between knowledge scores with demographic variables

Table 6: Chi square test Association of pre - test Knowledge scores with demographic variables, n =60

Sr. No.	Variable	Groups	Knowledge		Chi Square x ²	d. f.	p Value	Significance
			Below Md	Above Md				
1	Age (in years)	21 - 30	17	12	2.46	3	0.48	NS
		31 - 40	8	13				
		41 - 50	4	3				
		51 - 60	2	1				
2	Gender	Male	18	15	0.24	1	0.62	NS
		Female	13	14				
3	Weight (in Kg)	41 - 50	5	8	2.88	3	0.41	NS
		51 - 60	13	7				
		61 - 70	9	8				
		above 70	4	6				
4	Duty Hours	6 Hours	2	2	0.434	2	0.81	NS
		8 Hours	24	24				
		12 Hours	8	3				
5	Years of Experience	below 5	19	12	8.76	3	0.033	S
		6 - 10.	6	13				
		11 - 15.	2	4				
		above 15	4	0				

Key – NS - Not Significant; S – Significant

The above table no.6 shows that, the chi square test was conducted to see the association of knowledge regarding health care workers at selected hospitals with view to develop an information booklet for all the demographic variables age in year, gender, weight in kg, duty hours, years of experience, the p value of the association test with knowledge was more than 0.05. That means, the knowledge of health care workers regarding varicose veins and its prevention was not associated with these demographic variables.

Finding concluded that, there was no significant association except years of experience of these demographic variables with the knowledge.

6. Nursing Implications

The present study was conducted to assess the effectiveness of information booklet on knowledge regarding varicose veins and its prevention among health care workers. The results of the study have several implications for the nursing professions including nursing education, nursing practice, nursing administration and nursing research.

Nursing Education

- Nurse educator plays an important role in providing adequate knowledge to the health care workers about varicose veins and its prevention.
- The nurse educator should periodically organise special training programme for the nurses about using of preventive measures.
- The nurse educator must motivate the nurses to do a project related to prevention of varicose vein.
- The faculty of nursing in the college should plan for a continuing nursing education programme on prevention of varicose vein.
- The investigators education module can be used to educate the health care workers in general.

Nursing Practice

- Evidence based care practice is in greater need to the quality of patient care. High quality and cost - effective care are only possible through research in this area of nursing profession.
- Health promotion, maintenance and prevention.
- A good knowledge on varicose veins and its prevention among health care workers will be prevent in order to provide quality of care.
- Imparting knowledge about prevention of varicose vein among staff nurses especially operation theatre nurses should be done.
- In the outpatient department, the nursing professionals must educate the hospital care workers about the prevention of varicose vein.
- The nurses must organize the prevention of varicose vein awareness programme emphasizing on lifestyle modifications.

Nursing Administration

The nurse as an administrator can organize and conduct teaching programme for the staff nurses in order to enhance their knowledge and improve their skill and nursing practice.

- The administrator can encourage the nurses for conducting research study on varicose vein.
- The administrator can organize conferences, workshops and seminar for nurses working in the hospital.
- Poster presentation competition on prevention varicose vein can be conducted in the hospital for the health promotion of the society.

Nursing Research

- The findings of the study may provide guidelines for new nurse investigator to take up similar studies in different setting.
- The results of the study can be published in nursing journal.
- Development of evidence - based practice and translational research.
- The findings of the study can be presented in various local, state, national and international conferences related medical surgical nursing.

7. Conclusion

The study establishes the significant role of an information booklet in enhancing the knowledge of health care workers about varicose veins and its prevention. The pre - test and post - test scores indicate a substantial increase in knowledge, demonstration the effectiveness of the booklet.

However, the knowledge level was not significantly associated with most demographic variables, except years of experience. This suggests that the booklet can be a useful tool across diverse demographic groups within the healthcare sector.

References

- [1] Brunner and Suddarth's (2014). Text book of Medical Surgical Nursing. Volume I.13th edition. Philadelphia: Wolter Kluwer publications.
- [2] Wright, K, & Frey R. Varicose veins: The Gale Encyclopedia of Alternate Medicine. [Online].2006 [cited 2012 Feb 2]; Available from: URL: <http://www.ecyclopedia.com>.
- [3] Robert Row den Foot. (1960). Varicose Vein - A Practical Manual. (3rd edition). Philadelphia: Mosby Company.
- [4] Seshadri Raju. (1997). Surgical Management of Venous Diseases. (7th edition). Philadelphia: Mosby Company.
- [5] Venisha Pearl Tauro1 et al. A Descriptive study to assess the knowledge regarding risk factors and preventive measures of varicose veins among staff nurses of selected hospitals at Mangalore with a view to develop an Information booklet, *International Journal of Recent Scientific Research*, Vol.6, Issue, 10, pp.6876 - 6878, October, 2015.
- [6] R. O'Neill. Standing problem. Hazards Magazine [online].2005 Aug 10 [cited 2011 Oct 24]; Available from: URL: <http://www.hazards.org/standing/index.htm>
- [7] Aster K. Masih, Prevalence of varicose veins among hospital employees *International Journal of*

Development Research, Vol.08, Issue, 08 p 22457 -
22461, August, 2018, 2230 - 9926.

- [8] Lewis (2004), Medical Surgical Nursing.7thedition.
Philadelphia; Mosby publications.