

A Study to assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Prevention of Varicose Vein among Teachers in Selected School at Gorakhpur

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How to cite this article:

Rohit Adarsh Samuel. A Study to assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Prevention of Varicose Vein among Teachers in Selected School at Gorakhpur. J Surg. Nurs.2024;13(2):65-70.

ABSTRACT

Varicose veins are enlarged, twisted veins commonly found in the legs due to high pressure from standing. They occur when vein valves fail to prevent blood from flowing backwards. This study aimed to evaluate a teaching program designed to improve teachers' knowledge on preventing varicose veins. Using a pre-experimental design, 40 teachers were selected through non-probability purposive sampling and assessed with a self-structured questionnaire before and after the program. Initial results showed a mean knowledge score of 9.1 (SD 3.65), which improved to 3.66 (SD 2.73) post-teaching. The t-value was 7.56, indicating significant improvement ($p < 0.05$). Initially, 45% of teachers had inadequate knowledge, 52.5% had moderate knowledge, and 2.5% had adequate knowledge. Post-program, only 2.5% had inadequate knowledge, 7.5% had moderate knowledge, and 90% had adequate knowledge. The study concluded that the teaching program effectively enhanced teachers' knowledge on preventing varicose veins.

Keywords: Varicose veins; Teachers; Knowledge.

INTRODUCTION

Health refers to the level of functional or metabolic efficiency of a living being and is closely related to lifestyle. Today, there is increasing emphasis on health promotion, wellness, and self-care. Millions of workers spend most of their working day standing for prolonged periods of

time and maintaining static positions. Standing position uses about 20% more energy than sitting position because human body is not designed for continuous standing at work. Prolonged standing, as seen in professions like nursing, teaching, traffic policing and retail sales, poses a risk factor for varicose veins. Studies indicate that women suffer from this condition four times more frequently than men.¹

Varicose veins are veins that have become enlarged and tortuous. Typically, veins have leaflet valves to prevent blood from flowing backward. Leg muscles pump the veins to return blood to the heart, countering the effects of gravity. When these valves fail, blood can flow backward, causing the veins to enlarge even more.²

Millions of workers spend a majority of their working day on their feet and many hours in static positions, especially teachers. Varicose

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Received on: 29.07.2024

Accepted on: 05.10.2024



veins, which are twisted, enlarged veins near the surface of the skin, commonly develop in the legs and ankles. Prolonged sitting or standing can cause blood to pool in the leg veins, increasing pressure and leading to vein stretching. This stretching weakens the vein walls and damages the vein valves, resulting in varicose veins. In modern society, many professions involve long periods of standing or sitting with legs hanging down. Professions commonly affected by varicose veins include computer professionals, security guards, traffic police, salesmen working at counters in departmental stores, teachers, nurses, and paramedical workers in various hospital setups.³

Nowadays, diseases are becoming more common worldwide due to changing lifestyles. Creating awareness is essential for leading a successful and healthy life. Varicose veins are one of the major preventable conditions related to veins. They are serious and pose a threat to patients' lives if effective and efficient measures are not taken. Globally, the prevalence of varicose veins varies between 10% to 30% of the population. In the USA, the prevalence is approximately 4,500 per 100,000 people, affecting around 22 million women and 11 million men. Varicose veins are more common in western and industrialized countries compared to developing nations and are notably more prevalent in certain professions. For instance, they are ten times more common among nurses, police officers, and teachers. Promoting awareness about varicose veins and their prevention is crucial. This includes regular exercise, maintaining a healthy weight, avoiding prolonged standing or sitting, and wearing compression stockings if necessary. Early diagnosis and treatment can significantly reduce the risk of complications.⁴

The prevalence of varicose veins in India is notable, with 46.7% of females and 27.8% of males affected. Furthermore, 49.3% of females and 18.9% of males exhibit venous symptoms. In Tamil Nadu, the prevalence of varicose veins is significantly high among women, at 52%. Modern lifestyle changes and occupational patterns are contributing to a variety of health issues, including varicose veins.⁵ Lower-limb varicose veins are particularly common and tend to have a higher prevalence among individuals in occupations that require prolonged standing, such as teaching. Varicose veins have become a serious health concern for millions of people worldwide and are often overlooked in India. There is an urgent need to spread awareness about varicose veins and their prevention in India.⁶

NEED FOR THE STUDY

Worldwide, chronic venous disorders, including varicose veins, are significant causes of disease and disability. These disorders have substantial medical and economic consequences, imposing a tremendous societal cost. Despite the severity of the problem, little effort has been made to effectively prevent such disorders. Research articles on vascular diseases have shown that 15-20% of the Indian population suffers from varicose veins.⁷

Women, particularly teachers, suffer from this disease four times more often than men. Many occupations require prolonged standing or sitting, making individuals more prone to developing varicose veins. The high prevalence is partly due to a lack of knowledge about preventive practices. A study revealed that 22% of 40-year olds, 35% of 50-year olds, and 41% of 60-year olds in India are affected by varicose veins.⁸

According to research, 15-20% of the population in India suffers from varicose vein. In our country, people are often unaware of this condition, leading to its increased severity. Health education is one of the key strategies in preventing varicose veins.⁹ Considering that health education significantly affects the knowledge of traffic police, nurses, and teachers, it can play a crucial role in the prevention of varicose veins among these groups.¹⁰

The investigator observed that many teachers suffer from varicose veins and lack sufficient knowledge about the condition. This observation motivated the assessment of the effectiveness of a planned teaching program on the prevention of varicose veins among teachers. The aim is also to raise awareness, which will serve as a basis for further studies.

STATEMENT

A study to assess the effectiveness of planned teaching program on knowledge regarding prevention of varicose vein among teachers in a selected school at Gorakhpur.

OBJECTIVES

1. To assess the pre-test and post-test level of knowledge on prevention of varicose vein among teachers.
2. To evaluate the effectiveness of planned teaching program on prevention of varicose vein among teachers.

- To associate the post-test level of knowledge scores with their selected demographic variables.

NULL HYPOTHESES

NH₁: There is no significant difference between the pre-test and post-test level of knowledge scores of teachers regarding prevention of varicose vein.

NH₂: There is no significant association between the post-test level of knowledge scores of teachers with their selected demographic variables.

ASSUMPTIONS

- The teachers may have high risk of developing varicose vein due to long hours of standing during working hours.
- The planned teaching program may enhance their knowledge regarding prevention of varicose vein.

Delimitations

- The study was delimited to a period of one week.
- This study includes only teachers as profession.
- This study was delimited to selected setting of data collection.

Sample selection criteria

Inclusion criteria

- Teachers working in selected school at Gorakhpur.
- Teachers who are willing to participate in this study.
- Teachers who can speak and write Hindi or English

Exclusion Criteria

- Teachers are on leave or not available during data collection.
- Teachers who have already attended any educational program regarding varicose vein.

METHODOLOGY

The research approach used in the study was quantitative approach. The investigator adopted a nonexperimental descriptive design. The study was conducted among teachers at Saint Andrews Inter College, Gorakhpur. Ethical aspects such as oral consent obtained from the teachers and the

confidentiality of the identity and response were considered throughout the study. The fourty samples were selected by using non-probability convenient sampling technique in accordance with the sample selection criteria. Brief introduction about self and purpose of the study was given. Good interpersonal relationships were established among the teachers. Pre-test was conducted using self-structured questionnaire on Demographic variables, knowledge on prevention of varicose vein it took around 10 to 15 minutes to complete the questionnaire, after that a planned teaching programmed was given by using PPT about prevention of varicose vein on the same day on 7th day post test was conducted by using same self-structured questionnaire.

RESULTS

Section A: Description of the Demographic Variables of the Samples Teachers

Table 1: Frequency and percentage distribution of demographic variables among teachers

Demographic Variables	Frequency (n)	Percentage %
<i>N= 40</i>		
Age in year		
20 - 30 years	16	40%
31 - 40 years	2	5%
41 - 50 years	11	27.5%
Above 50 years	11	27.5%
Gender		
Male	16	40%
Female	24	60%
Marital status		
Married	28	70%
Unmarried	12	30%
Education qualification		
Graduate	13	32.5%
Post graduate	27	67.5%
Family history of varicose vein		
Yes	4	10%
No	36	90%
Duration of working hours per day		
6 hours	11	27.5%
8 hours	27	67.5%
12 hours	2	5%
Years of experience in teaching		
1-5 years	23	57.5%
6-10 years	8	20%
11-15 years	2	5%

Table Cont...

More than 12 years	7	17.5%
Source of information		
Family /Friends /Relatives	11	27.5%
Mass media	10	25%
Health professional	12	30%
No information	7	17.5%

The table above shows that the description of the demographic variables of the teachers, The results indicated that with regard to age majority, 16 (40%) were in the age group of 20 to 30 years, 11 (27.5%) were in age the group of 41 to 50 years, 11 (27.5%) were in age the group of above 50 years, 2 (5%) were in age the group of 31 to 40 years. With regard to gender, 24 (60%) were female, 16 (40%) were male. With regard to marital status, 28 (70%) were married, 12 (30%) were unmarried. With regard to education qualification 13 (32.5%) were graduates, 27 (67.5%) were post graduates. Regarding family history of varicose vein 4 (10%) had no family history of varicose vein 36 (90%).

Table 2: Frequency and percentage distribution of pre-test and post-test level of knowledge regarding prevention of varicose vein among teachers

Level of Knowledge	N= 40			
	Pre-test		Post-test	
	Freq. (n)	%	Freq. (n)	%
Inadequate (4% - 32%)	18	45	1	2.5
Moderately Adequate (36%-64%)	21	52.5	3	7.5
Adequate (68% - 100%)	1	2.5	36	90

Table 4: Association of post-test level of knowledge with their selected demographic variables

Demographic Variables	Inadequate		Moderate		Adequate		Chi-Square Test
	(n)	%	(n)	%	(n)	%	
Age							
20 - 30 years	1	2.5%	0	0%	15	37.5%	X ² =10.59, d.f=6 P=12.59, N S
31 - 40 years	0	0%	1	2.5%	1	2.5%	
41 - 50 years	0	0%	0	0%	11	27.5%	
Above 50 years	0	0%	2	5%	9	22.5%	
Gender							
Male	0	0%	2	5%	14	35%	X ² =1.5725, d.f=2, P= 5.99, NS
Female	1	2.5%	1	2.5%	22	55%	
Marital status							
Married	0	0%	1	2.5%	27	67.5%	X ² =4.6745, d.f=2 P=5.99, NS
Unmarried	1	2.5%	2	5%	9	22.5%	
Education qualification							
Graduate	1	2.5%	3	7.5%	9	22.5%	X ² =7.2306, d.f=2 P=5.99, S
Post graduate	0	0%	0	0%	27	67.5%	

Table Cont...

The table 2 shows that the Frequency and percentage distribution of pre-test and post-test level of knowledge regarding prevention of varicose vein among teachers. In pre-test 45% teachers had inadequate level of knowledge, 52.5% had moderately adequate level of knowledge and 2.5% had adequate level of knowledge whereas in post-test, 2.5% of teachers had inadequate level of knowledge, 7.5% had moderately adequate level of knowledge and 90% had adequate level of knowledge.

Table 3: Comparison of pre-test and post-test level of knowledge on prevention of varicose vein among teachers

Test	Mean	S. D	Mean Difference	Paired 't' test Value
Pre - test	9.1	3.65	5.44 (13.6%)	t=7.56 P=0.002 S***
Post - test	3.66	2.73		

***p<0.002 S -Significant, N.S-Non significant

The table above shows that the pre-test mean score of knowledge was 9.1 with the SD of 3.65 and the post-test mean score was 3.66 with the SD of 2.73. The mean difference score of knowledge was 5.44. The mean improvement percentage was 13.6%. The calculated paired 't' test value of t=7.56 was found to be statistically significant at p<0.002 level.

This clearly stated that there was a significant improvement in the post test level of knowledge after the administration of planned teaching programme regarding prevention of varicose vein among teachers.

Family history of varicose vein							
Yes	0	0%	1	2.5%	3	7.5%	X ² =2.136, d.f=2 P=5.99, NS
No	1	2.5%	2	5%	33	82.5%	
Duration of working hours per day							
6 hours	0	0%	1	2.5%	10	25%	X ² =0.6449, d.f=6 P=12.59, N.S
8 hours	1	2.5%	2	5%	24	60%	
12 hours	0	0%	0	0%	2	5%	
Years of experience in teaching							
1-5 years	1	2.5%	2	5%	20	50%	X ² =7.269, d.f=6 P=12.59, NS
6-10 years	0	0%	0	0%	8	20%	
Sources of information							
Family/Friends/Relatives	1	2.5%	0	0%	10	25%	X ² =11.572, d.f=6 P=12.59, S
Mass media	0	0%	2	5%	8	20%	
Health professional	0	0%	0	0%	12	30%	
No information	0	0%	1	2.5%	6	15%	

*p<0.05, S - Significant, N.S - Not Significant

The table above shows that the demographic variable of educational qualification (X²=7.2306, P=5.99) had shown statistically significant association with level of knowledge on prevention of varicose vein among teachers at p<0.05 and the other demographic variables had not shown statistically significant association with the level of knowledge on prevention of varicose vein among teachers.

DISCUSSION

Finding of the study is discussed based on these objectives

The first objective of the study was to assess the pre-test and post-test level of knowledge regarding prevention of varicose among teachers. The level of knowledge of prevention of varicose vein assessed among the 40 teachers who participated in the study in the Pre-test, 18(45%) had inadequate knowledge 21(52.5%) had moderately adequate knowledge, 1(2.5%) had adequate knowledge whereas in the post test after the planned teaching programme, 36(90%) had adequate knowledge, 3(7.5%) had moderately adequate knowledge, 1(2.5%) had inadequate knowledge.

The second objective of the study was to evaluate the effectiveness of planned teaching programme on prevention of varicose vein among teachers. The pre-test mean score of knowledge was 9.1 with the SD of 3.65 and the post-test mean score was 3.66 with the SD of 2.73. The mean difference score of knowledge was 5.44. The calculated paired

't' test value of t=7.56 was found to be statistically significant at p<0.02 level. This clearly infers that there was significant improvement in the post test level of knowledge after the administration of planned teaching programmed among teachers. In pre-test 45% teachers had inadequate level of knowledge, 52.5% had moderately adequate level of knowledge and 2.5% had adequate level of knowledge whereas in post-test, 2.5% of teacher's had in adequate level of knowledge, 7.5% had moderately adequate level of knowledge and 90% had adequate level of knowledge.

The present study was supported with a study done by Raj Rani, 2021 conducted a study to evaluate the knowledge on effectiveness of Structured Teaching Program on prevention of varicose vein among teachers, the data presented that the mean post-test knowledge score (19.14±2.00) was higher than the mean Pre-test knowledge score (09.11±1.60). The calculated 't' value (28.84) was greater than the table value (t = 3.5) at 0.001 level of significance. Hypothesis H₁ was rejected. Hence it can be inferred that the structured teaching programme was effective in increasing the knowledge of school teachers regarding prevention and management of varicose vein.

The third objective of the study was to associate the post-test level of knowledge scores with their selected demographic variable. Association of post-test level of knowledge on varicose veins among teachers with their selected demographic variables was done using chi square test, It was found that there is no significant association found

between the post-test level of knowledge with their selected demographic variables such age, years of experience in teaching, educational qualification, sources of information.

The first null hypothesis stated was "There is no significant difference between the pre-test & post-test knowledge score of teachers regarding prevention of varicose vein" and the formulated null hypothesis was rejected because the significant difference was found in the pre-test and post-test knowledge score of teachers regarding prevention of varicose vein.

The second null hypothesis stated was "There is no significant association between post-test knowledge scores of teachers with their selected demographic variables. It was done using chi square test, It was found that there is no significant association between the post-test level of knowledge and demographic variables such age, gender, marital status, years of experience in teaching, family history of varicose vein, duration of working hours per day Sources of information, Hence the null hypothesis H2 states that there is no significant association of post-test knowledge scores of teachers with their selected demographic variables, it is rejected.

SUMMARY AND CONCLUSION

The study concluded that after the post-test, 36(90%) had adequate knowledge, 3(7.5%) had moderately adequate knowledge and 1(2.5%) had inadequate knowledge; it is evident that the teachers learnt better and showed improvement in knowledge on prevention of varicose vein. There is a significant difference in the pre & post-test knowledge score on prevention of varicose vein among teachers. The calculated paired 't' test value of $t=7.56$ was found to be statistically significant at $p<0.02$ level.

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