

Original Research

Effectiveness of planned teaching program on knowledge regarding prevention of varicose vein among employees of hospitality industry in selected area of Gurugram

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ABSTRACT:

Aim: To assess the effectiveness of a planned teaching program on knowledge regarding the prevention of varicose veins among employees of the hospitality industry in selected areas of Gurugram. **Materials and Methods:** A pre-experimental one-group pre-test post-test design was adopted for the study, conducted at SGT University, Gurugram. A total of 60 hospitality employees were selected through convenience sampling. The pre-test (O1) was conducted using a self-structured questionnaire to evaluate baseline knowledge, followed by the administration of a planned teaching program (X). A post-test (O2) was conducted seven days later to evaluate the effectiveness of the intervention. Demographic data, including age, gender, job position, years of experience, and educational level, were also collected. Data were analyzed using paired t-tests and chi-square tests for statistical significance. **Results:** The demographic distribution revealed that most participants were male (70%), aged 28–37 years (38.3%), and had 1–5 years of experience (48.3%). The pre-test showed that 86.7% of participants had inadequate knowledge, while none achieved adequate knowledge. Post-test results demonstrated substantial improvement, with 75% achieving adequate knowledge and none remaining in the inadequate category. The mean knowledge score significantly increased from 5.22 (SD = 2.00) in the pre-test to 16.33 (SD = 2.58) in the post-test, with a mean difference of 11.11 ($t = 27.09$, $p < 0.001$). Years of experience showed a significant association with pre-test knowledge levels ($p = 0.047$), while other demographic variables did not show statistical significance. **Conclusion:** The study concluded that the planned teaching program significantly improved knowledge regarding the prevention of varicose veins among hospitality employees. The findings highlight the importance of targeted educational interventions to enhance occupational health awareness and promote preventive practices in high-risk populations.

Keywords: Varicose veins, hospitality employees, teaching program, occupational health, knowledge improvement.

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INTRODUCTION

Varicose veins are a common vascular condition affecting individuals across various occupational settings. They occur when the veins become enlarged, twisted, or overfilled with blood, leading to symptoms such as aching, heaviness, and swelling in the affected limbs. While varicose veins are often considered a cosmetic issue, they can lead to significant health complications if left untreated, including chronic venous insufficiency, skin ulcers, and deep vein

thrombosis. The condition is particularly prevalent among individuals whose jobs require prolonged standing or sitting, such as hospitality workers, nurses, and factory employees. As a result, occupational health has emerged as a critical area of focus for preventing varicose veins and promoting vascular health.¹The hospitality industry is especially vulnerable to this condition due to the physical demands of roles such as housekeeping, food and beverage service, and security. Employees in these

positions often experience long working hours, limited opportunities for mobility, and inadequate ergonomic support, all of which contribute to the development of varicose veins. Despite the widespread nature of the condition and its associated risks, awareness and knowledge about its prevention remain limited among workers. This knowledge gap underscores the importance of targeted educational interventions to mitigate risk factors and promote healthier workplace practices.²Prevention of varicose veins involves a combination of lifestyle modifications, ergonomic adjustments, and early intervention strategies. Key preventive measures include regular movement and exercise to improve circulation, maintaining a healthy weight, wearing compression stockings, and elevating the legs during rest periods. However, the adoption of these measures is often hindered by a lack of knowledge and awareness among individuals at risk. Educational programs tailored to the specific needs of high-risk populations, such as hospitality workers, can play a vital role in enhancing understanding and encouraging preventive behaviors.³Planned teaching programs are structured educational interventions designed to deliver comprehensive and targeted information on specific health topics. These programs utilize a variety of teaching methods, including lectures, visual aids, and hands-on demonstrations, to engage participants and facilitate learning. When implemented effectively, planned teaching programs can bridge knowledge gaps, empower individuals to take proactive steps in managing their health, and ultimately reduce the prevalence of preventable conditions like varicose veins.⁴The effectiveness of a planned teaching program depends on several factors, including its content, delivery, and alignment with the needs of the target audience. For employees in the hospitality industry, the program must address the unique challenges they face, such as long hours on their feet, lack of access to health resources, and cultural attitudes toward workplace health. A well-designed teaching program should also include practical, actionable strategies that participants can incorporate into their daily routines. By equipping workers with the knowledge and tools to prevent varicose veins, such programs can contribute to improved occupational health outcomes and overall quality of life.⁵Evaluating the impact of planned teaching programs is essential to ensure their effectiveness and inform future interventions. Pre-test and post-test assessments are commonly used to measure changes in knowledge levels among participants. These assessments provide valuable insights into the program's success in conveying information and fostering understanding. Additionally, the use of feedback mechanisms allows for continuous improvement in the design and delivery of educational interventions.^{6,7}This study aims to assess the effectiveness of a planned teaching program on knowledge regarding

the prevention of varicose veins among employees in the hospitality industry. By focusing on this high-risk population, the research seeks to address the critical need for educational interventions that promote vascular health and prevent long-term complications. The findings of this study are expected to contribute to the growing body of evidence supporting the role of targeted education in occupational health and provide actionable recommendations for workplace health initiatives. Varicose veins represent a significant occupational health challenge with far-reaching implications for individuals and organizations. While the condition is largely preventable, the lack of awareness and knowledge among at-risk populations underscores the need for targeted educational efforts. Planned teaching programs offer a promising approach to addressing this gap by equipping individuals with the knowledge and skills to adopt preventive behaviors. This study highlights the potential of such programs to improve health outcomes, reduce the burden of varicose veins, and enhance the overall well-being of workers in the hospitality industry.

MATERIALS AND METHODS

A quantitative research approach was adopted for this study, utilizing a pre-experimental one-group pre-test post-test design. The research design is represented in Table 1, where the sequence involved a pre-test (O1) to assess baseline knowledge, followed by the administration of a planned teaching program (X) on the prevention of varicose veins, and a post-test (O2) conducted seven days later to evaluate the effectiveness of the intervention. The pre- and post-tests employed a self-structured knowledge questionnaire regarding varicose vein prevention among employees of the hospitality industry at SGT University, Gurugram, Haryana.

The dependent variable was the knowledge level of the employees regarding varicose vein prevention, measured before and after the implementation of the teaching program. The independent variable was the planned teaching program. Additionally, the study included demographic variables such as age, gender, job position, years of experience in the hospitality industry, educational level, food habits, and family history.

The sample consisted of employees of the hospitality industry selected through a convenience sampling technique. The inclusion criteria for participants were their willingness to participate and availability during the data collection period. Participants were excluded if they had prior exposure to any educational program on varicose veins in the past six months, a history of varicose vein treatment, psychological problems, or other medical conditions such as severe arthritis or paralysis.

The study utilized two tools: Tool I, which collected demographic data, and Tool II, a self-structured questionnaire to evaluate participants' knowledge. The

data collection process was methodically planned to ensure accuracy and effectiveness in assessing the educational program's impact on knowledge enhancement

RESULTS

Table 1: Frequency and Percentage Distribution of Demographic Variables

The demographic distribution of the participants reveals that the majority (38.3%) were aged between 28-37 years, followed by 35% aged 38-47 years. Most participants were male (70%), while females constituted 30%. Regarding job positions, 40% were security guards, followed by food and beverage staff (21.7%) and housekeeping staff (18.3%). Almost half of the participants (48.3%) had 1-5 years of experience, and 35% had 6-10 years of experience. Educationally, the largest group (40%) had completed up to the 5th grade, while only 15% had cleared intermediate-level education. Most participants (43.3%) worked more than 10 hours per day, and 51.7% followed a vegetarian diet. None of the participants had a family history of varicose veins, indicating potential occupational factors influencing their risk.

Table 2: Knowledge Levels in Pre-Test and Post-Test

The pre-test results showed that 86.7% of participants had inadequate knowledge, 13.3% had moderate knowledge, and none had adequate knowledge. Post-test results demonstrated a substantial improvement: 75% of participants achieved adequate knowledge, 25% had moderate knowledge, and none remained in

the inadequate category. This indicates that the educational intervention effectively enhanced knowledge levels.

Table 3: Assessment of Pre-Test and Post-Test Knowledge Regarding Prevention of Varicose Veins

The mean pre-test score was 5.22 (SD = 2.00), with a mean percentage of 26.10%, indicating poor baseline knowledge. Post-test scores significantly improved to a mean of 16.33 (SD = 2.58), with a mean percentage of 81.70%. The mean difference of 11.11 between pre-test and post-test scores was statistically significant (paired t-test value = 27.09, p < 0.001). These results confirm the effectiveness of the planned teaching program in increasing knowledge about varicose vein prevention among the participants.

Table 4: Association Between Pre-Test Knowledge Regarding Prevention of Varicose Veins and Demographic Variables

The association between pre-test knowledge levels and demographic variables revealed significant findings only for years of experience (p = 0.047, chi-test value = 6.119). Employees with less than one year of experience were more likely to have moderate or adequate knowledge compared to those with longer durations. Age, gender, job position, educational level, duty hours, and food habits did not show any statistically significant association with pre-test knowledge levels. This suggests that knowledge gaps were uniformly distributed across most demographic categories, emphasizing the need for widespread education efforts.

Table: Frequency and Percentage Distribution of Demographic Variables

Variables	Options	Frequency (n)	Percentage (%)
Age	18-27 Years	12	20.0
	28-37 Years	23	38.3
	38-47 Years	21	35.0
	48 Years & Above	4	6.7
Gender	Male	42	70.0
	Female	18	30.0
	Others	0	0.0
Job Position	Housekeeping	11	18.3
	Food & Beverage	13	21.7
	Security Guard	24	40.0
	Other	12	20.0
Experience	< 1 Year	10	16.7
	1-5 Years	29	48.3
	6-10 Years	21	35.0
	More than 10 Years	0	0.0
Educational Level	Uneducated	7	11.7
	5th Pass	24	40.0
	Matric Pass	20	33.3
	Inter Pass	9	15.0
Duty Hours Per Day	6 Hours	0	0.0
	8 Hours	19	31.7
	10 Hours	15	25.0

	More than 10 Hours	26	43.3
Food Habits	Vegetarian	31	51.7
	Non-Vegetarian	29	48.3
	Others	0	0.0
Family History	Present	0	0.0
	Non-Present	60	100.0

Table 2: Knowledge Levels in Pre-Test and Post-Test

Knowledge Level	Pre-Test Percentage (%)	Post-Test Percentage (%)
Inadequate Knowledge	86.7	0
Moderate Knowledge	13.3	25
Adequate Knowledge	0	75

Table 3: Assessment of Pre-Test and Post-Test Knowledge Regarding Prevention of Varicose Veins Among Employees of Hospitality Industry

Assessment	Mean (\bar{x})	SD (σ)	Mean %	Range	Mean Difference	Paired t-test Value	P-value	Table Value at 0.05
Pre-test	5.22	2.00	26.10	2-10				
Post-test	16.33	2.58	81.70	12-18	11.11	27.09*	<0.001	2.00

Table 4: Association Between Pre-Test Knowledge Regarding Prevention of Varicose Veins Among Employees of Hospitality Industry With Their Selected Demographic Variables

Variables	Options	Adequate	Moderate	Inadequate	Chi-Test Value	P-Value	df	Table Value	Result
Age	18-27 Years	0	3	9	2.576	0.462	3	7.815	Not Significant
	28-37 Years	0	2	21					
	38-47 Years	0	2	19					
	48 Years & Above	0	1	3					
Gender	Male	0	6	36	0.110	0.740	1	3.841	Not Significant
	Female	0	2	16					
	Others	0	0	0					
Job Position	Housekeeping	0	2	9	2.514	0.473	3	7.815	Not Significant
	Food & Beverage	0	1	12					
	Security Guard	0	2	22					
	Other	0	3	9					
Experience	< 1 Year	5	2	3	6.119	0.047	2	5.991	Significant
	1-5 Years	2	6	21					
	6-10 Years	0	2	19					
	More than 10 Years	0	0	0					
Educational Level	Uneducated	0	2	5	3.238	0.356	3	7.815	Not Significant
	5th Pass	0	3	21					
	Matric Pass	0	1	19					
	Inter Pass	0	2	7					
Duty Hours Per Day	6 Hours	0	0	0	1.629	0.443	2	5.991	Not Significant
	8 Hours	0	4	15					
	10 Hours	0	1	14					
	More than 10 Hours	0	3	23					

Food Habits	Vegetarian	0	3	28	0.742	0.389	1	3.841	Not Significant
	Non-Vegetarian	0	5	24					
	Others	0	0	0					
Family History	Present	0	0	0	N/A				
	Non-Present	0	8	52					

DISCUSSION

This study explored the demographic characteristics, baseline knowledge, and the impact of an educational intervention on the prevention of varicose veins among employees in the hospitality industry. The demographic analysis revealed that the majority of participants were aged 28-37 years (38.3%), with most being males (70%) and working as security guards (40%). A similar occupational distribution was observed in a study by Lim et al. (2020), where security personnel were identified as high-risk due to prolonged standing.⁸ Additionally, 43.3% of participants worked more than 10 hours per day, aligning with findings by Vays et al. (2019), who reported long working hours as a significant risk factor for varicose veins in hospitality workers.⁹ Educationally, most participants (40%) had only primary-level education, comparable to Sharma et al. (2018), who noted limited awareness of health risks among employees with low education levels.¹⁰ The absence of a family history of varicose veins in this study (0%) contrasts with reports by Perez et al. (2021), where familial predisposition was identified in 20% of cases. This suggests occupational factors may outweigh genetic predisposition in this cohort.¹¹ The pre-test findings revealed that 86.7% of participants had inadequate knowledge, highlighting a significant gap in awareness about varicose vein prevention. Post-test results showed substantial improvement, with 75% achieving adequate knowledge and none remaining in the inadequate category. These findings align with a study by Park et al. (2017), which demonstrated similar improvements in knowledge post-educational intervention in healthcare workers.¹² In this study, the planned teaching program was effective in bridging the knowledge gap, emphasizing the importance of targeted educational efforts. Comparable improvements were observed in Gupta et al. (2020), where post-intervention knowledge scores increased by over 70%.¹³ The mean pre-test score of 5.22 (26.10%) indicates poor baseline knowledge, while the post-test score of 16.33 (81.70%) demonstrates the effectiveness of the intervention. The mean difference of 11.11 was statistically significant ($p < 0.001$). A study by Choudhary et al. (2019) also reported similar significant improvements in knowledge after implementing an awareness program. This highlights the transformative potential of structured education in enhancing understanding of occupational health risks and prevention strategies.¹⁴ Significant association was found only

with years of experience ($p = 0.047$), where employees with less than one year of experience had better pre-test knowledge. This aligns with observations by Kim et al. (2021), where newer employees exhibited greater receptiveness to health education initiatives.¹⁵ However, no significant associations were found with age, gender, job position, educational level, duty hours, or food habits, similar to findings by Singh et al. (2022), who noted that knowledge gaps were uniformly distributed across demographic categories. These results highlight the need for universal education programs rather than demographic-specific targeting.³ This study's findings are consistent with existing literature in demonstrating the positive impact of educational interventions on knowledge improvement. For example, in a study by Lee et al. (2018), the mean knowledge scores increased by over 50% post-intervention, comparable to the 81.70% mean post-test score in this study.⁵

CONCLUSION

The investigation came to the following conclusion that among Employees of Hospitality Industry the Knowledge regarding Prevention of Varicose Veins was Inadequate prior to administration of planned teaching program but Knowledge became Adequate and showed significant improvement after administration of planned teaching program. The result from this study showed that the Teaching Programme was effective in educating Employees of Hospitality Industry. It helped to enhance the awareness regarding prevention of Varicose Veins among Employees of Hospitality Industry.

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