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# Effectiveness Of Self Instructional Leaflet On Knowledge And Attitude Regarding Prevention And Management Of Varicose Veins Among Housekeeping Workers Employed At Panimalar Medical College Hospital & Research Institute.

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**Abstract**

**Background**: Varicose veins, a common condition involving the dilation and twisting of veins, often affect the lower limbs and can lead to discomfort, pain, and complications such as ulcers. This condition arises due to prolonged standing, heavylifting, and other physical strain, making it particularly prevalent amonghousekeeping workers in hospitals. These workers, tasked with maintainingcleanliness and sanitation, often engage in repetitive tasks that put significant pressure on their venous system. Due to the nature of their work, they are frequently at risk of developing varicose veins. This study was conducted to assess the ffectiveness Of Self Instructional Leaflet On Knowledge And Attitude Regarding Prevention And Management Of Varicose Veins Among Housekeeping WorkersEmployed At selected hospital Chennai

**Methods:** Using a convenient sampling technique, a descriptive cross-sectional study was conducted among 60 housekeeping workers employed at private hospitalsin Chennai. A semi-structured knowledge questionnaire and an attitude Likert scale were administered to gather data. The results were tabulated and interpreted.

**Results:** Among the 60 respondents, the pre-test revealed that the majority, 59 (98.4%), had inadequate knowledge. After the intervention, the post-test showed a significant improvement, with 38 (63.4%) demonstrating adequate knowledge. In terms of attitude, the pre-test showed that 29 (48.3%) of the participants had a poor attitude, while the post-test revealed that 27 (45%) had an excellent attitude. There was a significant increase in the mean knowledge score from 8.91 to 14.43, with a mean difference of 6.43. The standard deviation increased from 9.02 to 14.22, and the t-value of 24.41 was found to be highly significant at the 5% level. Regarding the attitude, the mean score increased from 10.4 to 12.2, with a mean difference of 1.8. The standard deviation rose from 80.1 to 93.9, and the t-value of 13.4 was also highly significant at the 5% level.The post-test level of knowledge and attitude, when analyzed with selected demographic variables, showed that knowledge was significantly associated with factors such as age, gender, and years of experience ($p< 0.0001$), but not with other demographic variables. However, the level of attitude did not show any significant association with any of the demographic variables.A positive correlation was observed between knowledge and attitude.

**Conclusion**: Varicose veins cannot be completely cured, and even after surgical removal, recurrences are common. Individuals who develop venous ulcers experience the highest levels of morbidity and a significantly reduced quality of life. Unlike the deep venous system, clots in superficial veins rarely embolize, making therisk of pulmonary embolism low. However, improving knowledge about the prevention and management of varicose veins is essential. With better awareness, individuals can take proactive steps to prevent varicose veins, reducing their occurrence both in hospitals and the community, ultimately enhancing overall quality of life.

**Introduction**

Health refers to the level of functional or metabolic efficiency of a living being, and itis closely linked to lifestyle

choices. While the concept of ideal health is often pursued, it remains elusive, as life is constantly changing and dynamic. Health canbe understood as the potential or ability of an individual or a social group to continually adapt to these changes—not only to improve functioning in the presentbut also to prepare for future challenges. In today's world, there is an increasing emphasis on health, wellness, health promotion, and self-care, highlighting the importance of proactive measures in maintaining well-being.Millions of workers spend the majority of their workday on their feet, often in static positions. Standing requires 20% more energy than sitting, and because thehuman body is not designed for prolonged standing, it can lead to fatigue, loss of concentration, and increased health risks. These risks include swelling of the feet and legs, joint damage, varicose veins, heart and circulatory disorders, lower back issues, and complications during pregnancy. One of the most common conditions resulting from extended periods of standing is varicose veins. Severe varicose veins can significantly impact the quality of life for individuals who work on their feet, including teachers, housekeeping staff, nurses, flight attendants, dental staff, traffic and bar workers, postal workers, construction workers, and bank employees.In hospitals, which are often high-stress environments, the cleanliness and order maintained by housekeeping staff play a crucial role in promoting a sense of calm and control. The housekeeping department's responsibilities go beyond cleaning, contributing to the health, safety, comfort, and satisfaction of everyone in the hospital. Similarly, teachers and other professionals who spend much of their workday standing face significant strain on their lower limbs, including joint damage, muscle aches, and the common occurrence of varicose veins.

**Materials and methods:**

**Study participants:** The study was conducted at Panimalar Medical College Hospital & Research Institute in Varadharajapuram, Poonamallee, Chennai, Tamil Nadu, India. A random sample of 60 healthcare professionals working in tertiary hospitals across Chennai participated in the study. Participants were aged between 20 and 55 years and provided informed consent to be part of the research. Ethical approval for the studywas obtained from the Institutional Review Board (IRB) of Panimalar Medical CollegeHospital & Research Institute (IRB #1/2020/012), and the study adhered to theguidelines of the Declaration of Helsinki, as revised in Seoul in 2008.

**Data collection tools**: A structured, self-administered questionnaire was used to collect data on participants' knowledge and attitudes. The questionnaire was developed based on a review of relevant literature from national and international journals, and its validity and reliability were tested.

Methods of measurement (Scoring):

The questionnaire consisted of three sections

(1) **Demographic data section**: This section gathered information on the participants' age, sex, alcohol consumption, smoking habits, years of experience, duration of standing per day, weight, family history, educational qualifications, and comorbid conditions such as hypertension. No scoring was assigned to this section.

(2) **Knowledge section**: This section contained 12 multiple-choice questions with 4 options each. Correct answers were scored as "1" and incorrect answers as "0." The total possible score ranged from 0 to 12. Participants' knowledge levels were categorized as inadequate, moderately adequate, or adequate based on their score relative to the mean.

(3) **Attitude section**: This section comprised 10 statements, rated using a 5- point Likert scale. The options for positively worded statements were: "StronglyDisagree," "Disagree," "Neutral," "Agree," and "Strongly Agree," assigned scoresfrom 1 to 5, respectively. For negatively worded statements, the scoring was reversed (5, 4, 3, 2, The composite attitude score for each participant could rangefrom 19 to 95. Attitude scores were categorized as unfavourable, moderatelyfavourable, or favourable based on the participant's score relative to the mean.

**Data management and analysis**:

Data were entered using EpiData 3.1 software and exported to SPSS (Statistical Package for Social Sciences) version 20 for analysis. Descriptive statistics were computed using cross-tabulation.

**RESULTS**

**Table1: Demographic related factors for Biomedical waste management(BMWM) (n=183)**

| | | | |
|---|---|---|---|

| s.no | Demographic variables | Frequency | Percentage |
|---|---|---|---|
| **1.** | **Age in years** | | |
| | 21-30 years | 1 | 1.7% |
| | 31-40 years | 9 | 15% |
| | 41-50 years | 28 | 46.7% |
| | > 50 years | 22 | 36.6% |
| **2.** | **Gender** | | |
| | Male | 22 | 36.6% |
| | Female | 38 | 63.4 % |
| **3.** | **Alcoholic Habit** | | |
| | Yes | 11 | 18.4% |
| | No | 49 | 81.6% |
| **4.** | **Smoking Habit** | | |
| | Yes | 8 | 13.4% |
| | No | 52 | 86.6% |
| **5.** | **No of years of experience** | | |
| | a) <5 | 28 | 46.6% |
| | b) 6-10 | 23 | 38.4% |
| | c) 16 – 20 | 6 | 10% |
| | d) >21 | 3 | 5% |
| **6.** | **Duration of standing** | | |
| | a) <4 | 2 | 3.3% |
| | b) 5 - 7 | 35 | 58.3% |
| | c) 7 - 11 | 20 | 33.4% |
| | d) >11 | 3 | 5% |
| **7.** | **Weight in kilogram** | | |
| | a) <40 | 22 | 36.6% |
| | b) 40-60 | 25 | 41.6% |
| | c) 60-80 | 13 | 21.8% |
| | d) >80 | 0 | 0% |
| **8.** | **Family history of varicose vein** | | |
| | Yes | 18 | 30% |

| | | | |
|---|---|---|---|
| | No | 42 | 70% |
| **9.** | **Educational qualification** | | |
| | Graduate | 1 | 1.6% |
| | Higher secondary | 17 | 28.4% |
| | None | 42 | 70% |
| **10.** | **History of Hypertension** | | |
| | Yes | 17 | 28.4% |
| | No | 43 | 71.6% |

Table 1: Demographic variables : The table presents the frequency and percentage distribution of demographic variables among housekeeping workers. In terms of age, the majority, 28 (47%), were above 50 years. Most participants were female, with 38 (63%) being women and 22 (37%) men. Regarding alcohol consumption, 49 (82%) were non-alcoholic. For smoking habits, 52 (87%) were non-smokers. In terms of work experience, 28 (47%) had less than 5 years of experience. Concerning the duration of standing, 35 (58%) stood for 5-7 hours per day. Regarding body weight, 25 (42%) weighed between 40-60 kg. Most participants, 42 (70%), had a family history of varicose veins. In terms of educational qualifications, 42 (70%) were illiterate. Finally, for medical history, 43 (72%) were non-hypertensive, while 17(28%) were hypertensive.

**Knowledge assessment**: Approximately 93% of the participants were aware that the most important aspect of BMW Management is segregation, and 80% were aware of the purpose of incineration and microwaving in the field of BMW management. 92.3% were **familiar with W.H.O classification of biomedical waste.90% had knowledge about sterilizationmethods that kills all microorganisms, but only 56.8% answered accurately on liquid waste(Table 2).**

Considering the overall level of knowledge of the 60 participants, the pre-test revealed that the majority, 59 (98.4%), had inadequate knowledge. After the intervention, the post-test showed a significant improvement, with 38 (63.4%) demonstrating adequate knowledge

**Table 3: Frequency and percentage distribution of pretest and posttest levelknowledge regarding prevention and management of varicose veins among housekeeping workers**
**N=60**

| | **Pre test** | | **Post test** | |
|---|---|---|---|---|
| **Level of knowledge** | **No** | **%** | **No** | **%** |
| **Inadequate** | 59 | 98.4% | 0 | 0% |
| **Moderate** | 1 | 1.6% | 22 | 36.6% |
| **Adequate** | 0 | 0% | 38 | 63.4% |

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**Table2 :**The above table Shows that, frequency and percentage the pretest level of knowledge regarding prevention and management of Varicose Veins among Housekeeping workers, majority of 59(98.4%) them had inadequate, and only 1(1.6%) had moderate knowledge. But in the posttest level of knowledge, majority ofthem 38(63.4%) had adequate knowledge and only 22(36.6%) had moderate knowledge

**Table 3: Frequency and percentage distribution of pretest and posttest level ofattitude regarding prevention and management of varicose veins among housekeeping workers N=60**

| Level ofAttitude | Pre test | | Post test | |
|---|---|---|---|---|
| | No | % | No | % |
| Poor | 29 | 48.3% | 0 | 0% |
| Good | 29 | 48.3% | 33 | 55% |
| Excellent | 2 | 3.4% | 27 | 45% |

**Attitude assessment:**
The pretest level of attitude regarding prevention and management of Varicose Veins among Housekeeping workers, 29(48.3%) them had poor attitude,29(48.3%) them had good attitude, and only 2(3.4%) had excellent attitude. But in the posttest, 27(45%) had excellent attitude, 33(55%) were good andnone of them had poor attitude towards prevention and management of Varicose Veins.

**Table :4 Comparison of mean and standard deviation between pretest and posttest level of knowledge& attitude regarding prevention and managementof varicose veins**

| VARIABLES | Pre test | | Post test | | "t" value | Mean difference |
|---|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | | |
| KNOWLEDGE | 3.63 | 27.9 | 10.06 | 77.3 | 24.41S | 6.43 |
| ATTITUDE | 10.4 | 80.1 | 12.2 | 93.9 | 13.04S | 1.8 |

The above table No. 4, shows that the comparison of mean and standard deviation between pretest and post test level of knowledge, was done by using paired "t" test. There was a increase in mean value from 8.91 to 14.43 and the standard deviation from 9.02 to 14.22 and the t value10.50 was found to be highly significant at 5% level significance.
Regarding the level of attitude there was a increase in mean value from 10.4 to 12.2 and the standard deviation from 80.1 to 93.9 and the t value 13.04 was found to be highly significant at 5% level significance.

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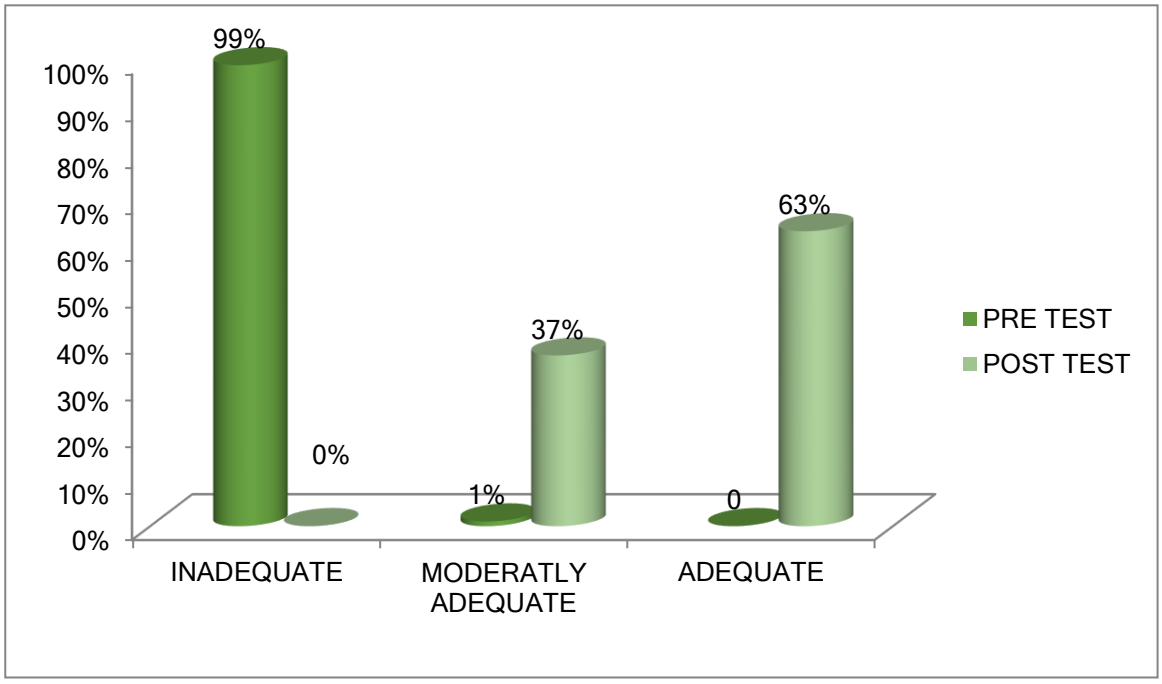
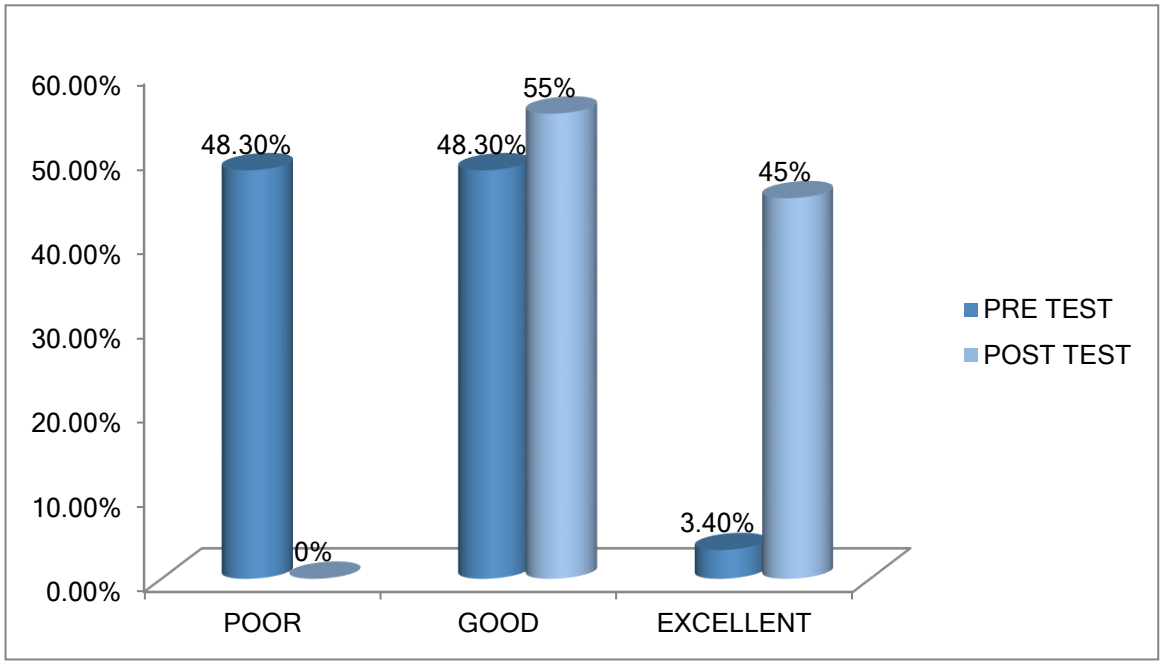
**KNOWLEDGE**




**ATTITUDE**

**Table no. 5: Association of demographic variables with knowledge and attitude**

| Demographic variables | Inadequate | | Moderate | | Adequate | | Chi squar |
|---|---|---|---|---|---|---|---|
| | No | % | No | % | No | % | e |
| **Age in years** | | | | | | | |
| 21-30 years | 0 | 0% | 1 | 1.6% | 0 | 0% | 33.7 |
| 31-40 years | 0 | 0% | 5 | 8.3% | 4 | 6.6% | 3S |
| 41-50 years | 0 | 0% | 20 | 3.3% | 8 | 13.3% | |
| | 0 | 0% | 5 | 8.3% | 17 | 8.3% | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Above 50 years | | | | | | | |
| **Gender**<br>Male | 0 | 0% | 10 | 16.6% | 12 | 20% | 1.06 |
| b) Female | 0 | 0% | 12 | 20% | 26 | 43.3% | Df=1<br>S |
| **Alcoholic Habit**<br>Yes | 0 | 0% | 6 | 10% | 5 | 8.3% | 0.1 |
| No | 0 | 0% | 24 | 40% | 25 | 41.6% | f=1NS |
| **Smoking Habit**<br>Yes | 0 | 0% | 4 | 6.6% | 5 | 8.3% | 0.84<br>Df=1NS |
| No | 0 | 0% | 20 | 33.3% | 32 | 53.3% | |
| **No of years of experience**<br><5 | 0 | 0% | 8 | 13.3% | 20 | 33.3% | 4.1 |
| b) 6 – 10 | 0 | 0% | 13 | 21.6% | 10 | 16.6% | f=3S |
| c) 16 – 20 | 0 | 0% | 2 | 3.3% | 4 | 6.6% | |
| d) >21 | 0 | 0% | 1 | 1.6% | 2 | 3.3% | |
| **Duration of standing/Day**<br><4 | 0 | 0% | 1 | 1.6% | 1 | 1.6% | 1.9<br>f=3NS |
| b) 5 – 7 | 0 | 0% | 12 | 20% | 23 | 38.3% | |
| c) 7 – 11 | 0 | 0% | 10 | 6.6% | 10 | 16.6% | |
| d) >11 | 0 | 0% | 2 | 3.3% | 1 | 1.6% | |
| **7. Weight in kilogram**<br>a) <40 | 0 | 0% | 11 | 18.3% | 11 | 18.3% | 0.4 |
| b) 40-60 | 0 | 0% | 10 | 16.6% | 15 | 25% | Df=3 |
| c) 60-80 | 0 | 0% | 7 | 11.6% | 8 | 13.3% | NS |
| d) >80 | 0 | 0% | 0 | 0% | 0 | 0% | |
| **8. Family history of varicosevein**<br>Yes | 0 | 0% | 8 | 13.3% | 10 | 18.3% | 0.9 NSDf=3 |
| No | 0 | 0% | 20 | 33.3% | 22 | 36.6% | |
| **9. What is your educationalqualification**<br>Graduate | 0 | 0% | 1 | 1.6% | 0 | 0% | 1.6<br>Df=3 |
| Higher secondary | 0 | 0% | 7 | 11.6% | 10 | 16.6% | NS |
| None | 0 | 0% | 20 | 33.3% | 22 | 36.6% | |
| **10.Do you havehypertension** a)yes<br>b)no | 0 | 0% | 7 | 11.6% | 10 | 16.6% | 0.1<br>Df=3 |
| | 0 | 0% | 20 | 33.3% | 23 | 38.3% | NS |

The above table no: 5 : shows there is an association between the posttest level of knowledge and demographic variables was done using Chi square test, it was found that the association between posttest level of knowledge and age, gender

and years of experience was significant at p< 0.0001 level of significance and didn'tshow any significance with other demographic variables. There is no associationbetween posttest level of attitude and demographic variables.
S- significant; Df – Degrees of freedom.

**DISCUSSION:**

**Overall Findings Level of Knowledge**

The study's findings indicate that prior to the intervention, a significant majority of participants (59, 98.4%) exhibited inadequate knowledge regarding varicose veins. Following the intervention, post-test results revealed that 38 participants (63.4%) achieved adequate knowledge. This aligns with the research conducted by Vinil Upendrababu (2022), which aimed to assess staff nurses' knowledge of varicose veins and their preventive measures before and after the distribution of an informational booklet. The study utilized a pre-experimental research design with a one-group pre-test/post-test approach. Staff nurses were selected through a non-probability convenience sampling technique at Rama Hospital, Kanpur. The results were statistically significant at the 0.005 level, with the mean post-test knowledge score (12.6) significantly higher than the mean pre-test score (8.73). Thus, the findings conclude that the informational booklet effectively enhanced the knowledge levels of staff nurses.

**Level of Attitude**

In terms of attitude, the study revealed that at the pre-test phase, 29 participants (48.3%) displayed poor attitudes. However, post-intervention results indicated that 27 participants (45%) demonstrated excellent attitudes. These findings are supported by research conducted by Şinasi Manduz et al. (2017), which assessed the awareness and attitudes of patients recommended to use compressionstockings in Turkish society. This study involved face-to-face questionnaires with 1,004 patients registered at the cardiovascular surgeon's polyclinic of Sivas Numune Hospital between March 29 and October 31, 2017. The results showed that 20.5% of patients who were advised to purchase compression stockings did not buy them, while only 11.5% used them regularly. Furthermore, 54.7% of the patients exhibiteda positive attitude toward the treatment, highlighting the importance of patient education and addressing their questions.

**EFFECTIVENESS OF SELF-INSTRUCTIONAL LEAFLET**

The analysis of pre- and post-test knowledge levels indicated a significant increase in the mean score from 8.91 to 14.43, with a mean difference of 6.43. The standard deviation changed from 9.02 to 14.22, yielding a t-value of 24.41, which was highly significant at the 5% level. Similarly, the analysis of attitude levels showed an increase in the mean score from 10.4 to 12.2, with a mean difference of
1.8. The standard deviation shifted from 80.1 to 93.9, resulting in a t-value of 13.4, also highly significant at the 5% level.These findings indicate that the knowledge and attitudes of housekeeping workers significantly improved following the provision of a self-instructional leaflet. This study aligns with the research conducted by Manju Amrutram Shahu et al. (2020), which examined the effectiveness of a self-instructional module on knowledge and attitude regarding varicose veins among staff nurses. Their analysis revealed a post-test mean knowledge score of 25.16 (SD ±3.74) compared to a pre- test mean score of 13.10 (SD ±3.54), with a calculated t-value of 30.13, exceeding the table value of 2.00 at the 0.05 significance level.Additionally, the study aimed to associate post-test levels of knowledge and attitude with selected demographic variables. The results indicated that knowledge levels were significantly associated with age, gender, and years of experience (p<0.0001), while attitude levels did not show significant associations with any demographic variables.

**Conclusion**:

The study on the effectiveness of a self-instructional leaflet regarding the prevention and management of varicose veins among housekeeping workers at Panimalar Medical College Hospital & Research Institute concludes that the leaflet significantly improved the participants' knowledge and attitude. The results demonstrate that providing educational materials like leaflets can be an effective intervention in raising awareness and promoting positive attitudes toward the prevention and management of varicose veins. This suggests that similar self- instructional tools can be implemented in the workplace to empower employees, particularly those at risk due to prolonged standing, with the knowledge necessary to reduce the incidence and impact of varicose veins.

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