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RESEARCH ARTICLE

RISK FACTORS OF VARICOSE VEINS AMONG SECURITY GUARDS

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Abstract

Introduction: The people who are involved with prolonged sitting or standing in their day to day activities tend to have an increased risk for varicose veins. The objective of the study was to identify the risk factors of varicose veins among security guards.

Methods: A cross sectional study was done among 150 security guards working in Udupi District with a minimum of one year experience were selected by systematic random sampling technique. Interview method was used to identify the risk factors of varicose veins among the security guards.

Results: The study result shows that out of 150 security guards, 5.3% had family history of varicose veins, only 6% had taken treatment for vein problem, 56.7% of them maintained standing position during their work and had habit of smoking 32.7%, history of consuming alcohol 40.7%, history of constipation 23.3%, not doing exercises daily 65.3%, no habit of using the stockings 87.3%, no habit of elevating the legs while sleeping 95.3%.

Conclusion: The present study identified some of the risk factors of varicose veins among the security guards which gives the input for the health workers to educate the security guards and motivate them to follow the healthy habits to prevent further complications.

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INTRODUCTION

The people who are involved in prolonged sitting or standing during their daily activities are prone for developing varicose veins; the reason is the same for the security guards, who are as a part of their profession need to stand for prolonged periods, placing them at the highest risk of developing varicose veins.

Varic is a Latin word means swelling. Varix means enlarged tortuous vein. Varicose veins are the common vein disorders which are enlarged veins. Veins move blood from body to heart. When the valves in the veins weaken, they allow blood to flow backward and pool in the veins. Varicose veins are common, which affect 60% of Americans. In many cases, varicose veins cause some cosmetic problem and also cause pain and discomfort¹.

The risk factors like overweight, heavy lifting, and pregnancy increase the chances of developing varicose veins. Age, menopause, genetic weaknesses in the vein walls or low fiber diet also causes an increase in straining during bowel movements also increase the risk for developing varicose veins.²

As per the census of WHO (2007), 2% of the western population have varicose vein, women have 3-4 times more than men. Varicose veins are least found in Eastern population. Statistics as per the country for prevalence of varicose veins is 45 per 1000. It was found approximately one in 22 for U S A. In India the varicose vein show an effect on one out of 2 people aged 50 years. In Bangalore about 3-5% of the total population suffer from venous problems, of which 10% of population has varicose veins.³

Though there is high prevalence of varicose veins in India, very few studies have been conducted in India among security guards. Researcher personally has observed that most of the security guards were unaware of varicose veins and also not diagnosed. Hence, the researcher felt the need to assess the risk factors of varicose veins among security guards.

The objective of the study was to identify the risk factors of varicose veins among security guards.

Materials and methods:

A descriptive survey was done among 150 security guards aged above 18 years. Data were collected from security guards those who have more than one year work experience and willing to participate in the study. Data collected by using pre tested structured interview technique after obtaining permission from the respective area supervisors. Informed consent was taken from the participants. Systematic random sampling was used to select the security guards.

All the tools were validated and tool found reliable. The tools used were Demographic Proforma, Semi Structured Risk Assessment Tool for varicose veins. The demographic proforma was designed to collect the background information of the subjects. It consists of 13 items which include age, gender, years of experience, and hours of work, area of work, meat intake, type of food, shift change, source of information regarding varicose veins. The items did not have any scoring as they were meant to collect the factual information.

To collect the information regarding the risk factors of varicose veins among the security guards a Semi Structured Risk Assessment Tool was designed. It consists of 26 items which consists of items like previous history of varicose veins, family history of varicose veins, treatment for vein problems, prolonged standing at work, prolonged sitting at work, heavy lifting during house hold activities, previous leg injury, exposure to sun, habit of smoking, drinking alcohol, constipation, doing exercises daily, using stockings, habit of wearing tight under garments, wearing tight belt, elevating legs while lying down, wearing high heels, sitting legs crossed, bleeding disorders, history of blood clots, history of superficial phlebitis, history of recent leg trauma, history of pulmonary emboli, history of congestive heart failure, history of vascular surgery, history of heart or bypass surgery. This tool has two components which are 'Yes' and 'No'. The items have an individual scoring where no-0, yes-1. Total score was 26.

Result:

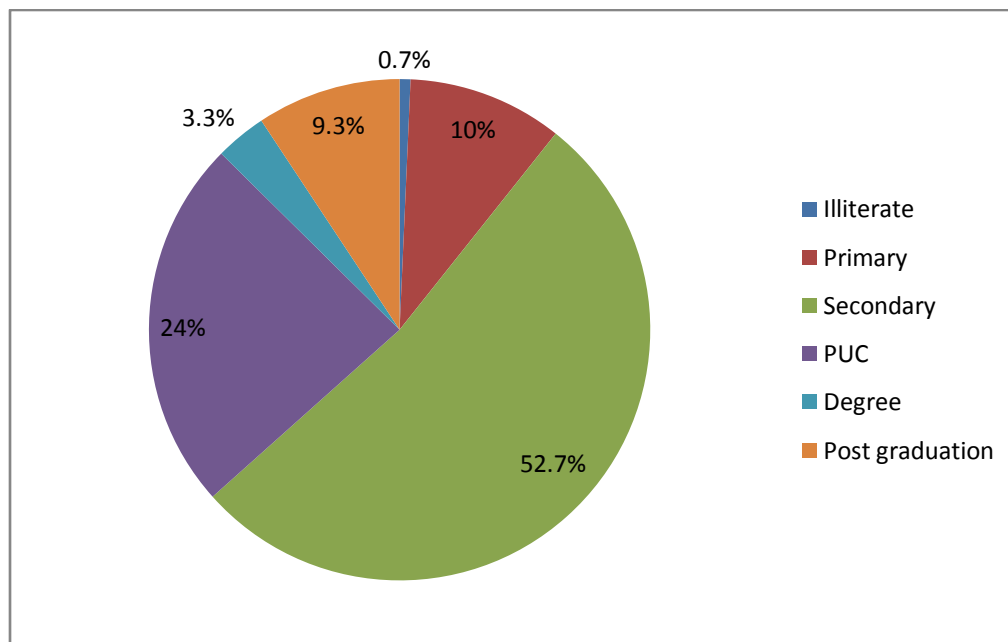
Statistical Package for Social Sciences (SPSS 16.0) software was used for statistical analysis of raw data. The result shows that out of 150 security guards, 66.7% were belongs to the age group of 18-29 years, 77.3% were males, 59.3% were unmarried, 52.7% have secondary education (Fig 1), and 92.7% consume non-vegetarian diet. Most of the sample (60%) consume meat once a week, 98.7% had 1-10 years of work experience, 100% samples were working for 12 hours per day, 44.7% walk during their duty time, 85.3% have not been hospitalized for varicose veins, 84.7% had not got any information regarding the varicose veins (table 1 - 4).

Table 1: Frequency and percentage distribution of sample based on sample characteristics n=150

Sample characteristics	f	%
Age in years		
18-29	100	66.7
30-41	26	17.3
42-53	24	16.0
Gender		
Female	34	22.7
Male	116	77.3
Marital status		
Married	57	38
Unmarried	89	59.3
Widow/widower	4	2.7

Table 2 : Frequency and percentage distribution of sample based on sample characteristics (n=150)

Sample characteristics	f	%
Type of food		
Vegetarian	11	7.3
Non vegetarian	139	92.7
Meat intake in a week		
Daily	7	4.7
Once a week	90	60
Twice a week	25	16.5
Thrice a week	15	10
More than four times	7	4.7
Never	6	4

**Fig 1 shows the educational level of security guards****Table 3: Frequency and percentage distribution of sample based on sample characteristics (n=150)**

Sample characteristics	f	%
Total experience as security guard		
1-10	148	98.7
11-20	1	0.7
21-30	0	0
31-40	1	0.7
Area of work		
Colleges	68	45.3
Hospitals	3	2.0
Hostels	73	48.7
Banks and ATM centers	1	0.7
Others	5	3.3
Total hours of work		
12 hours	150	100
Posture during work		
Sitting	29	19.3
Standing	54	36
Walking	67	44.7

Table 4: Frequency and percentage distribution of sample based on sample characteristics

(n=150)		
Sample characteristics	f	%
Shift change		
Weekly	150	100
History of hospitalization due to varicose veins		
Yes	22	14.7
No	128	85.3
Source of information regarding varicose veins		
Family members	8	5.3
Friends and peers	2	1.3
Health care personnel	13	8.7
Nil	127	84.7

Table 5: Frequency and percentage distribution of risk factors based on sample characteristics

(n=150)		
Risk factors	f	%
Presence of Varicose veins		
No	143	95.3
Yes	7	4.7
Family history of varicose veins		
No	142	94.7
Yes	8	5.3
Treatment for veins problems Taken		
No	141	94
Yes	9	6
Standing at working hours		
No	65	43.3
Yes	85	56.7

Table 6: Frequency and percentage distribution of risk factors based on sample characteristics

(n=150)		
Risk factors		%
Sitting at working hours		
No	85	56.7
Yes	65	43.3
Heavy lifting during house hold activities		
No	51	34
Yes	99	66
Previous leg injury		
No	85	56.7
Yes	65	43.3
Exposure to sun		
No	59	39.3
Yes	91	60.7

Table 7: Frequency and percentage distribution of risk factors based on sample characteristics

(n=150)		
Risk factors	f	%
Habit of Smoking		

No	101	67.3
Yes	49	32.7
Alcohol consumption		
No	89	59.3
Yes	61	40.7
Have Constipation		
No	115	76.7
Yes	35	23.3
Doing Daily exercises		
No	98	65.3
Yes	52	34.7
Using stockings		
No	131	87.3
Yes	19	12.7

Table 8: Frequency and percentage distribution of risk factors based on sample characteristics**(n=150)**

Risk factors	f	%
Tight undergarments		
No	95	63.3
Yes	55	36.7
Using Tight belt		
No	89	59.3
Yes	61	40.7
Elevating legs during sleep		
No	143	95.5
Yes	7	4.7
Wearing high heels		
No	142	94.7
Yes	8	5.3
Sitting legs crossed		
No	106	70.7
Yes	44	29.3
Have Bleeding disorders		
No	142	99.3
Yes	8	5.3
Undergone Heart or bypass surgery		
No	149	99.3
Yes	1	0.7

Description of sample with risk factors of varicose veins:

The study result shows that out of 150 security guards, 4.7% had previous history of varicose veins, 5.3% had family history of varicose veins, 56.7% reported that they maintain standing position during their working hours, 43.3% of them maintain sitting position during their work, 43.3% had history of previous leg injury. Most of the samples (60.7%) had exposure to sun during work time, 32.7% of them had habit of smoking, 40.7% had history of consuming alcohol. Majority of them had history of constipation(23.3%), 65.3% of them were not doing exercises daily, no habit of using the stockings 87.3%, and also almost 95% of them had no habit of elevating the legs while sleeping (Table 5-8).

Discussion:

The findings of the present study shows that out of 150 sample, few of them are at risk for varicose veins, of them prolonged standing at work 43.3%, prolonged sitting at work 56.7%, previous leg injury 43.3%, smoking 32.7%, alcohol consumption 40.7%. Similar findings supported by Ahti TM et al., was conducted among 4903 sample to assess the risk factors like smoking, alcohol consumption, dietary factors are linked with varicose veins or not. Life style habits of the sample were recorded at the starting and at the end. New varicose veins are formed in the individuals who are consuming alcohol regularly incidence ratio-(1.5 95% CI-1.05-2.3). Smokers when compared to

non-smokers have higher incidence (OR-1.3 95% CI: 0.9-1.8). Consuming meat daily has less new varicose veins when compared to sample consuming 0-2 times weekly meat .⁴

Conclusion:

The present study aimed at identifying the risk factors of varicose veins among the security guards. According to findings of the study, security guards are vulnerable for varicose veins, influenced by the factors like hours of work, BMI, alcohol consumption. Further studies are required to provide awareness programme on varicose veins prevention and management to security guards.

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