The risk of varicose veins in standing female workers

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Abstrak

Latar belakang: *Varises sering terjadi pada karyawan yang harus bekerja dalam posisi kerja berdiri. Tujuan penelitian ini untuk mengetahui beberapa faktor risiko terhadap varises tungkai dan atau kaki di antara pekerja perempuan.*

Metode: *Penelitian potong lintang ini dilakukan pada Januari-Maret 2010. Sampel penelitian yang dipilih secara purposif yang memenuhi kriteria inklusi penelitian di antara pekerja perempuan perlu bekerja dalam posisi kerja berdiri. Data dikumpulkan dengan wawancara, pemeriksaan fisik dan observasi posisi kerja berdiri. Pengolahan data untuk menentukan faktor dominan terhadap varises menggunakan pendekatan risiko relatif.*

Hasil: *Dari 152 karyawan yang terdapat 111 yang bersedia mengikuti penelitian, dan yang menderita varises tungkai dan atau kaki sebanyak 52,3% (53 orang). Sebagian besar responden berusia 18-35 tahun, memiliki masa kerja 3-17 tahun, bekerja dalam posisi kerja banyak berdiri. Sebagian kecil responden memiliki riwayat varises di dalam keluarga (13,51%), memakai kontrasepsi oral (11,71%), memiliki kebiasaan olah raga (18,02%) dan memakai sepatu hak tinggi (11,71%). Faktor umur, pemakaian kontrasepsi oral, pemakaian sepatu hak tinggi, kebiasaan olah raga, posisi kerja berdiri, tempat kerja, dan masa kerja tidak berhubungan dengan varises tungkai dan atau kaki. Karyawan yang mempunyai dibandingkan dengan yang tidak mempunyai riwayat keluarga varises, berisiko 69% lebih tinggi menderita varises [risiko relatif (RR) = 1,69; P = 0.121].*

Kesimpulan: *Karyawan yang mempunyai riwayat keluarga varises berisiko lebih tinggi menderita varises.* ***(Health Science Indones 2013;1:47-50)***

Kata kunci: *varises, posisi kerja berdiri*

Abstract

Background: Varicose veins often occur in employees who have to work in a position of standing work. The purpose of this study to determine risk factors for varicose veins and leg or foot among women workers.

Methods: In this cross-sectional study in January-March 2010 the samples were selected purposively who met inclusion criteria among female workers who work in the position of standing work. Data were collected by interview, physical examination and observation of the position of standing work. To determine the dominant factors for varicose veins, data processing was using relative risk approach.

Results: A number 111 out of 152 employees worked in a lot of work standing position participated the study, and who had varicose veins and leg or foot as was 52.3% (53 people). The majority of respondents aged 18-35 years, had total work period of 3-17 years, and worked in a lot of work standing position. Those who had a family history of varicose veins were 13.5%, taking oral contraceptive were 11.71%, has a habit of exercise (18.0%), and high heels (11.7%). Age, use of oral contraceptives, use of high heels, exercise habits, work standing position, place of work, and working period did not associate with varicose veins. Employees who had than did not have family history of varicose veins had 69% higher risk of suffering from varicose veins [relative risk (RR) = 1.69, P = 0.121].

Conclusion: Employees who had family history of varicose veins had higher risk suffering varicose veins. ***(Health Science Indones 2013;1:47-50)***

Keywords: varicose veins, position of standing work

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Varicose veins often occur in employees who have to work in a position of standing work and widespread in developed countries. It is more frequent in women than men and its prevalence increases by age.[1]

Previous study in France reported that the prevalence of varicose veins in women aged 18–65 years was 50.5% and men was 30.1%.[2] Another study in Edinburgh in 1566 subjects aged 18-64 years noted reported the prevalence of varicose veins in women was 32.2% and men 40%.[3]

The varicose vein may have big economic impact for the company. More than 50000 varicose veins surgeries were done every year in United Kingdom and the expenses related to the treatment of varicose veins per year reached 10 million Euros in Belgium, France, Italy and UK.[2] Therefore it is important to identify dominant factors relate to varicose veins in female who have to work in a position of standing.

METHODS

This cross-sectional study was conducted in January-March 2010, selected purposively samples who met inclusion criteria among female workers who work in the position of standing work. The subjects worked in storage, cutting, helper, quality control, ironing and packing department.

The exclusion criteria were pregnant, had no permit from supervisor to be of research subject and suffered from superficial phlebitis and or deep venous thrombosis in leg and or foot.

The collected data were on education age, oral contraceptive used, using high heels shoes habits, physical exercise habits, workplace, total word duration, and Work standing posture, and family history of varicose veins

For analysis varicose vein were divided into 2 groups: varicose vein positive if physical examination found varicose vein (+) on inspection and also palpation (+), and varicose veins negative if physical examination found varicose vein on inspection (+) and palpation (-) or physical examination found on inspection (-) and palpation (-).

Age divided into 2 groups, less than 35 years and more than or equal to 35 years. [3,4]

Family history of varicose veins was divided into 3 groups (no family history of varicose veins, having family history of varicose veins, and did not know whether.

Oral contraceptive use was divided into 2 groups (oral contraceptive use or otherwise). Using high heels shoe was divided into two sub group (wearing of high heels shoe or otherwise). Physical exercise was divided into having physical exercise or otherwise.

Workplace was divided into 2 groups (the workplace which have standing during working more than or equal to 4 hours per day) in cutting, quality control, ironing and packing department and the workplace not a lot of standing during working (less than 4 hours in a day) in storage and helper department.

For the purpose of analysis, working hour was divided into 2 groups, less than or equal to 8 hours a day and more than 8 hours a day[5], and standing posture was divided into 2 groups, less than 6 hours a day and more than or equal to 6 hours a day.[6]

To determine the dominant factors for varicose veins, data processing was using relative risk approach (Cox regression) using Stata release 9.

RESULTS

A number 111 out of 152 employees worked in a lot of work standing position participated the study (31 were pregnant, and 11 workers did not permission to from the company management to join this study). Those who had varicose veins were 52.3% (53 people). The majority of respondents aged 18-35 years, had total work period of 3-17 years, and worked in more standing position. Those who had a family history of varicose veins were 13.5%, taking oral contraceptive were 11.71%, has a habit of exercise (18.0%), and high heels (11.7%).

Table 1 shows that subjects who had and did not have varicose similarly distributed with respect age, oral contraceptive used, using high heels shoes habits, physical exercise habits, workplace, total word duration, and Work standing posture.

Table 2 shows that subjects who had than did not have family history of varicose veins had 69% higher risk to be varicose veins.

DISCUSSION

Observation for standing posture during working hours and exploration risk factor of pregnancy and work design are disadvantage. Making the earlier diagnosis of varicose veins made a big health impact to employee and completed the study before is the advantage for this study.

Table 1. Relationship between varicose veins and age, oral contraceptive use, wearing of high heels shoe, physical exercise, workplace, work period and standing posture

	Varicose veins		Crude relative risk	95 confidence interval	P
	No (n=58)	Yes (n=53)			
Age (years)					
18-34 years	13	8	1.00	Reference	
35-46	45	45	0.82	0.42–1.60	0.566
Oral contraceptive used					
No	52	46	1.00	Reference	
Yes	5	7	1.03	0.42-2.51	0.952
Wearing of high heels shoes					
No	51	47	1.00	Reference	
Yes	7	6	0.93	0.49-1.76	0.815
Physical exercise					
No	49	43		Reference	
Yes	9	11	1.19	0.57-2.49	0.815
Workplace					
No	11	15	1.00	Reference	
Yes	47	38	1.19	0.61-2.40	0.585
Total word duration					
0.5-2.5 years	15	16	1.00	Reference	
3-17 years	43	37	1.21	0.51-1.89	0.585
Work standing posture					
3-5 hours	4	6	1.00	Reference	
6-7 hours	54	47	1.29	0.46-3.70	0.625

Table 2. Relationship between family history of varicose veins and varicose veins

	Varicose veins		Relative risk	Relative risk	P
	No (n=58)	Yes (n=53)			
Family history of varicose veins					
No	38	45	1.00	Reference	
Yes	12	2	1.69	0.87-3.28	0.121
Did not know	8	5	1.33	0.61-2.92	0.478

Proportion Prevalence of varicose veins was 52.4% and consistent with results of several study. In this study there was no relationship between age and varicose veins, the maximal age of subjects was 46 years.

Subjects who have family history of varicose veins have risk 69% higher than the others suffered from varicose veins. This result similar to Ahti and Laurikka studies that were reported family history of varicose veins was risk factor to varicose veins.[7, 8]

There was no relationship between oral contraceptive used and varicose veins. It can be happened because the data about how long oral contraceptive using., The content of oral contraceptive and the dosage using it did not ask. There was no relationship between wearing of high heels shoe and varicose veins. This could be because there were no data about how long wearing of high heels shoe and in interrupted or in continue period of wearing it.

Physical exercise also did not show relationship to varicose veins, this is maybe in this study how long physical exercise have been done, interrupted or continue in practicing physical exercise and kind of physical exercise that have been done were not asked.

Also there is no relationship between standing posture and varicose veins, it could be explained that most of employees perform standing posture 6 hours a day and there was no detail observation about standing posture of them. In this study perform standing posture during working more than or equal to 6 hours a day and suffered from varicose veins were a lot (53.5%), so it needed recommendation

to employers to provide foot rest or stool chair to employees who almost standing at work.[9,10]

In this study there was no relationship between workplace and varicose veins, this condition also influenced by another factor like workplace design. Well design work place was important to prevent diseases and increase productivity.

Work place with well designed could make the employees maintain a right and comfort body posture, so it can be prevented many problems such as back injury and circulation disorders in leg.[10,11]

There was no relationship between work period and varicose veins; it can be explained because most of employees had worked three until five years,

As conclusion, there was no relationship between standing posture with varicose veins in women workers and subjects who have family history of varicose veins have higher risk varicose veins.

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