

ASSESSMENT OF PUBLIC AWARENESS IN THE FIELD OF EPIDEMIOLOGY, PREVENTION AND TREATMENT OF CHRONIC VENOUS DISEASES IN POLAND

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ABSTRACT

Aim of the study: Both prevention and treatment of chronic venous disease (CVD) are potentially related to the proper patient knowledge in this field. This paper presents the results of a study commissioned by Polish Society of Phlebology concerning the patient awareness in the field of epidemiology, prevention and treatment of CVD in Poland.

Material and methods: The study was performed with the use of computer-assisted interviews conducted on a nationwide representative sample ($n = 828$) and additionally on a nationwide representative sample of women ($n = 177$).

Results: The most common complaint reported by the respondents was a feeling of heaviness and fatigue in the lower limbs – 62%. Thirty-seven percent reported lower-leg pain related to body posture and 33% lower limb swelling. In 27% the presence of varicose veins and in 2% crural ulcers were reported. The majority of symptomatic respondents (64%) never reported their problems to the physicians; 23% of them received assistance from a pharmacist. Among symptomatic patients, compression therapy was used by 11%, 23% took medication, and 18% received dietary supplements. The most common source of information on CVD was the knowledge obtained from friends and families (37%) and from the media (37%). Only 22% indicated the physician as a knowledge resource. As many as 7 out of 10 respondents believed that the education in the area of CVD is necessary.

Conclusions: Despite the fact that CVD are widespread among patients, they are still rarely diagnosed by medical personnel and the level of patient knowledge concerning CVD remains low.

Key words: chronic venous disease, epidemiology, prevention, treatment.

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INTRODUCTION

Chronic venous diseases (CVD) of the lower limbs belong to the most common diseases of the vascular system. Epidemiological studies related to CVD suggest that they affects 2–56% of men and 1–73% of women; the incidence in the population significantly increases with age [1–4]. Significant differences related to the extremely diverse reported incidence of CVD result from the differences between study populations and from the evaluation methods adopted by authors of these publications [1, 5–7]. According to the study by Jawień *et al.*, among those patients who visited primary health care specialists, regardless of the reason for their appointment, 48% of adult Polish women and 37% of adult Polish men suffer from CVD. Varicose veins of the lower limbs, as the most common manifestation of the disease, were diagnosed in 48% of the patients who were diagnosed with CVD; oedema was reported in 11% of the patients [8]. In the entire study population, the presence of varicose veins was observed in 35.3% of women and 27.9% of men [8].

The prevalence of CVD also involves a significant risk of complications, even life-threatening ones, such as: superficial vein thrombosis and/or deep vein thrombosis. Their clinical symptoms have a significant impact on the quality of life (oedema, trophic lesions, and venous ulcers of the shin, a subjective feeling of heaviness, tiredness or pain in the area of the lower leg) [3, 9–13]. Despite the seemingly broadened knowledge shared by medical communities related to CVD, patient education in this regard still proves insufficient. It is primarily revealed by a large number of patients presenting an advanced stage of the disease (C4–C6). Insufficient public awareness makes the problem of venous system diseases a rare reason for medical consultations; on the other hand, patients often underestimate problems associated with their limbs.

This paper presents the results of a nationwide study of public awareness and the knowledge of adult Polish citizens concerning epidemiology, symptomatology and methods of prevention and treatment related to CVD. The study was conducted on the basis of the results of computer-assisted telephone interviews; it was carried out with the help of an independent agency specialised in public opinion research. The study was commissioned by Polish Society of Phlebology and supported by the research scientific grant of HASCO-LEK company.

MATERIAL AND METHODS

The study was performed in the period between 31 March and 11 April 2014; it was conducted all over Poland on a nationwide representative sample of respondents of both sexes. The study was commissioned by the Polish Society of Phlebology and completed by IMAS

International Sp. z o.o., Instytut Badania Rynku i Opinii Społecznej (Institute for Market Research and Public Opinion). The study included 20–80 year-old respondents from all Polish provinces; the study was performed on the basis of computer-assisted telephone interviews; the study was based on a questionnaire developed by the Contractor together with the Polish Society of Phlebology. The study population included the main sample representative of the Polish population aged 20–80 ($n = 828$) and an additional sample of women representative of the population of women aged 20–80 ($n = 177$). The study was performed based on randomly selected telephone numbers and randomly selected cell phone numbers. Distribution of the study population by sex, age, province and class of the place of residence, and after weighting data about educational level reflected the distribution of a general Polish population aged 20–80: 22% of respondents were aged 20–30; 28% were aged 31–45; 28% were aged 46–60; and 22% were aged 61–80. Thirty-nine percent of respondents lived in rural areas; 23% of them lived in cities of fewer than 50,000 inhabitants; 16% of the respondents lived in cities of 51,000–200,000 inhabitants, 16% of them lived in cities of more than 200,000 inhabitants and 5% of them lived in Warsaw. Forty-two percent of the respondents confirmed having basic primary education or basic vocational training; 36% of them completed secondary school education and 22% of them graduated from higher education institutions. The aim of this study was to determine the prevalence of potential risk factors for CVD (related to lifestyle, the nature of work, physical activity or the lack of it, stimulants and patient's family burden) and to identify the symptoms and signs of CVD declared by the Polish study subjects. The study also involved questions about the ways to treat ailments of the lower limbs and the frequency with which the respondents used medical and pharmaceutical assistance for those reasons. The survey also included questions aimed at determining the level of the subjects' knowledge about the causes of varicose veins and swelling and the possible complications of CVD. The study identified the sources of information on varicose veins used by the respondents; other questions were also related to the respondents' sense of being well-informed about the treatment and prevention of vein diseases, and the definition of their expectations concerning the related information published in the media. The results were evaluated as a whole and also as divided by sex. A detailed analysis also included the respondents' age.

In the study population, 56% of individuals were employed and 44% were unemployed. Among the unemployed, 12% were students, 66% lived of pension or allowance or remained on a long-term leave; 22% were unemployed and searching for work. Among the employed respondents, 57% considered their work to be physical; 43% declared to be white-collar workers and 35% of the working group said their work mostly required a sitting

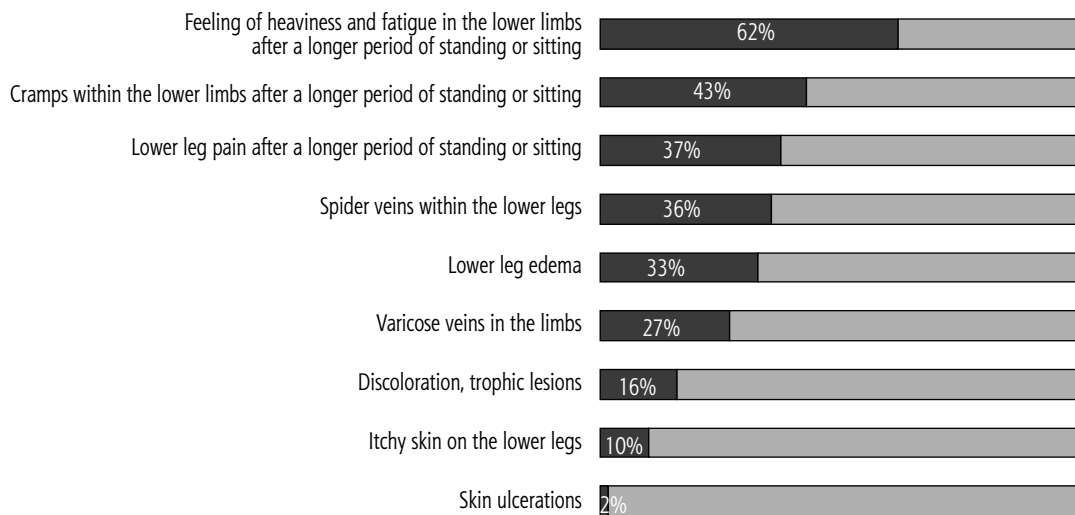


Fig. 1. The frequency of signs and symptoms potentially associated with chronic venous disease in the study population

position, 17% maintained it required a standing position, and 48% said their work required walking; 38% of the respondents maintained that they would spend less than 4 hours a day in a seated position; 37% said that they would remain seated 4 and 8 hours a day; 23% reported that they spend at least 8 hours a day in a sitting position. Twenty-four percent of the respondents reported that they would spend less than 4 hours daily in a standing position; 32% of the respondents rated that they would spend between 4 and 8 hours a day seated, and 42% declared that they would spend at least 8 hours a day in a standing position.

RESULTS

Characteristics of the symptoms reported by the study group

Fifty-six percent of the respondents reported that their close family members (parents, grandparents or siblings) had varicose veins; 79% of the respondents who suffered from varicose veins had a close relative affected by the problem (in the group of patients without varicose veins, less than half of it, i.e. 48%, declared that their parents, grandparents or siblings were diagnosed with varicose veins). When asked about the ailments potentially associated with CVD, the respondents first mentioned a feeling of heaviness and fatigue of the lower limbs after a long period of standing or sitting, which problems occurred in 62% of the subjects. Lower-leg pain and swelling related to 36% and 35% of the respondents, respectively; varicose veins were reported by 27% of the respondents. Other symptoms potentially associated with CVD are listed in the diagram in Fig. 1. In more than half of the respondents under 30 years of age (55%), varicose veins remained for no longer than 5 years. In each subsequent age group,

more and more respondents reported that the period from the onset of varicose veins was longer. Among the oldest respondents (age range: 61–80), 45% reported the presence of varicose veins for over 20 years; in 22% they were present for 10–20 years; 18% reported the presence of varicose veins for 5–10 years and 8% had them for less than 5 years.

The ailments reported by the respondents differed significantly depending on gender and age. The symptoms potentially associated with CVD were more often reported by women (Table 1). According to the respondents' declarations, varicose veins were almost twice more common in women than men. In relation to spider veins (telangiectasia), the trend was even more pronounced: they were thrice more common in women than in men. The incidence of particular problems related to the lower limbs increases with age. That trend is particularly evident in the case of varicose veins; in people aged 61–80 varicose veins are more than 5 times more frequent than in the youngest age group (20–30 years old); other ailments occur about 2 to 3.5 times more frequently in the oldest study group (61–80 years of age) than in those at the age of 20–29. Only 20% of the respondents (28% of men and 13% of women) did not report any complaints mentioned in the survey.

Among the respondents with varicose veins, the majority also reported the presence of the following symptoms: 79% of the respondents reported a feeling of heaviness and fatigue within the lower limbs; 57% reported pain; and 52% reported swelling after a prolonged period of standing or sitting. At the same time, skin hyperpigmentation around the ankle and lower leg was reported by 40% of the respondents with varicose veins and the occurrence of chronic non-healing wounds on the shin (ulcers) were reported by 4% of the respondents with varicose veins.

Table 1. Symptoms and signs in the lower limbs according to age and sex of the respondents

Symptoms and signs related to the lower limbs	Men (n = 401) %	Women (n = 604) %	20–30 years (n = 185) %	31–45 years (n = 236) %	46–60 years (n = 228) %	61–80 years (n = 179) %
A feeling of heaviness and fatigue of the lower leg after standing or sitting	54	70	55	57	69	66
Cramps in the lower leg after a long period of standing or sitting	39	46	30	38	49	54
Pains in the lower leg after a longer period of standing or sitting	36	37	25	32	46	46
Spider veins	17	51	19	37	39	47
Oedema of the lower limbs	24	40	17	31	35	48
Varicose veins of the lower limbs	19	32	8	23	32	44
Trophic discolorations on the lower leg or ankle area	13	18	8	13	20	23
Itching of the skin around the lower leg	8	12	5	7	11	18
Shin ulceration	1	1	1	1	1	4

Therapeutic management in symptomatic patients

The respondents who reported the above-mentioned problems in the lower limbs were also asked to identify the methods used by them on a daily basis in order to reduce the discomfort associated with the presence of these symptoms. The most common method was to elevate the lower limbs as often as possible (57%). The second most commonly mentioned method of treatment was the use of topical drugs for limbs, that is gels, ointments, creams or sprays (39%); 17% of the respondents used cold compresses to relieve the ailments. Pharmacological, orally administered treatment was used only by a part of the symptomatic group of respondents: 23% of them used phlebotropic medication and 18% used dietary supplements. Only 11% of the respondents with symptoms in the lower limbs mentioned the use of compression treatment with bandages or commercially available compression products (graduated compression stockings). Four percent of the respondents reported that they underwent a previous varicose vein surgery. It is interesting that only 36% of the respondents who confirmed the existence of the above symptoms potentially associated with CVD completed an appointment with a doctor; 23% of them received assistance from a pharmacist, and as many as 28% never used any method of treatment, neither in the form of medical recommendations, nor self-medication. Table 2 shows the use of pharmaceutical therapy, nutritional supplements and topical methods of treatment depending on gender and age. The analysis of the method of treatment also included the incidence of varicose veins. As it becomes clear from the survey, women much more often than men attempt to treat their ailments (the percentage of those who take up treatment

in the group of symptomatic respondents: women – 80%, men – 61%). As much as half of the youngest group of respondents (51%, aged 20–30) with reported problems within the lower limbs did not take up any treatment. These figures decreased with age progression and in the age interval between 61 and 80 years concerned only 18% of such patients. Patients with varicose veins were much more likely to use various forms of treatment – only 16% of them were never treated due to varicose veins or related symptoms.

The percentage of respondents seeking medical help (in the group of symptomatic subjects) significantly differs with age. In the age group of 20–30, 9% of the respondents who had problems reported them to a doctor; in the age group of 31–45 29% of the subjects visited a doctor; in the age group of 46–60 42% of them visited a doctor; in the age group of 61–80 56% of them had a doctor's appointment. Among the respondents with varicose veins, 53% consulted a doctor due to their problems. Among the respondents with other problems than varicose veins, only 27% reported a prior medical consultation in relation to the problems associated with those ailments.

Patient knowledge in terms of risk factors and chronic complications of venous diseases of the lower limbs

Fifty-nine percent of the respondents considered the nature of their work and lifestyle as an important cause of venous insufficiency. Fewer respondents (36%) considered genetic factors to be the cause of CVD. Every fourth respondent concluded that genetic factors are of minor or no importance, while in the case of the above-mentioned environmental factors only 11% of the respondents

Table 2. The use of pharmacological therapies (topical and oral drugs, dietary supplements and compression therapy) by symptomatic patients according to gender, age and the presence of varicose veins

Management methods in the group of symptomatic patients	Men (n = 276) %	Women (n = 523) %	20–30 years (n = 127) %	31–45 years (n = 179) %	46–60 years (n = 191) %	61–80 years (n = 155) %	Patients without varicose veins (n = 440) %	Patients with varicose veins (n = 212) %
The use of pharmacological medication	19	25	2	17	28	41	15	38
The use of dietary supplements	13	22	12	14	20	23	15	23
Ointments, gels, creams, sprays	28	43	23	30	47	51	30	56
The application of cool compresses	15	18	8	16	21	21	15	23
The use of compression therapy: compression stockings, bandages	10	15	2	7	14	19	4	25
Elevation of the lower limbs	40	68	36	59	64	63	49	73
Past surgical treatment – surgery due to varicose veins of the limbs	3	5	0	3	7	7	0,2	13
Other invasive procedures for varicose veins or spider veins	1	3	0	3	4	2	1	5
Other methods of treatment	4	7	2	8	5	7	5	6
No previous or current treatment	39	20	51	28	22	18	34	16

thought these were of minor or no importance. According to the vast majority of respondents (81%), varicose veins are more of a health than an aesthetic problem; 14% of the respondents expressed the opposite view, and every twentieth respondent could not answer such questions. When asked how often varicose veins occur, 18% of the respondents replied that they affect up to 20% of the adult population, 29% estimated the percentage of patients with varicose veins at the level of 21–40%, 21% of the respondents estimated it at the level of 41–60%, and 8% of the respondents estimated it at a level above 60% of the population. The following risk factors which exacerbate the problems associated with CVD (including varicose veins and swelling) were identified by the respondents; 93% of them pointed to being overweight or obese, 87% pointed to long periods of standing or sitting, 80% pointed to no physical activity, 77% pointed to pregnancy, 56% pointed to heat/hot weather and 38% pointed to hormonal treatment. At the same time, as many as 73% of the respondents considered arterial hypertension to be a risk factor affecting the progress of the disease, 60% of them mentioned smoking, 53% – alcohol consumption, 24% – intensive running, and 17% – cycling. Women and respondents with higher education less often pointed to running and cycling as a risk factor; more often they would mention nearly all other factors, especially hormonal medication and high temperature.

When asked about the complications, ailments and problems that are the potential consequences of varicose veins, the respondents most frequently mentioned problems within the vascular system such as blood clots and embolisms (30% of respondents), “circulatory disorder

in the limbs” (25%), problems with walking and mobility (15%), pain in the lower extremities (15%), haemorrhage, stroke, heart attack, bleeding (12%), heart problems, heart diseases (6%), aesthetic problems, discolorations (6%), limb amputations (3%) and death (2%). However, 24% of the respondents were unable to spontaneously mention any health consequences that would be potentially connected with the presence of varicose veins.

During telephone interviews the respondents were also inquired about the widely-known and most common complications of varicose veins. A positive response to the question whether varicose veins can lead to deep vein thrombosis was given by 86% of the respondents, 76% of them confirmed possible skin discolorations and 58% – venous ulcerations of the shin. The respondents were asked to provide up to three media sources that they use every day; they usually mentioned television (74%), a significant proportion of them (57%) pointed to the internet, 43% pointed to the radio, every fourth respondent mentioned daily newspapers and every fifth one mentioned magazines. With regard to the sources of the respondents’ knowledge about varicose veins, only 22% reported that it was derived from doctors; 9% said that pharmacists played the role of a knowledge resource. Much more often than from the medical personnel, the respondents obtained information on varicose veins from their families (37%) or friends (35%) or from the television (37%), internet (32%), magazines (29%), newspapers (16%), advertisements/commercials (28%) or the radio (17%); 16% admitted that they had no interest in the problem of varicose veins.

As general practitioners (GPs) are more available than specialists, it seems that they should play an important role in informing the patients about the disease and the prevention options. A significant portion of the respondents (84%) believed that general practitioners should pay more attention to varicose veins and related ailments; almost every tenth respondent expressed the opposite view, and an equal number of respondents had no opinion. It seems very important that – as claimed by the respondents – in 65% of cases general practitioners never asked them about varicose veins, pain or swelling of the lower limbs (Fig. 2).

Answers to this question vary considerably; however, they depend on the age of the respondents. Older peo-

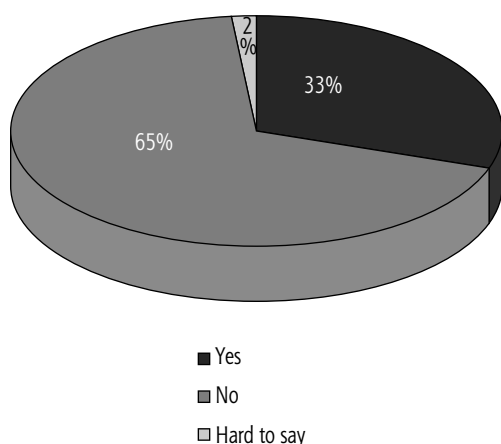


Fig. 2. The results of the respondents' answers to the question: "Has your general practitioner ever asked you about the condition of your lower limbs?"

ple more often admitted that their general practitioners asked them about the symptoms of venous insufficiency – a clear difference in this respect is evident in the group of respondents over 45 years of age (Table 3).

When asked about the specialization of the physicians dealing with venous diseases, the respondents most often (in as many as 54% of cases) could not answer that question: 27% of them mentioned vascular surgeons; 8% mentioned cardiologists; other answers did not exceed 3%. Phlebologists and angiologists were only mentioned by 1 and 2%, respectively.

A subjective impression related to being aware of the methods of prevention and treatment of venous diseases of the lower limbs was high. Every fourth respondent believed that he or she is not informed at all, neither in relation to the prevention, nor treatment of these ailments. Those individuals, including the respondents who think they are poorly informed, account for nearly half of all the respondents (Fig. 3).

As many as 70% of the respondents believed that the problem of venous diseases should be more publicised in the media, and as many as 54% were positive about it. The opposite view was expressed by every tenth respondent, and an ambivalent attitude towards the issue was declared by 17% of the respondents.

DISCUSSION

Although CVD rarely lead to life-threatening complications for the patient, their high prevalence and diverse symptomatology make an important health problem and at the same time generate significant social costs [2, 5, 9,

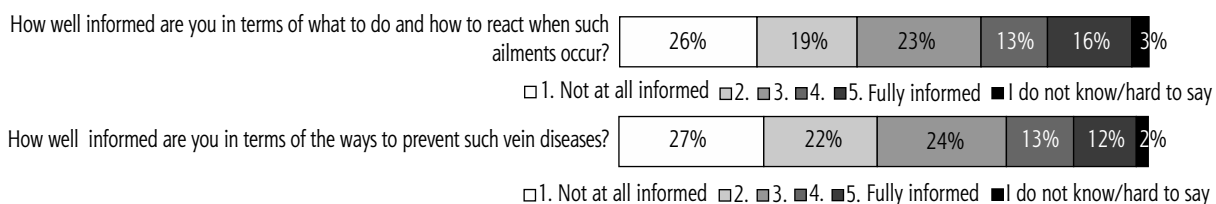


Fig. 3. Subjective impression related to being aware of the methods of prevention and treatment of venous diseases of the lower limbs

Table 3. Answers the question about general practitioner's interest in the condition of the patient's lower limbs depending on age and sex of the respondents ("Has your general practitioner ever asked you about the condition of your lower limbs?")

	Men (n = 401) %	Women (n = 604) %	20–30 years (n = 185) %	31–45 years (n = 236) %	46–60 years (n = 228) %	61–80 years (n = 179) %
Yes	29	34	10	19	45	60
No	68	65	89	78	54	39
It is hard to say/ I do not remember	3	1	1	3	1	1

14]. Local complications of the disease (including venous ulcer) and the potential impact of signs and symptoms of CVD on the patient's quality of life often limit the possibility of employment; treatment of these diseases represents a significant financial burden for the health care system and the patient [9, 14–18].

In this regard, public awareness of the risk factors, potential complications of CVD and the treatment options/methods is of great importance, especially as it relates to a disease affecting so many patients. In Western countries, varicose veins of the lower limbs occur in 25–33% of women and 10–40% of men; venous shin ulcerations (healed or active) affect 1% of the adult population [1, 9]. In the studies conducted in France, Germany and Poland, the percentage of patients with diagnosed oedema associated with venous insufficiency ranged from 1% to 14.9%, and trophic lesions of the skin in the lower-leg areas were observed in 2.1–13.2% [8, 19, 20]. This data is not entirely consistent with other reports which suggest a significantly higher incidence of CVD. A study completed in 2014 in Saudi Arabia suggests that the incidence of CVD is at the level of 61.6% (women: 69%, men: 45%) [4]. A study by Vuylstke *et al.*, based on the assessment of CVD symptoms by 406 GPs in Belgium and Luxembourg (a total of 6009 study patients reporting to GPs), suggests the occurrence of CVD symptoms, especially the feeling of heaviness, pain and oedema in 61.3% of respondents [5]. An interesting observation was made: due to the reported complaints, up to 10.4% of patients required a certificate of being at least temporarily unfit for work [5]. In another study among the residents of Edinburgh (Scotland) the presence of telangiectasia and reticular veins was found in 80% of men and 85% of women aged 18–64; swollen extremities were reported in 7% of men and 16% of women [21]. Escudero Rodrigues *et al.*, in a study on the population 19,800 patients at a mean age of 53.7 ± 20, diagnosed CVD in 48.5% of the subjects, with a significantly higher incidence of CVD in women (58.5%) than men (32.1%) [22].

Certainly the definition of CVD adopted in the study, the methodology used and the study population (e.g. the general population, patients reporting to physicians due to other problems not necessarily associated with CVD) are all of great importance for the way in which individual studies can be interpreted [23–26].

In this study, over 70% of respondents reported the presence of CVD symptoms. Only 28% of male respondents and 13% of women reported no ailments in the lower limbs. Although it should be assumed that not all the symptoms reported may be of venous origin (e.g. swelling), as the study was carried out in the form of interviews, as many as 27% of the respondents reported varicose veins which are usually easy to diagnose. It is important that the incidence of varicose veins in this survey corresponds to the incidence of varicose veins found earlier in other studies conducted in Poland [8, 9].

Despite the seemingly greater awareness of the problem of CVD, only 36% of the respondents visited a doctor due to that problem. Older patients more often used medical assistance (56% of those aged 61–80); the subjects with visible varicose veins (53%) more often visited doctors, while those without visible varicose veins were much less likely to seek medical advice (27%).

Patient education makes an important element in both the prevention and treatment of CVD [9, 27]. Early recognition of symptoms, change of one's lifestyle and promotion of those behaviours which can improve the activity of muscle pump are essential in the process of CVD treatment [9, 27–31]. Therefore, the teaching activities taken up by the medical personnel are insufficient in relation to CVD. Only 22% of the respondents received some information from their doctors on varicose veins of the lower limbs and potentially related problems; much more often the sources of the subjects' knowledge were: the television, the internet or friends. A significant portion of the patient group was not able to identify the specialization of a doctor they should relate to with problems indicating CVD.

While analysing the results the authors of this study were much aware of the limitations of the present study. The method of gathering information over the phone and no physical examination are certainly important factors affecting the assessment of the prevalence of the signs and symptoms potentially associated with venous system incompetence. Subjective assessment reported by the respondents and inability to use objective scales to assess the severity of damage to the venous system (e.g. VCSS – venous clinical severity score, CEAP) or the worsened quality of life associated with the disease (e.g. CIVIQ, VEINS-QUAL) resulted from the methodology adopted in the study [9, 23, 27]. However, it was for the first time in Poland that the level of knowledge about this very common condition, its risk factors, complications, and treatment options could be assessed along with the prevalence of signs and symptoms of CVD. The analysis helped us suggest some important conclusions not only for the Polish Society of Phlebology (who commissioned the study) but also for the entire health care system. Considering the huge costs associated with the treatment of various forms of CVD (including the most severe cases of venous ulcerations), in light of the study results it seems reasonable and necessary to carry out extensive educational activities in this field. So far, there has been no extensive research conducted in Poland that would enable an actual assessment of the costs related to the occurrence and treatment of CVD. Estimated costs in Western European countries suggest that the annual cost of treating CVD amounts to 1–2% of the budget of health care system and in the USA the estimated annual cost of treatment amounts to 3 billion dollars [9]. Indirect costs associated with the occurrence of CVD, sick leave or disability pension are also considerable – in the

USA, venous ulceration of the shin results in 2 million working days of absence taken annually; in France an estimated annual number of days related to the patients' being unfit for work due to CVD and its complications is about 4 million [9]. Unfortunately, the data related to the total or estimated cost of treatment provided to patients with CVD in Poland or the social costs associated with the disease is still unknown. However, the number of patients diagnosed with venous ulcerative lesions of the shin remains alarmingly high in Poland. In the study population, fewer than 2% of the patients confirmed the presence of non-healing shin wounds or wounds which tend to be hard to treat. Considering the results of the analysis and the insufficient level of education in relation to CVD among the population, the authors of this study would strongly support any and all educational activities aimed at increasing the patients' knowledge.

CONCLUSIONS

Despite the high incidence of CVD, the problem still seems to be little known in Poland. Information and education activities should be wide-spread; that relates to the causes of CVD, its symptoms and potential complications, the treatment options and methods of prevention.

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