Peripheral Vascular Disease (PVD) is a common condition, affecting up to 29% of the elderly population, and is a major cause of impaired quality of life and mortality. If untreated, PVD may lead to progressive disability and major amputations in up to 12%. Moreover, it is associated with significant mortality, largely due to the high incidence of concomitant coronary and cerebrovascular disease. As there are many modifiable risk factors for PVD, including smoking, diabetes and dyslipidaemia, early diagnosis and secondary prevention is imperative not only to reduce complications from PVD itself, but also to identify “arteriopaths”, who are at higher risk of other ischaemic events such as heart disease and stroke.

Despite its prevalence, PVD remains relatively poorly publicised compared to other diseases because of a low level of awareness and knowledge of peripheral vascular disease amongst the population. Indeed, knowledge is poor among those both at low and high risk of PVD and to increase their awareness of PVD such initiatives, Legs for Life found that educational strategies were effective 6 months following intervention, although whether these initiatives lead to improved long term health outcomes remains to be seen. PVD is highly prevalent in the primary care setting, but may be under-researched compared to other vascular diseases.

A number of population based studies have shown a low level of awareness and knowledge of peripheral vascular disease amongst the population. Previous studies have found a lack of knowledge about PVD and its effects and the importance of early diagnosis and treatment.

Methods
A paper-based questionnaire was completed by patients attending a vascular outpatient clinic with known or suspected peripheral vascular disease at a university teaching hospital. No commercially available survey met the needs of the present study. Therefore, a survey was designed de novo, with reference to the current literature (available on request). The study was approved by the Research Ethics Committee at St. Vincent's University Hospital. The survey consisted of four components: Background demographic information, Disease severity, Knowledge of PVD and Health improvement strategies. Participants who refused consent or were unable to give informed consent to participate due to language difficulties, sensory impairment or medical problems were excluded. Data collection was performed by a medical practitioner (MO), who distributed the paper survey to patients with known or suspected PVD at the vascular outpatient clinic for the first time or for review appointments. Statistical analysis was performed using SPSS PASW 18.0 statistical software. Chi squared test and Mann-Whitney U test were used.

Results
The response rate was 100% (n=97).

Demographic Data
There were 53 male and 44 female patients. The majority of patients were over 45 years old. Almost half the patients had completed primary school education (Table 1). 49 (51%) of participating patients were first-attenders at the vascular outpatient clinic, while the remainder were return patients.

Disease Severity
Symptoms of PVD are shown in Table 2. 64 (66%) patients reported that their symptoms were interfering with their quality of life. Thirteen patients had previously undergone surgery for lower limb PVD. The median time since diagnosis of PVD was six months (range 0-336 months). Seventeen (17.5%) patients had waited over six months before first seeking medical attention from their general practitioner. There was no statistically significant difference by age, gender or education in the length of time patients waited before seeking medical attention. 66 patients were smokers when they developed symptoms of peripheral vascular disease. Over one-third of patients still smoked. There was a significant difference in lifestyle limitation due to PVD among those who were currently smoking (n=34) versus non-smokers (n=31) (p=0.04). However, there was no statistically significant difference in claudication distance between smokers and non-smokers. 66 patients reported taking an anti-platelet agent (55 aspirin alone, one clopidogrel alone, ten dipyridamole), 25 patients were commenced on anti-platelet therapy by their general practitioner (GP), twelve by a vascular surgeon, seven by cardiology and four by the diabetic clinic.

Understanding of peripheral vascular disease
Only 25 (26%) correctly identified the arterial tree as the affected system in PVD. There was no significant correlation between age, gender or educational level and correct identification of the arterial system.

Modifiable Risk Factors
Smoking
Overall 81 (62.9%) patients were aware that smoking was a risk factor for PVD. A much larger proportion of return patients than first visit patients agreed that smoking was a risk factor for PVD (47.1% versus 78.2% p=0.001; 27 (28%) gave up smoking when they developed symptoms. 22 (23%) did not believe their smoking and their symptoms were related.

Hypertension, Diabetes and Hypercholesterolaemia
Only 21 (21.6%) patients overall were aware that diabetes mellitus is a risk factor for PVD. 25 (26%) patients were aware that hypertension is a PVD risk factor and 29 (30%) patients identified a link between hypercholesterolaemia and PVD. There was no significant difference in awareness of any of these risk factors based on first and return visits, age, gender or educational background.

Non-modifiable Risk Factors
Age
21 (21.7%) of patients were aware that age was a risk factor for PVD.

Non-risk factors
Six patients felt that wet clothes were risk factors for PVD. None of these patients had completed secondary level education or higher (p=0.002). 3 (3%) patients felt that hot water was a risk factor for PVD.
Health Improvement Strategies

Patients were asked to list which strategies they felt would improve symptoms. While smoking cessation was the most commonly cited strategy, it was in fact only listed by 23 (24%) patients (Table 3).

Exercise

Exercise was correctly identified as an important strategy to improve symptoms (p=0.448) (Table 3). 53 patients (54.6%) reported taking regular exercise; 66.7% men versus 43.2% of women (p=0.02). Even when corrected for age there was a significant correlation between gender and exercise, with men exercising more than women (Pearson correlation coefficient 0.217, p=0.33). Median duration of exercise was 30 minutes (range 5-450 minutes). This was not influenced by previous attendance at the vascular clinic, age, smoking status, lifestyle limitation, education or claudication distance. Exercise was undertaken seven times per week (range 0-14). 52 patients (53.6%) had been advised by their GP to undertake regular exercise, 36 had been given specific information on how to approach an exercise programme. However, there was no correlation between advice from the GP and whether or not a patient undertook regular exercise.

Risk of other vascular disease

Overall 57 (58.8%) were aware that PVD was associated with an increased risk of myocardial infarct or stroke. Those patients who were aware of the association between PVD and risk of myocardial infarct reported a longer duration of symptoms.

Interaction with Primary Care

90 (93.8%) patients recalled having their blood pressure checked by their general practitioners, while fewer patients reported having blood tests with their GP for glucose (n=46) and cholesterol (n=64).

Interaction with Modern Education Tools

Interaction with Primary Care

of PVD and raise awareness. However, it also suggests that the primary care setting is a potential for intervention. A campaign was undertaken in Ireland some years ago to improve public awareness of PVD, however there was no associated screening programme.

Patients have a greater awareness of smoking as a modifiable risk factor than other strategies. Awareness of the harm of smoking was very different between first and return attenders at the vascular outpatients. This suggests that education by a medical professional can affect patients under a fine and thinking about risk factors. Smoking cessation strategies in primary care are important in this cohort of PVD patients. There is potential to modify other risk factors by increasing awareness of risk factors other than smoking. The above results indicate that the level of knowledge of peripheral vascular disease and strategies for secondary prevention is low. Worryingly, knowledge is poorer among those most at risk; i.e. those with lower levels of formal education and current smokers. There is a need for innovative education strategies to engage this patient cohort, with a potential role for increased awareness in the primary care setting.

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References


