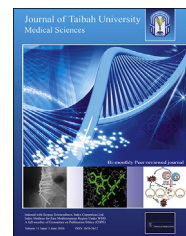




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Original Article

An interview-based survey to assess the knowledge of peripheral arterial disease among medical students



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المخلص

أهداف البحث: إن معرفة الأطباء بأمراض الشرايين الطرفية ضعيفة، وقد يكون قلة تعرضهم لتلك الحالات خلال دراستهم لمنهج الكلية سبباً لذلك. تهدف هذه الدراسة، إلى الكشف عن مدى وعي ومعرفة طلبة الطب بأمراض الشرايين الطرفية.

طرق البحث: قمنا بدراسة وصفية مقطعية بواسطة استطلاع ميني على مقابلة طلبة كلية الطب بجامعة الملك سعود بالرياض في المملكة العربية السعودية.

النتائج: من بين 350 طالباً، أكد 244 طالباً أن لديهم بعض الإلمام بأمراض الشرايين الطرفية. كانت هذه المعرفة أكثر توافراً في طلبة السنوات السريرية (الثالثة إلى الخامسة) مقارنة بطلبة سنوات العلوم الأساسية (الأولى والثانية)، وينسب الشرايين الطرفية، بشكل عام، كان متدنياً للمجموعتين (كان متوسط النتيجة: 2.83 من 7 لطلبة السنوات 3-5 مقابل 1.81 من 7 لطلبة السنتين الأوليين. بينما كانت نتائج معرفة عوامل الخطورة 4.86 من 6 لطلبة السنوات 3-5 مقابل 3.57 من 6 لطلبة السنتين الأوليين، وتلك المتعلقة بمعرفة الإجراءات الاحتياطية كانت 4.28 من 6 لطلبة السنوات 3-5 مقابل 3.13 من 6 لطلبة السنتين الأوليين. أما بالنسبة لمتوسط النتائج المتعلقة بمعرفة العلاجات والمضاعفات، فقد كانت 4.41 من 6 لطلبة السنوات 3-5 مقابل 3.57 من 6 لطلبة السنتين الأوليين.

الاستنتاجات: تدل هذه الدراسة على مستوى متدنٍ مقلق من المعرفة لدى طلبة الطب بأمراض الشرايين الطرفية. من الواجب التدخل لمواجهة هذه الفجوة في مناهج كليات الطب في سبيل تحسين الرعاية المقدمة لمرضى الشرايين الطرفية من قبل أطباء المستقبل.

الكلمات المفتاحية: أمراض الشرايين الطرفية؛ الوعي؛ طلبة الطب؛ المنهج؛ الوقائية؛ عوامل الخطورة

Abstract

Objectives: Physicians have poor knowledge of peripheral arterial disease (PAD). Inadequate exposure to PAD in medical school curricula may be a contributing factor. The objective of this study was to explore the awareness and knowledge of PAD among medical students.

Methods: We conducted a descriptive cross-sectional study using an interview-based survey of the medical students in the college of medicine of King Saud University Riyadh, KSA.

Results: Of 350 students, 244 students agreed that they had some knowledge about PAD. More students in their clinical years (3–5) had heard about PAD compared to students in their basic science years (1–2; 76.5% versus 65.4%, respectively); however, the overall scores were low for both groups for recognition of PAD symptoms (mean scores, 2.83 out of 7 for students in years 3–5 versus 1.81 for students in years 1–2; $p < 0.001$). The scores of the knowledge of risk factors were 4.86 and 2.77 out of 7 for students in years 3–5 and 1–2, respectively ($p < 0.001$); the scores of preventive measures were 4.28 and 3.13 out of 6 for students in years 3–5 and 1–2 years, respectively ($p < 0.001$); and the scores of treatments and complications were 4.41 and 3.57 out of 6 for students in years 3–5 and 1–2 years, respectively ($p < 0.001$).

Conclusion: This study has identified an alarmingly low level of PAD knowledge among medical students. Interventions are needed to address this gap in medical schools' curricula to improve care for patients with PAD in future doctors.

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Keywords: Awareness; Curriculum; Medical students; Peripheral arterial disease; Prevention; Risk factors

Abbreviations: PAD, peripheral arterial disease; MS, medical student; CAD, coronary artery disease; CVD, cerebrovascular disease

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Introduction

Peripheral arterial disease (PAD) is a form of systemic atherosclerosis that serves as a marker for increased burden of cardiovascular disease.¹ Globally, over 200 million people currently live with PAD; this is an increase of greater than 28% from the year 2000.² The overall prevalence of PAD has been reported to be in the 5–18% range, and it varies among different populations depending on their risk profile.² Risk factors for PAD are similar to those for atherosclerosis, including male gender, advanced age, diabetes mellitus, hypertension, hyperlipidaemia and smoking.³ Identifying and modifying these risk factors has been proven to slow PAD progression and reduce the risk of cardiovascular morbidity and mortality.^{4–9}

Several studies have shown that physicians' knowledge about PAD diagnosis and management is poor; this is one of the factors that may contribute to suboptimal risk factor management in PAD patients.^{10–15} One of the potential causes for this finding is that medical trainees receive limited exposure to PAD during medical school. Knowledge levels of cardiovascular diseases and stroke among learners at medical and health science schools have been reported in the literature,^{15–17} but no data have been published to assess medical students' knowledge of PAD. Therefore, the objective of this study was to assess medical student awareness and knowledge of PAD. We hypothesized that the overall knowledge of PAD is low among our medical student population.

Materials and Methods

A descriptive cross-sectional interview-based survey of randomly selected medical students at the College of Medicine, King Saud University in Riyadh, KSA, was carried out between September 2012 and April 2013. This school is the largest and oldest in the country and is ranked in the top 100 among all medical schools globally according to the 2009 Times QS ranking.¹⁸ Approximately 1600 students were enrolled in the Medical Bachelor and Bachelor of Surgery program at the time of the survey. This program has a five-year curriculum: the first two years focus on basic science knowledge (medical student [MS] 1–2), followed by three years of clinical training (MS 3–5). Medical students who graduate are required to complete a one-year internship period prior to engaging in further specialist training.¹⁸ Two teaching units (one lecture and one teaching session) are

designated for PAD within the surgical curriculum of the third year. Furthermore, students may choose to take a vascular surgery rotation in the fifth year of their surgery course.

Ethical approval

The study protocol followed the principles of the Declaration of Helsinki and was approved by the Research Ethics Committee of King Saud University College of Medicine.

Questionnaire

Interview questions were constructed by the research team and were tested for comprehension and validity on 20 subjects who were not included in the study sample (Appendix). The survey included questions about the age, gender and academic level of the participants (i.e., MS years 1–5). Trained medical interns and medical students carried out the interviews.

We invited all ~1600 medical students to participate in our interviews through electronic and in-class announcements. Individuals who agreed to participate were initially asked whether or not they had heard of PAD (primary outcome). Interviews were terminated with students who responded “No” to this question, and PAD educational materials were provided to them. Students who expressed that they had heard about PAD were asked to list symptoms, risk factors, preventive measures, treatment modalities and complications of the disease (secondary outcomes) using pre-defined open-ended questions such as, ‘What are the symptoms of PAD?’ Students who expressed that they had heard about PAD but had no knowledge about the domain being tested were not asked further questions relating to that specific domain. No lists or hints were provided to the students, and they did not have access to the interview questions. Interviewers only documented the elements of each knowledge domain correctly identified by students during the interview.

Statistical analysis

Data are presented in percentages and grouped according to medical student level (MS 1–2 or MS 3–5). For each PAD knowledge domain, a maximum score was established based on the number of elements tested within each domain (i.e., ‘symptom’ category was given a maximum score of 7 given the number of possible PAD symptoms respondents could recognize was 7). Respondents were given a score of ‘1’ for each element recognized accurately and ‘0’ for each element that was not recognized accurately. Mean scores for each PAD knowledge domain were calculated based on the collective responses from each respondent. Differences in responses between medical student levels were analysed to assess significance using Pearson's chi-square test and Fisher's exact test as indicated. Differences in scores between medical student levels were tested using the two-sample t-test. Significance was set at the 0.05 level, and all *p*-values

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