

TEACHING OF CARDIOVASCULAR PREVENTION AND REHABILITATION IN EUROPEAN MEDICAL SCHOOLS 2009: RESULTS OF A FIRST INSTITUTIONAL SURVEY

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Summary

Background: little is known regarding the teaching of cardiovascular prevention and rehabilitation (CVP&R) in Europe.

Design: cross-sectional institutional survey.

Methods: a questionnaire was sent to 376 European medical schools, 44 National Cardiology Societies, 31 Heart Foundations and 32 National Medical Associations.

Results: one hundred and twenty medical schools (32% response rate) answered. Forty-three postgraduate courses on CVP&R were provided in 32 (27%) schools. The median number of students was 25 (range: 4 – 140) and the median number of teaching hours was 72 (range: 3 – 518). The topics most frequently taught were cardiovascular risk factors (86%), physical activity (81%), global risk estimation and smoking cessation (both 74%). For the 26 countries for which data was available, 14 (54%) had postgraduate teaching on CVP&R but only three (12%) provided continuous medical education on the topic. Teaching was aimed essentially at cardiologists; in two countries, internists, neurologists and other health professionals (nurses, paramedics) could also attend CVP&R postgraduate courses.

Conclusion: teaching of CVP&R is low in European medical schools, and the courses provided differ considerably between countries and schools. There is a great need to provide a minimal educational framework to ensure adequate training in CVP&R throughout Europe.

Introduction

Cardiovascular rehabilitation is a cost-effective, life-enhancing and life-saving treatment for patients with cardiovascular disease and in particular for patients recovering from an acute cardiovascular event. Secondary prevention through comprehensive cardiovascular rehabilitation should become an integral step in the management of the patient's condition and should benefit nearly all patients recovering from an acute cardiovascular event or after development of a new stage in their illness. Still, a limited number of patients with cardiovascular disease benefit from rehabilitation procedures, partly due to a limited number of rehabilitation services, and partly due to a lack of adequately trained professionals [1-4]. Indeed, health professionals involved in cardiovascular rehabilitation should present clearly specified competencies and an accredited programme of education and training to meet proposed standards for the management and rehabilitation of coronary heart disease should be available [5].

Similarly to cardiovascular rehabilitation, cardiovascular prevention is a cornerstone regarding the fight against cardiovascular disease, and several guidelines have been issued, namely regarding healthy lifestyle (physical activity, diet and quitting smoking). Nevertheless, low counseling rates for CVD prevention, particularly in the areas of diet, exercise, and weight loss have been noted among attending physicians or students [6;7], probably due the little time dedicated to prevention, especially in the community [8]. Still, several authors have shown that changes in the medical curriculum favourably influence preventive cardiology knowledge, attitudes and diet of medical students [9-13]. Actually, there is very little if no information regarding the current status of teaching of cardiovascular prevention and rehabilitation (CVP&R) in Europe. Hence, we conducted an European-wide survey to assess this issue.

Methodology

In January 2009, we contacted 376 medical schools from 35 European countries. The addresses were collected from the Institute for International Medical Education (www.iime.org). Each medical faculty received a 3-page questionnaire focusing on pregraduate teaching and postgraduate courses on CVP&R. For pregraduate teaching, the questions included the number of students, total teaching time (in hours or ECTS) and the topics covered. For postgraduate courses, the questions included the presence and, if relevant, number of postgraduate courses, the number of students attending each course, the total teaching time (in hours or ECTS) and the topics covered. A pre or postgraduate course was considered as "complete" if all the following topics were covered: cardiovascular risk factors; individual cardiac risk evaluation; physical activity; nutrition; smoking cessation and psychology.

Similar questionnaires on the existence of postgraduate courses and continuous medical education (CME) were sent to 44 National Cardiology Societies, 31 Heart Foundations and 32 National Medical Associations, the addresses of which were obtained from the European Society of Cardiology (ESC, www.escardio.org) or from the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians, or World Organization of Family Doctors Europe (WONCA, www.woncaeurope.org). Data regarding postgraduate teaching of CVP&R were pooled for each country. Whenever the answers disagreed – for instance one institution reporting courses on CVP&R and the other not – the “positive” answer (in this case, presence of courses) was retained.

All questionnaires were in English, but the answers could be provided in any language and an addressed envelope was provided for the response. A second mail was sent if no response was obtained from the institutions. The first mailings were sent in January and the data was collected till July 6th, 2009.

Statistical analysis was conducted using SAS Enterprise Guide v.4.1 for Windows (SAS Inc, Cary, NC; USA). Results were expressed as median (range) or as number of answers and (percentage).

Results

One hundred and twenty medical schools (32% response rate) answered. The distribution and response rate according to country are summarised in **Figures 1 and 2**, respectively.

Pregraduate teaching

In the pregraduate teaching, circa two thirds of the medical schools reported teaching specific modules/disciplines in preventive medicine and cardiovascular disease prevention. The topics most frequently covered were cardiovascular risk factors and physical activity, while psychology was the least provided (**Figure 3**). Only half of the medical schools provided all the topics in their pregraduate teaching.

Figure 1: number of medical schools contacted and from which data was available, by country.

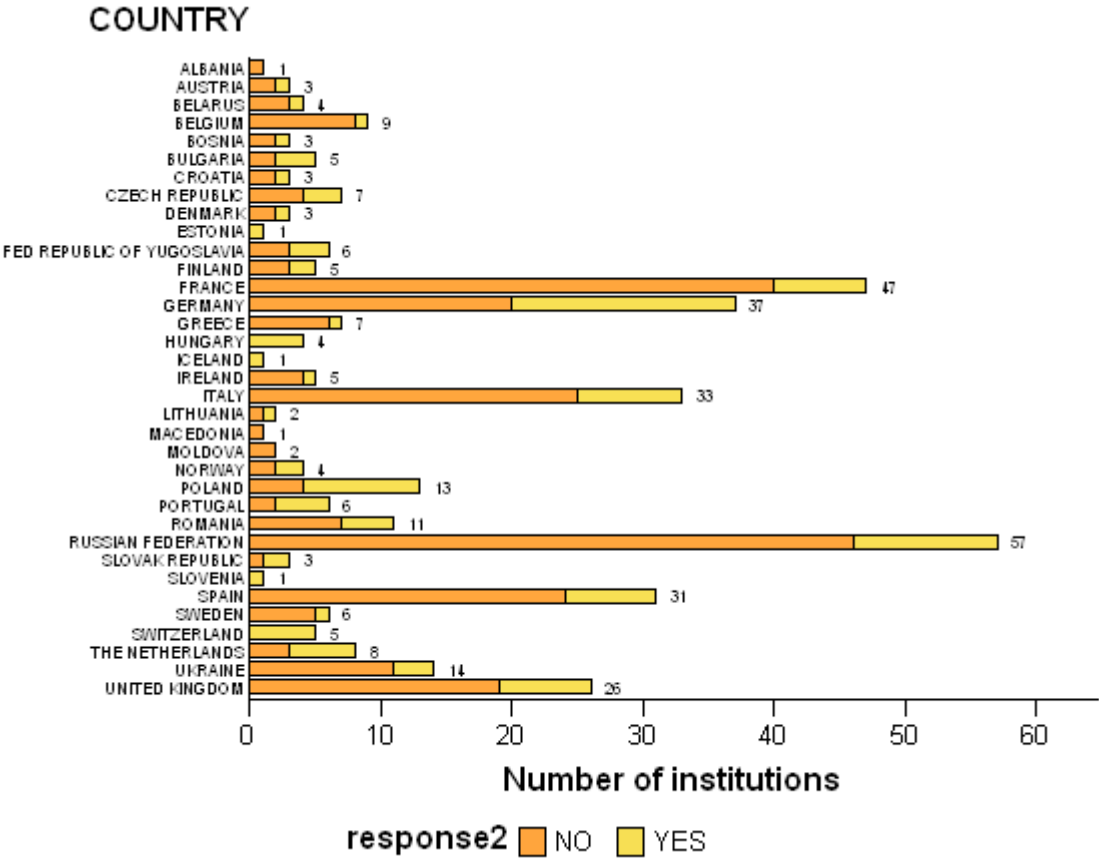


Figure 2: response rates, by country.

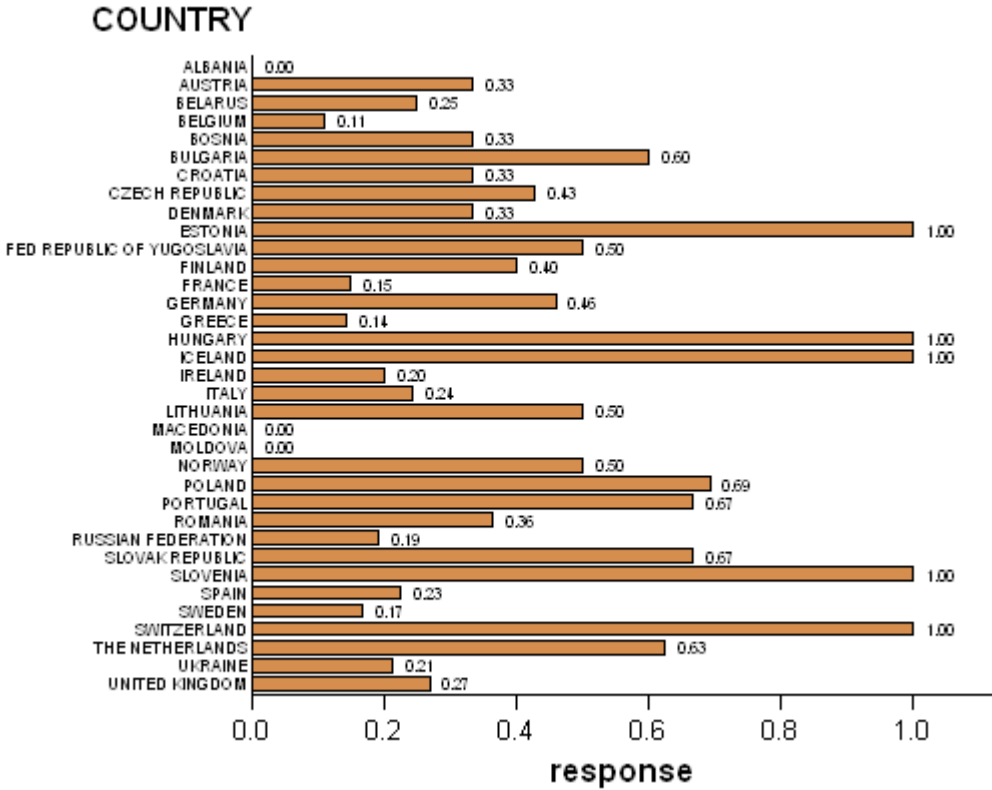
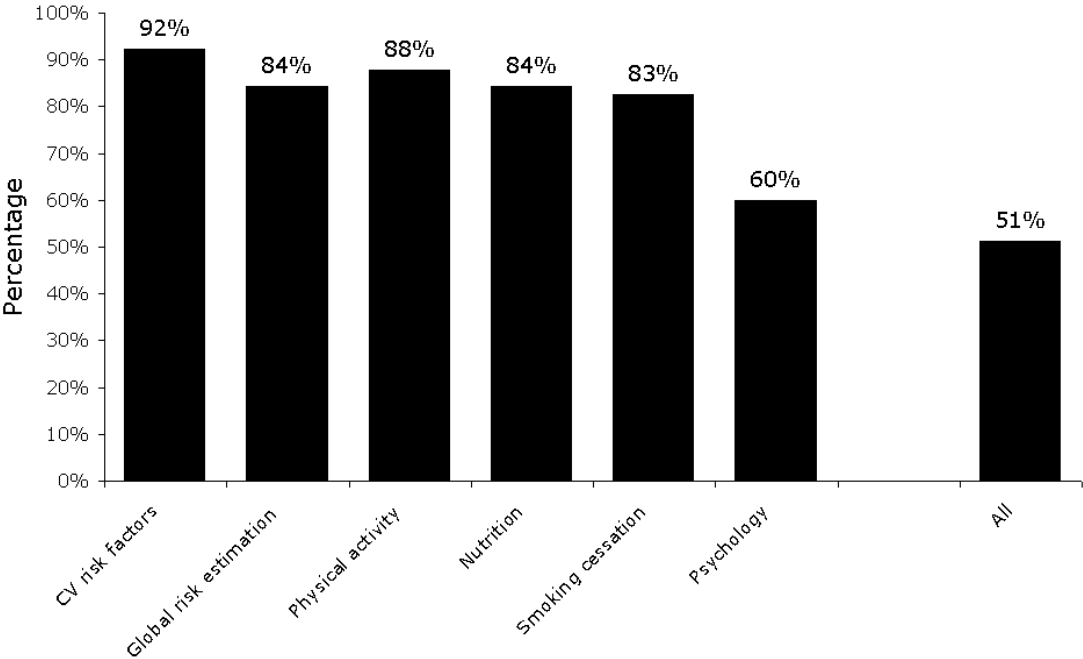


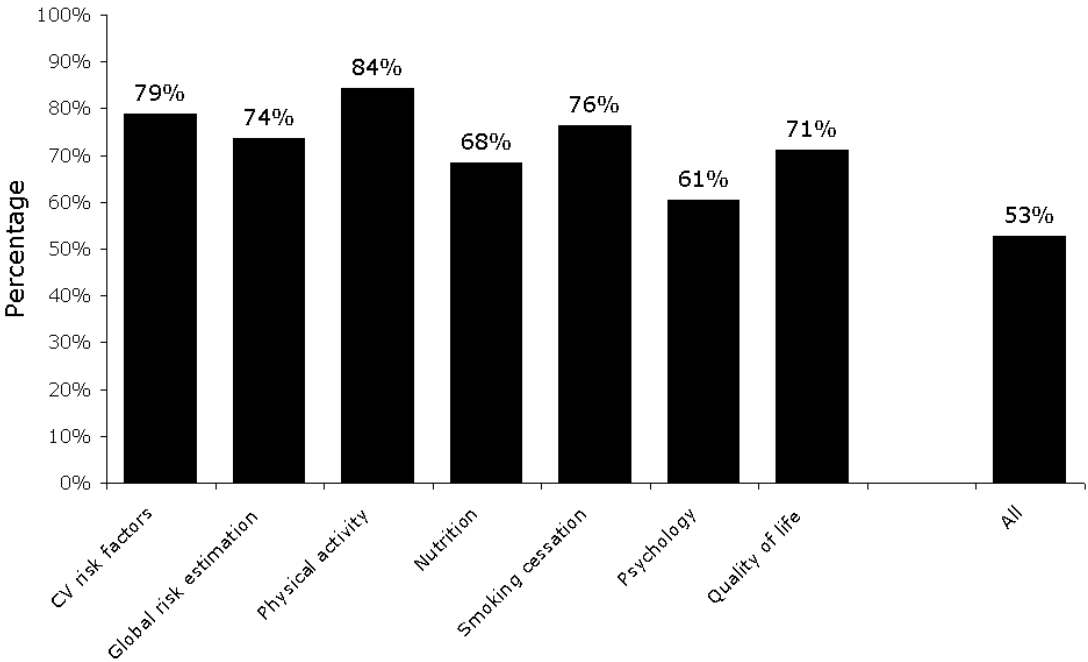
Figure 3: topics provided in the pregraduate courses.



Postgraduate teaching

Forty-three courses on CVP&R were provided in 32 (27%) medical schools. The median number of students was 25 (range: 4 – 140) and the median number of teaching hours was 72 (3 – 518). The topics most frequently taught were cardiovascular risk factors, physical activity, global risk estimation and smoking cessation, while nutrition and psychology were the least frequently provided (**Figure 4**). Of the 43 courses, 22 (51%) included all the topics.

Figure 4: topics provided in the postgraduate courses.



Eighteen cardiology societies, 11 Heart Foundations and 32 National Medical Associations answered, corresponding to a response rate of 41%, 34% and 6%, respectively. For the 26 countries for which data was available, 14 (54%) had postgraduate teaching but only four (15%) - Belgium, France, Hungary and Ireland - indicated to have continuous medical education on the topic. Teaching was aimed essentially at cardiologists. In France, Germany and Ireland, internists, neurologists and other health professionals (nurses, paramedics) could also attend the courses.

Finally, 72% (81/112) of the medical schools showed interest in building a postgraduate course on CVP&R in collaboration with the ESC / European Association for Cardiovascular Prevention and Rehabilitation (EACPR).

Discussion

Pregraduate teaching

Over 80% of the medical schools provided lectures on the main CV risk factors and on lifestyle changes (smoking cessation, physical activity and nutrition), while lectures/teaching regarding psychology were much less frequently reported. The fact that teaching of the main cardiovascular risk factors was not systematically provided in all medical schools was somewhat confusing, as cardiovascular diseases are very common in the general population and in clinical practice. Similar comments also apply to smoking and physical activity. Although we have no clear explanation for this finding, it is possible that the responders might have misinterpreted the questions or that the topics were provided under another name. For instance, in the University of Lausanne, Switzerland, most teaching regarding cardiovascular risk factors is provided in a module named "acute chest pain". Nevertheless, we believe that adequate training regarding assessment and management of the main cardiovascular risk factors is paramount in order to improve medical students' attitudes toward health promotion and prevention [14-16] and to decrease the negative feelings of most medical students regarding the modification of patient health behaviors [17].

Postgraduate teaching

Only one quarter of the medical schools who responded provided postgraduate training in CVP&R, and only half of the curricula covered all topics recommended by the ESC [18]. Further, the fact that some countries appear devoid of training in CVP&R does not indicate a lack of interest for this topic but may rather reflect the view that the population size or the number of hospitals/CV events is too small to economically justify setting up such training. For instance, small countries like Malta, Cyprus or Slovenia might simply not justify the considerable human, intellectual and economic effort to set up a course that will probably provide in a single year more specialists in CVP&R than the country will ever need for the next decades. Hence, the setting of a postgraduate course

providing adequate, European-accredited training in CVP&R would be of considerable importance if such small countries are willing to benefit from fully trained professionals. The current revision of the core curriculum for the general cardiologist of the ESC [18] should set a benchmark for the minimum qualifications and core competencies for health professionals in the area of CVP&R [3], as it is currently the case for the USA [19]. Importantly, most medical schools and national heart representatives expressed interest in training on CVP&R in collaboration with the ESC/EACPR; hence, the creation of courses providing adequate, European accredited training in cardiovascular prevention and rehabilitation would be of considerable importance.

Limitations

This study has some limitations that should be accounted for. First, the participation rate was rather low, albeit in agreement with other studies conducted among medical schools [20;21]. It is possible that the English language of the invitation letter and of the questionnaire might have rebuked some participants to respond. Still, in a time where English is the major language in medical scientific writing, one should expect most of the European medical schools to be familiar with this language. Further, the translation of the questionnaire into the different European languages was way too costly and the quality of the translation difficult to assess. Another possible bias pertains to the fact that the medical schools that provided postgraduate teaching on CVP&R were more prone to respond, leading to an overestimation of the prevalence of postgraduate courses. Hence, it is likely that the true prevalence of postgraduate teaching of CVP&R in Europe might be actually lower than the 27% figure obtained in this study.

In summary, our data indicates that the teaching of CVP&R is rather unfrequent in Europe. Most of the medical schools showed interest in postgraduate CVD prevention and rehabilitation courses in collaboration with the ESC/EACPR. Therefore, the creation of courses providing adequate, European accredited training in cardiovascular prevention and rehabilitation would be of considerable importance.

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