Brief report

Smoking Cessation Education and Training in U.K. Medical Schools: A National Survey

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Abstract

Introduction: Smoking cessation is one of the most cost-effective of all health interventions. Physicians are in a strong position to encourage smokers to make a quit attempt and to help them achieve long-term abstinence. Formal teaching on tobacco-related disease, the evidence base of smoking cessation, and practical skills training regarding cessation advice and counseling are therefore important parts of undergraduate medical education. A survey of U.K. medical schools conducted 11 years ago revealed substantial deficits in the curricular coverage of these topics. This study aimed at establishing whether the situation has improved since then.

Methods: In 2013, all U.K. medical schools were invited to participate in an online survey of their curricular coverage of tobacco addiction and smoking cessation.

Results: Of the 33 medical schools, 22 (67%) schools responded. Health effects of smoking were addressed in more than 90% of curricula, and factual knowledge on nicotine addiction and withdrawal symptoms was covered in 50% of curricula. Only 1 in 3 medical schools offered practical skills training in artificial (i.e., role play) or clinical settings, and 50% of schools did not address smoking in summative assessments.

Conclusions: Practical skills training regarding cessation counseling is insufficient at most U.K. medical schools and may have become worse during the last 11 years. Increased curricular coverage—including summative assessments—of these topics would ensure that future physicians are adequately equipped to encourage and support effective evidence-based quit attempts in their patients.

Introduction

Despite a continuing decline in smoking prevalence in England, 20% of the population are still smoking.¹ Effective interventions to support quit attempts are available,² and physicians play a key role in prompting quit attempts among smokers.³ All physicians, regardless of specialty, are well placed to provide basic information about the harm of smoking, the benefits of cessation and available treatments. This requires for tobacco dependence and its treatment to be covered in undergraduate medical education. In 1998, a worldwide survey of medical school curricula revealed that only 11% of schools offered a specific teaching module on tobacco.⁴ In a follow-up survey conducted 10 years later, this proportion had increased to 27%.
However, most teaching time was devoted to the health consequences of active and passive smoking, whereas practical skills received less attention. The Global Health Professions Student Survey conducted between 2005 and 2007 at 80 universities in 31 countries found that in the majority of sites, less than 40% of students reported receiving training in such practical skills.

Data on coverage in U.K. medical school curricula were last collected in 2002. According to responses obtained from 21 out of 24 medical schools, smoking-related health effects were taught as part of the compulsory curriculum in 80% of schools, whereas methods to help smokers quit were only addressed in up to 50% of schools. In a sample of 1,095 U.K. medical school graduates, only two thirds recalled compulsory teaching on tobacco, and 90% did not feel prepared to deliver practical guidance on smoking cessation in accordance with national guidelines.

This study aimed at determining the curricular coverage of issues related to tobacco in U.K. medical schools 11 years after the original survey.

Methods

Between April and July 2013, all U.K. medical schools were invited to participate in a cross-sectional survey of the curricular coverage of tobacco-related content. The questionnaire was adapted from those used in previous U.S. and worldwide surveys and addressed the inclusion of 20 basic and clinical science topics in the curriculum (see Table 1). Medical schools were asked to provide information on teaching as well as summative assessment of these topics. Additional questionnaire items addressed the departments responsible for tobacco-related teaching, the total number of hours devoted to the issue throughout the curriculum, and whether there were any barriers to intensifying teaching on tobacco. Questionnaire development was supervised by one of the authors (AM) and a general practitioner with special interest in smoking cessation (AB). The questionnaire was made available to medical schools via the Silverback Survey tool (www.silverbacksurveys.com). The questionnaire is available from the authors upon request.

An invitation e-mail containing a link to the online survey was sent to the deans of 33 medical schools identified on the U.K. medical schools council web site (www.medschools.ac.uk/STUDENTS/UKMEDICALSCHOOLS/Pages/default.aspx), followed by up to two reminder e-mails. All responses supplied were imported into SPSS 21.0 (IBM Corp.). Results of the descriptive analysis are given as percentages (n) or M ± SD, as appropriate.

Results

Of all 33 medical schools, 22 participated in the survey (response rate 67%). Coverage of factual knowledge and practical skills is reported in the Table 1.

Two medical schools were unable to provide information on the amount of teaching time dedicated to tobacco in their curricula. Of the remaining 20, nine reported a total teaching time between 1 and 3 hr, six reported total teaching time to be between 3 and 5 hr, and the remaining five schools reported teaching time more than 5 hr in total. At just under two thirds of medical schools (63.6%; n = 14), teaching on tobacco was spread out across more than 1 year of undergraduate education. In many institutions, more than one department was involved in teaching activities. The three departments involved at most universities were Public Health (n = 19, 86.4%), General Practice (n = 16, 72.7%), and Clinical Medicine (n = 12, 54.5%). Half of all participating medical schools (n = 11, 50.0%) did not include tobacco-related content in summative assessments. Sixteen medical schools (72.7%) agreed or strongly agreed that they did not perceive any significant barriers against implementing more comprehensive teaching on tobacco and smoking cessation. Only seven (31.8%) schools reported that their curricula were too crowded to accommodate additional teaching on tobacco.

Table 1. Percentage (n) of Medical Schools Reporting to be Covering Factual Knowledge and Practical Skills Related to Tobacco

<table>
<thead>
<tr>
<th>Dependent and Smoking Cessation</th>
<th>Factual knowledge on health effects of smoking and benefits of quitting</th>
<th>100 (22)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cancer risk associated with smoking</td>
<td>95.5 (21)</td>
</tr>
<tr>
<td></td>
<td>Cardiovascular health effects of smoking</td>
<td>72.7 (16)</td>
</tr>
<tr>
<td></td>
<td>Smoking in pregnancy</td>
<td>22.7 (5)</td>
</tr>
<tr>
<td></td>
<td>Smoking and mental health</td>
<td>45.5 (10)</td>
</tr>
<tr>
<td></td>
<td>Contents of cigarette smoke</td>
<td>81.8 (18)</td>
</tr>
<tr>
<td></td>
<td>Health effects of passive smoking</td>
<td>54.2 (12)</td>
</tr>
<tr>
<td></td>
<td>Harm reduction</td>
<td>40.9 (9)</td>
</tr>
<tr>
<td></td>
<td>Benefits of quitting prior to surgery</td>
<td>40.9 (9)</td>
</tr>
<tr>
<td>Factual knowledge on epidemiology and addiction</td>
<td>Epidemiology (smoking rates)</td>
<td>68.2 (15)</td>
</tr>
<tr>
<td></td>
<td>Determinants of smoking</td>
<td>50.0 (11)</td>
</tr>
<tr>
<td></td>
<td>Pharmacology of nicotine addiction</td>
<td>63.6 (14)</td>
</tr>
<tr>
<td></td>
<td>Nicotine withdrawal symptoms</td>
<td>40.9 (9)</td>
</tr>
<tr>
<td>Factual knowledge on stop smoking interventions</td>
<td>Cost and clinical effectiveness of stop smoking interventions</td>
<td>40.9 (9)</td>
</tr>
<tr>
<td></td>
<td>Nicotine replacement therapy</td>
<td>68.2 (15)</td>
</tr>
<tr>
<td></td>
<td>Other pharmacological agents</td>
<td>54.5 (12)</td>
</tr>
<tr>
<td></td>
<td>The role of Stop Smoking Services</td>
<td>54.5 (12)</td>
</tr>
<tr>
<td></td>
<td>Population strategies</td>
<td>59.1 (13)</td>
</tr>
<tr>
<td>Practical skills</td>
<td>Brief opportunistic intervention: very brief interventions or 3As (ask, advise, act)</td>
<td>68.2 (15)</td>
</tr>
<tr>
<td></td>
<td>Practical delivery in artificial settings, e.g., role play</td>
<td>27.3 (6)</td>
</tr>
<tr>
<td></td>
<td>Practical delivery in clinical settings</td>
<td>31.8 (7)</td>
</tr>
</tbody>
</table>

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Discussion
In a sample of medical schools comparable with that of the survey published 11 years ago, curricular coverage of topics related to tobacco addiction and smoking cessation has remained largely unchanged. One worrying finding of this study was that about half of all participating medical schools devoted a maximum of 3 hr total teaching time to the largest single cause of death and disease. Although all medical schools reported to address tobacco-related cancer risk, coverage of some other aspects appears to have decreased since the previous survey. For example, the contents of cigarette smoke, determinants of smoking, and nicotine withdrawal symptoms are now being covered in no more than 50% of all medical schools surveyed—in 2002, the percentage of medical schools addressing these in their curricula were 68%, 64%, and 56%, respectively. One aspect that had not been addressed in the previous survey—cost and clinical effectiveness of stop smoking interventions—is not covered in the majority of medical schools. Taken together with the fact that smoking-related disease is addressed in all schools, this may explain why, when discussing smoking with their patients, doctors tend to focus on risks rather than on ways to quit. This may be a significant missed opportunity as smokers are more aware of the risks of smoking than of how best to stop. The International Tobacco Control Four Countries Study revealed that in the United Kingdom, over a 1-year period of study, only about half of all smokers visiting a doctor or other health professional received advice about quitting and only 20% received additional help or were referred to a cessation service. The finding that practical training on clinical interventions has been included in formal teaching at more than two out of three medical schools is encouraging although the percentage of schools reporting training in artificial and clinical settings remains at a low level (<33%).

Two levels of physician support for smokers can be distinguished: Very Brief Advice (VBA: Ask, Advise, Act) lasting less than 30 s and interventions to assist quit attempts, which may take several consultations. Both interventions are effective and the principle is that the first, VBA, triggers the second, an assisted quit. In the United Kingdom, where the National Health Service provides Stop Smoking Services designed to deliver the assisted quit, medical school training ideally should enable all new doctors to deliver VBA so that more of their smoking patients will go on to get an assisted quit. In countries where physicians have to deliver the assisted quit, even more undergraduate teaching time would need to be devoted to help students develop the additional skills.

Our survey reveals that teaching content related to basic advice and counseling is suboptimal in at least 60% of medical schools. In particular, the link between smoking and mental health should receive more attention given the high smoking prevalence in patients with mental health problems. In addition, all physicians should be familiar with the benefits of quitting smoking before surgery. A majority of medical schools did not address content related to interventions to assist attempts. Although better coverage of these issues is desirable, focusing on improving training to deliver VBA would appear to be a sensible first step.

The findings of this survey are in line with recent reports of medical schools all over the world preparing to train physicians adequately for their role in the prevention of smoking-related morbidity and mortality. A recent survey of German medical schools revealed that lectures are the predominant teaching method when a more practical approach to teaching seems more appropriate for students to learn how to deliver VBA. The fact that knowledge and skills related to counseling and pharmacotherapy are addressed in summative assessments in only half of all medical schools is of some concern as it has been shown that teaching itself is much less effective than reinforcing student learning behavior by including relevant content in end-of-course examinations.

A large number of teaching modules on smoking cessation have been developed, and there is good evidence on how these modules should be designed in order to be effective. Given that most of these modules are not very time-consuming, our finding of most medical schools not reporting any barriers against including additional teaching is encouraging.

A limitation of this study is its response rate of only 67%; selection bias might have impacted on our results. However, even if all 11 medical schools not participating in our survey had adequate teaching and assessment methods in place, the proportion of medical schools not assessing their students’ counseling skills would still be around 33%. Another potential threat to the validity of our findings might arise from deans not being fully aware of all parts of the curriculum where tobacco-related topics are discussed, thus leading to an underestimation of curricular coverage.

In conclusion, our study replicates earlier findings of substantial deficits in undergraduate medical training on smoking cessation. Given the huge population impact of tobacco-related morbidity and mortality and the cost-effectiveness of interventions to support smoking cessation, medical schools need to consider ways of improving curricular coverage of these topics.

Declaration of Interests
TR has received honoraria from Pfizer, Novartis, GlaxoSmithKline, Astra Zeneca, and Roche as a speaker in activities related to continuing medical education. He has also received financial support for investigator-initiated trials from Pfizer and Johnson & Johnson. AB has received sponsorship to attend scientific meetings and to speak in activities related to medical education from Astra Zeneca, Boehringer Ingelheim, GlaxoSmithKline, Novartis, and Pfizer. AM has received travel funding, honorariums, and consultancy payments from manufacturers of smoking cessation products (Pfizer Ltd, Novartis UK, and GSK Consumer Healthcare Ltd) and hospitality from North51 who provide online and database services. He also receives payment for providing training to smoking cessation specialists; receives royalties from books on smoking cessation and has a share in a patent of a nicotine delivery device. GA and AM have no competing interests.

References
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2. Zwar NA, Mendelsohn CP, Richmond RL. Supporting smoking cessation. BMJ. 2014;348:g7535.