Tobacco control programmes for universities: a feasibility study*

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Abstract

**Background** University may be a good time for smoking cessation, because younger, lighter smokers are more successful at stopping.

**Methods** An initial survey of 4141 students at Cambridge and Anglia Polytechnic universities identified the prevalence of smoking; questionnaires were given to smokers asking about desire to stop. Some respondents were invited to a discussion, but very few came. Those wanting to quit were sent a second questionnaire about what help they wanted. On National No Smoking Day, 101 students were interviewed about 'stop smoking' advertisements, and those wanting to stop smoking were offered different forms of help. Lastly, student union welfare officers at 54 universities in the United Kingdom were interviewed over the telephone, about what motivation and support they provide for students to stop smoking, and what more they would consider providing.

**Results** Prevalence of smoking varied according to university, subject studied and sex. Desire to quit varied with subject studied, duration of habit and amount smoked. Some 'stop smoking' TV adverts were widely remembered, but their motivational impact remains unclear. Most of those wanting to stop found it difficult, but few requested help unless approached directly. Only books were widely used, and innovative ones seemed most popular. Few student unions provided effective encouragement or help for students to stop smoking. Most said they would consider doing more.

**Conclusions** There is a need for smoking cessation programmes at universities. More research is needed on ways of motivating those who do not want to stop. 'Direct marketing' of books seems the best way of reaching those who want to stop. The effectiveness of different books needs to be evaluated. There is great potential for improving the quality, quantity and availability of cessation aids through student unions.

**Keywords:** health promotion, smoking, tobacco control, university

Background

Smoking is the main cause of premature mortality in the United Kingdom, causing 30 per cent of all deaths between the ages of 35–69, and the highest prevalence of smoking is found in the 16–34 age group. Those who stop smoking before the age of 35 survive as long as non-smokers, but those who stop later survive less long than non-smokers, albeit longer than continuous smokers. Unfortunately, smoking cessation programmes with adolescents in schools have not had much success, so recent school leavers may be the best candidates for smoking cessation. Abstinence two years after unaided smoking cessation is greater among younger, lighter smokers.

Many smokers express a desire to stop, but is the same true for students? Can students be motivated to stop smoking? Using self-help materials is better than unaided cessation, but do students want or need help? Student unions would be a good channel for distributing such materials, but it is unclear from their literature what support they do provide. This series of surveys was designed to answer these questions.
Help survey

A ‘help survey’ was sent out to all questionnaire respondents who wanted to stop smoking in 30 days or six months, and who had indicated their willingness to receive further information. Similar forms were displayed in student common rooms. Rate of return was 47 per cent (37/78) for forms sent to individuals, but only 4 per cent (15/400) for displayed survey forms.

The survey asked students what made it difficult for them to stop smoking and what help they needed. Three forms of support were proposed: a booklet of ‘helpful hints’, a ‘quit smoking group’, and a sponsored quit.

No Smoking Day survey

On National No Smoking Day, 103 students (34 smokers, 69 non-smokers) were interviewed by student volunteers in lounges and canteens about their reactions to ‘stop smoking’ advertisements. This also acted as a pilot of ‘direct marketing’ of cessation aids. Students who smoked and said they wanted to stop were offered the same three forms of help as above.

Evaluation of support

Information about these forms of help was sent to all those who said they would be interested (n = 41). Those interested in a book were sent one of two at random: Stopping smoking made easier\textsuperscript{10} was sent to 15 students and Allen Carr’s easy way to stop smoking\textsuperscript{11} was sent to 15 others. Twenty-five students interested in a support group or support network were sent an explanatory letter and application form. Twenty-two students interested in the Rag Sponsored Quit were sent a sponsor form.

An evaluation form was sent after about six weeks, and then three reminders were sent. Rate of return was 60.5 per cent overall (44 per cent for Anglia, 73 per cent for Cambridge).

Student union survey

The student unions of most of the 93 universities in the National Union of Students (NUS) handbook\textsuperscript{12} were telephoned. If they were available, the welfare officer of the student union was given a structured interview. Student unions at 54 universities (58 per cent of all universities) throughout the United Kingdom were interviewed. Of the welfare officers interviewed, 33 per cent were smokers, 13 per cent were ex-smokers and 55 per cent were non-smokers; 64 per cent were female and 36 per cent were male.

Statistical methods

Percentage pairs were compared with the z-test\textsuperscript{13} and groups were compared by the \( \chi^2 \) test.\textsuperscript{14}

Results

Epidemiological survey

The proportion of students smoking at Anglia (26.8 per cent) was more than twice that at Cambridge (12.1 per cent; \( z = 10.77, p < 0.001 \)). At both universities, more men smoked than women (12.9 per cent vs 11.4 per cent at Cambridge; 29.2 per cent vs 24.3 per cent at Anglia). Within Cambridge, there was also variation between different subject groups: 7.7 per cent of science students smoked compared with 17 per cent of humanities students (\( z = 7.5, p < 0.001 \)).

Only 10.6 per cent of students had smoked less than one year; the majority (64.9 per cent) had smoked between one and five years. Fifty-six per cent of student smokers consumed ten or fewer cigarettes per day (zero points on the Fagerström scale for nicotine dependence\textsuperscript{15}), and only 5.7 per cent consumed more than 20 (2–3 points). Students who had smoked for five years or more tended to consume more cigarettes than those who had smoked less than five years (\( \chi^2 = 41.55, p < 0.01 \); Fig. 1).

Smokers wanting to give up within 30 days have been called ‘preparers’, and those wanting to stop within six months have been called ‘contemplators’, by Diclemente\textit{et al.} in their ‘stages of change’ model.\textsuperscript{16} Almost half of all student smokers (46.7 per cent) were either preparers or contemplators. Many more science students than humanities students were preparers (28.6 per cent vs 17.0 per cent; \( p < 0.05 \)). Students who had smoked for five years or less were more likely to be preparers than those who had smoked more than five years (23.2 per cent vs 14.7 per cent; \( p < 0.05 \)). Smokers consuming less than one cigarette a day or 15 cigarettes or more a day were less likely to want to quit than those smoking 1–15 cigarettes (\( \chi^2 = 14.67, p < 0.05 \); Fig. 2).
Per cent of smokers wanting to quit

Figure 2 Proportion of smokers wanting to stop according to amount smoked. Smokers consuming less than one cigarette or 15 cigarettes or more a day were less likely to want to stop smoking than those consuming 1–15 cigarettes a day \( (p < 0.05) \). (Numbers above the bars indicate the number of students surveyed.)

Motivating those who do not want to stop

As only four people came to the discussion on smoking, their attitudes could not be regarded as representative of the population of smokers as a whole.

The ‘No Smoking Day’ survey found that smokers, Anglia students and humanities students were more likely to have noticed the John Cleese TV advert \( (p < 0.001, p < 0.001 \text{ and } p < 0.05, \text{ respectively}; \text{Table 1}) \) and to know it was National No Smoking Day \( (p < 0.05, p < 0.001 \text{ and } p < 0.01, \text{ respectively}; \text{Table 1}) \). The majority of smokers and non-smokers reacted positively to ‘stop smoking’ adverts, especially the John Cleese advert.

Nevertheless, the vast majority of the students who had seen a ‘stop smoking’ advert had not done anything as a result. Only 11 per cent of the non-smokers had shown an advert to a friend. Twenty-one per cent of the smokers who had noticed ‘stop smoking’ adverts said they had decided to quit. Of those seeing John Cleese adverts, numbers deciding to do something (cut down or quit) were 0/8 pre-contemplators, 2/5 contemplators and 4/5 preparers. Unfortunately, it was not clear what the stage of these smokers was before seeing the adverts. Neither was it clear whether the decision to act was a result of seeing the adverts. Some or all may have decided to cut down or quit anyway.

Supporting those who want to stop

The ‘help survey’ found that most students believe quitting smoking is difficult, and they do not feel well equipped to do so. Only two of the 52 respondents (4 per cent) said quitting was ‘very easy’; 19 (37 per cent) said it was ‘very difficult’. Contemplators and preparers seem to perceive a greater difficulty than pre-contemplators or recent quitters. Only 25 per cent believed students were ‘well equipped’ to quit.

The difficulties most often mentioned were: friends smoking (because seeing them smoke is tempting, and they may also offer cigarettes); addiction (both psychological and physical cravings); association with alcohol and social situations; stress and work pressure. The needs mentioned most often were ‘external’ (Table 2): a different environment, support from friends, and institutional help [free Nicotine Replacement Therapy (NRT), professional advice]. Some also mentioned ‘internal’ needs (willpower, motivation, self-confidence).

Almost all respondents requested at least one of the three forms of help suggested. The small pilot of ‘direct marketing’ yielded encouraging results, with one in five of all smokers requesting at least one of the forms of help. Five out of the eight preparers (63 per cent) and two out of the nine contemplators (22 per cent) requested at least one of the forms of help.

The three forms of support had very different rates of uptake. The book was equally popular for preparers and contemplators. Most of the preparers and some of the contemplators said they read the book they received (Table 3).

In contrast, the support network was not implemented because only three of the 25 recipients returned the form. The Rag Sponsored Quit was only done by one out of the 22 people who received a form; he would have raised £200, but was reluctant to collect the money because he had started smoking.
Table 2  Students' needs

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>'Internal'</td>
</tr>
<tr>
<td>3</td>
<td>Determination/Willpower</td>
</tr>
<tr>
<td>2</td>
<td>Motivation</td>
</tr>
<tr>
<td>2</td>
<td>Self-confidence</td>
</tr>
<tr>
<td>30</td>
<td>'External'</td>
</tr>
<tr>
<td>9</td>
<td>(a) Environment:</td>
</tr>
<tr>
<td>3</td>
<td>Smoke-free</td>
</tr>
<tr>
<td>3</td>
<td>Less stress</td>
</tr>
<tr>
<td>2</td>
<td>'Different'</td>
</tr>
<tr>
<td>1</td>
<td>Less cigarette advertising</td>
</tr>
<tr>
<td>11</td>
<td>(b) Friends:</td>
</tr>
<tr>
<td>9</td>
<td>(i) Support:</td>
</tr>
<tr>
<td>3</td>
<td>Not criticizing for smoking</td>
</tr>
<tr>
<td>3</td>
<td>Co-operation</td>
</tr>
<tr>
<td>2</td>
<td>Believing you will give up</td>
</tr>
<tr>
<td>2</td>
<td>Encouragement</td>
</tr>
<tr>
<td>1</td>
<td>Sex (I)</td>
</tr>
<tr>
<td>2</td>
<td>(ii) Help from non-smokers:</td>
</tr>
<tr>
<td>2</td>
<td>To go out with Education so that they understand quitting is not easy</td>
</tr>
<tr>
<td>20</td>
<td>(c) Institutional support</td>
</tr>
<tr>
<td>5</td>
<td>(i) Cheaper or free NRT</td>
</tr>
<tr>
<td>4</td>
<td>(ii) Professional help:</td>
</tr>
<tr>
<td></td>
<td>Counselling/advisors</td>
</tr>
<tr>
<td></td>
<td>Understanding doctors</td>
</tr>
<tr>
<td></td>
<td>Psychotherapy</td>
</tr>
<tr>
<td>4</td>
<td>(iii) Support groups</td>
</tr>
<tr>
<td>3</td>
<td>(iv) Information</td>
</tr>
<tr>
<td>2</td>
<td>(v) Incentives</td>
</tr>
<tr>
<td>2</td>
<td>(vi) Alternative activities, sport</td>
</tr>
</tbody>
</table>

Numbers indicate the number of students saying that this is what they would need to stop smoking (number of respondents 52).

Table 3  Extent to which books were read by quitters

<table>
<thead>
<tr>
<th>Amount read</th>
<th>Preparers</th>
<th>Contemplators</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Some</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>All</td>
<td>8</td>
<td>73</td>
</tr>
</tbody>
</table>

Data are based on the responses of the 11 preparers and six contemplators who returned their evaluation forms.

again. Although several respondents said it was good to have a variety of ideas, self-help books were the only widely used method.

Overall, six out of 11 preparers stopped after receiving a book, two of whom stated explicitly that they would not have stopped without it. The main trends (none of them statistically significant, although they could be tested in a larger study) were:

1. preparers seemed to read more of the book they were sent than contemplators;
2. the Allen Carr book\(^\text{11}\) seemed to produce greater cessation rates than the Health Education Authority (HEA) booklet,\(^\text{10}\) especially for preparers;
3. the Allen Carr book was deemed more helpful than the HEA booklet by preparers, but not by contemplators.

The role of Student Unions

Tobacco control programmes already in place

The majority of universities (67 per cent) banned smoking in buildings except for special areas, but few student unions said they provided no-smoking areas. Some welfare officers commented that the university policy tended to drive more student smokers into the union, making it even more smoky.

'Encouragement' for students to stop smoking was provided by a majority (75 per cent) of student unions whose welfare officer was a non-smoker, but by a minority (33 per cent) of those with a smoking welfare officer (z = 3.17, \(p < 0.01\)). In contrast, help for students who wanted to stop smoking was provided by a majority of all student unions (73 per cent of those with a non-smoking welfare officer and 76 per cent of those with a smoking welfare officer). However, leaflets were the most widespread form of 'encouragement' or help. When individual counselling was provided, it seemed to be of a general nature rather than specifically for smoking cessation.

Difficulties perceived by student unions in carrying out tobacco control programmes

The majority of student unions ranked smoking awareness as a lower priority than safe sex awareness, drugs awareness and alcohol awareness (Fig. 3). The majority of welfare officers (72 per cent) said it would be difficult or very difficult to encourage students to stop smoking. The difficulties mentioned most often were:

1. the powerlessness of welfare officers ('Students don't want to be preached at', 'You can't tell people to stop', etc.);
2. social factors ('There is social/peer pressure to smoke', 'Smoking is socially acceptable', etc.);
3. the responsibility of student smokers ('Students are independent/do what they want', etc.);
4. difficulties of raising awareness ('Students know all the dangers');
5. reasons for smoking ('There is too much stress/work pressure').

Fewer welfare officers (44 per cent) thought it would be difficult to help those students who want to stop smoking (z = 3.07, \(p < 0.01\)). Several respondents said, 'If they want to, it's easy'. The difficulties mentioned most often were:

1. the powerlessness of welfare officers ('Don't know how to/feel unqualified', 'Not high priority/no time or resources');
2. the responsibility of student smokers ('It's up to the individual', 'No one seeks help').
Potential for more effective programmes

All interviewees, without exception, said they would consider at least one of the ways of motivating students (or raising awareness). The proportions willing to consider each are much higher than the proportions actually carrying these out at the moment (Table 4). Running a no-smoking day event was the most popular method. However, several said that although they would consider motivating students or raising awareness about smoking, other campaigns would have to be given priority (such as safe sex, student hardship, etc.).

Most welfare officers said they would need help: materials, ideas for events and student volunteers. Materials needed to be easy to use (like campaign packs for World AIDS Day), exciting and relevant to students (like Lifeline drugs information leaflets).17

Almost all welfare officers said they would consider helping students who want to stop smoking. The most popular method was giving out a book (Table 4). Several said they would consider organizing a support group, but only if there was sufficient demand. Help required was much the same as above, with a few additional needs:

1. training packs or sessions for student union officers giving advice and guidance on helping students who want to quit smoking;
2. professional help and support, from counsellors and from people who had run support groups before;
3. free NRT.

Discussion

Epidemiological survey

The need for tobacco control programmes varies widely between universities. The absolute percentages of students who admitted to smoking are likely to be less than the actual percentages who smoke. Nevertheless, comparisons are valid unless rates of misreporting also vary between groups. The 1993 Health Survey found that 33 per cent of males and 32 per cent of females aged 16–34 reported smoking. Therefore Cambridge (12.9 per cent males, 11.4 per cent females) was well below the national average, and Anglia (29.2 per cent males, 24.3 per cent females) was slightly below.

Few students had smoked for less than a year, suggesting that most had started smoking before coming to university. Therefore tobacco control programmes at universities should concentrate on cessation rather than prevention. Most student smokers are probably not dependent enough on nicotine to benefit from NRT;15 this could be confirmed by giving the full Fagerström test to a random sample of student smokers. Therefore it would not be expensive to provide free or cheap NRT to the few who would benefit. While offering this service, cessation programmes should concentrate on tackling addiction by psychological rather than physical means.

Variations in desire to stop smoking may be explained as follows. Students smoking less than one cigarette a day may not consider themselves regular smokers, or may not see smoking as a problem, and so are not very keen to quit. Of those smoking

Table 4 Actual and potential encouragement or help for smoking cessation provided by student union welfare officers (according to their own smoking status)

<table>
<thead>
<tr>
<th>Form of encouragement or help</th>
<th>Non-smoking officers</th>
<th>Smoking officers</th>
</tr>
</thead>
<tbody>
<tr>
<td>% using</td>
<td>% considering</td>
<td>% using</td>
</tr>
<tr>
<td>No smoking day</td>
<td>42</td>
<td>91</td>
</tr>
<tr>
<td>Leaflets</td>
<td>66</td>
<td>80</td>
</tr>
<tr>
<td>Posters</td>
<td>44</td>
<td>69</td>
</tr>
<tr>
<td>Sponsored quit</td>
<td>3</td>
<td>69</td>
</tr>
<tr>
<td>Booklet</td>
<td>16</td>
<td>80</td>
</tr>
<tr>
<td>Support group</td>
<td>5</td>
<td>69</td>
</tr>
</tbody>
</table>

% using: percentage of welfare officers using this form of help at present; % considering: percentage of welfare officers who said they would consider using this form of help in the future.
more than one cigarette a day, those who smoke most are least likely to want to stop, because of greater nicotine addiction or perceived inability to stop. Preparers constitute a smaller proportion of those smoking more than five years, probably because some succeed in stopping in less than five years. Also, desire to quit may wane the longer a person smokes, because of increasing cigarette consumption (which increases nicotine dependence). It follows that students should be encouraged and helped to stop as early as possible.

Motivating students who do not want to stop
Group discussions are not practical for health promotion, as so few people actually come; this is even the case for smokers with more motivation to quit, such as pregnant mothers.8,18 Furthermore, individual smokers may not perceive health education messages to be directed at them personally. Amusing adverts with a famous person are remembered by the greatest proportion of students, and are particularly effective at reaching smokers and those groups of students which contain most smokers. Those most likely to take action are preparers, who were already the most motivated group. It is impossible to know from this survey how many of the preparers had been at an earlier stage (pre-contemplation or contemplation) before seeing the advertisements, and whether the advertisements motivated them to move on. Further research is needed to answer this question.

A personalized approach, assessing the individual needs of each smoker, may be more effective than mass advertising. This needs to be developed and evaluated. Motivational interviewing, effective with problem drinkers, should be tried for pre-contemplators.19 Immediate, personally relevant feedback such as lung function tests and carbon monoxide levels may also help to motivate pre-contemplators.20

Supporting students who want to stop smoking
Research is needed to find if any of the difficulties faced can be tackled more effectively with outside help. For example, strategies for resisting the temptation to smoke could be taught through a book or through support groups.

Tobacco control programmes could tackle some ‘external’ needs in other ways, for example:
1. introducing more smoke-free environments and no-smoking rooms in bars, pubs and lounges;
2. raising awareness of difficulties faced by those quitting, for example, with a leaflet about ‘How to support someone who is quitting smoking’;
3. training at least one professional already working at the university (e.g. counsellor, welfare advisor, doctor) to give useful advice to students wanting to quit smoking, and to publicize this service widely;
4. providing cheap or free NRT to those who would benefit; cost may be a deterrent to potential users.21

The results of the ‘help’ survey are probably biased towards those more eager to stop smoking, so the uptake of help was probably greater than it would be in the general population of smokers. The tiny response rate to freely displayed questionnaires and leaflets shows that very few student smokers seek help if not approached directly. Ershoff et al.6 suggested that personalized introduction to smoking cessation programmes may increase success rates. The means of introduction may be as important as the method of support.

Books were the only widely used form of help in this survey; this confirms the findings of other studies.8,18 They were mainly useful for preparers: only one contemplator stopped smoking. However, many wished to keep the book they were sent; it may help them when they do decide to stop. This needs to be studied further.

Allen Carr’s easy way to stop smoking11 was suggested by one student who had recently stopped smoking, who said the book had helped them change the way they thought, and see that there was nothing to ‘give up’ about smoking. This book seems popular with smokers, selling 250 000 copies in the United Kingdom and being translated into ten languages.22 More traditional booklets10 seem less popular – one respondent who did not request the book said, ‘they don’t normally tell you anything new’. Many students may not be interested in conventional ‘stop smoking’ advice. However, numbers were too small to draw any firm conclusions about which book is better, so a larger study must be done.

The role of student unions
Although many unions claim to provide encouragement and support, this is often no more than a stock of leaflets, usually in a welfare advice centre rather than prominently displayed or directed at students who smoke. At best, some unions give out leaflets more widely on National No Smoking Day or in Health Weeks. Leaflets in an advice centre only reach a small number of students, and are not very helpful on their own.23

Most students wanting to quit smoking do not seek help; a more active approach is needed from student unions. The impact of tobacco control programmes could be increased by direct marketing to the entire population of student smokers rather than relying on smokers to volunteer.24

The difficulties experienced by student union welfare officers in implementing an effective tobacco control programme are a major hurdle to overcome. First, they should be made aware that many more students will eventually die from smoking than from sexually transmitted diseases, drugs and alcohol combined,25,26 and that many student smokers do want to stop smoking, although they rarely seek help. Second, short (one-day) courses in health promotion could train them how to encourage their fellow students to stop smoking without ‘preaching’, and to support those who want to stop smoking. Third, materials provided should be ready to use, and aimed at students rather than at other age groups.
There is great potential for increasing the quantity and quality of tobacco control programmes at universities. 'Direct marketing' of ideas and assistance to welfare officers over the telephone may be a good way of fulfilling part of this potential. Many appropriate materials already exist,1,27-31 and more could be developed.

Conclusion
The initial survey demonstrated a clear need for smoking cessation programmes at universities. Motivating students who do not want to stop seems to be difficult; group discussions are very poorly attended, and advertisements are noticed but their effect is unclear. More personalized approaches may offer more hope, and must be studied. A direct, personal approach also seems to be the most effective way of delivering support to students who want to stop. Books were the only widely used cessation aid in this study; more research is needed to compare the effectiveness of different books. The survey of student unions demonstrated the great potential for improving the quantity, quality and availability of cessation aids at universities.

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References


26 Steele C. Quit smoking. Bromsgrove: Swift, 1993; 120–121.


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