Smoking Cessation in Young People

Should we do more to help young smokers to quit?

Acknowledgements

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Summary

Reducing smoking in young people is a priority in the UK. However, efforts at prevention have so-far been unsuccessful, and current initiatives to encourage cessation are directed at adults. Should we do more to help young people stop smoking?

Health authorities in the United States have recently decided to invest in a comprehensive programme of research and interventions to help young smokers to quit. There is considerable evidence in the UK which shows that a majority of young smokers have already tried to quit but they perceive themselves to be somewhat addicted to tobacco.

Young people's stated desire to stop smoking is supported by high call-rates to telephone help-lines. However, there is a lack of research into which interventions are effective and acceptable with young people. There is a need for a co-ordinated effort to develop and properly evaluate smoking cessation interventions for young people in the UK.

Background

The rate of decline of adult smoking prevalence in the UK has recently shown signs of stagnation. 1996 was the first year in which adult smoking prevalence increased since the General Household Survey has been used to track smoking prevalence.[1] Part of the reason for this is that while older adults continue to quit smoking in large numbers, the number of young people starting to smoke has remained fairly stable or even increased slightly over the past 20 years. Efforts at prevention have so far met with little success, either in terms of effects on smoking in young people or results of controlled trials.[2,3]

The UK Government's recent White Paper on Tobacco, "Smoking Kills" has proposed a comprehensive set of interventions for tackling tobacco and improving health.[4] For the first time in the history of the NHS, substantial resources are being invested in setting up smoking cessation services for adults. Given the relatively modest effects of most preventative interventions, the setting up of cessation interventions for adults raises the question as to whether we should be doing more to help young people to stop smoking.

In order to address this question, the Health Education Authority set up a seminar on smoking cessation in young people. This aimed to gather together experts and practitioners in this field in order to provide recommendations on the way forward.

The seminar consisted of presentations on experiences in the United States, a review of international published literature, and case studies of interventions in the UK, followed

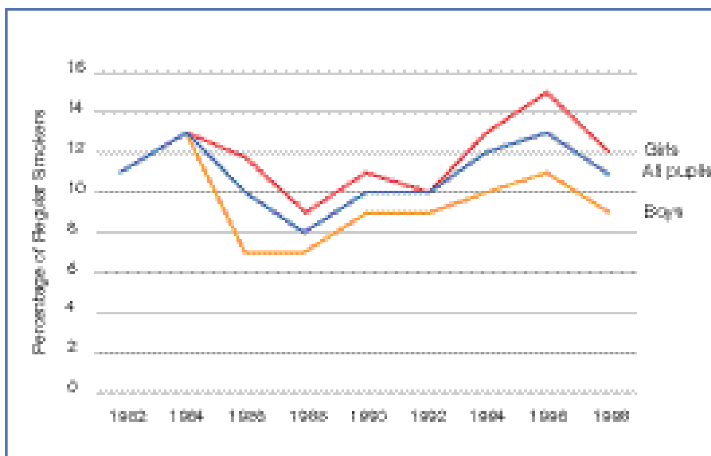

Figure 1
Prevalence of weekly cigarette smoking in school children age 11-15 in England, 1982-98[2]

Experience in the US

by discussion groups focusing on cessation services and target groups. This report is a summary of the Seminar on Smoking Cessation in Young People, held in London on 16th September, 1999.

In 1997 the US Centres for Disease Control and Prevention (CDC) initiated a series of workshops along similar lines to those initiated by the HEA. Dr Ann Malarcher (CDC) and Dr Richard Clayton (University of Kentucky) provided an overview of developments and plans for Youth Tobacco-Use Cessation in the United States.

In 1994, the US Surgeon General's Report, "Preventing Tobacco Use among Young People", indicated that there were very few effective cessation programmes for youth and that more research was needed in this area.[5] U.S. trends in smoking prevalence have been somewhat similar to the UK, with gradual (and possibly slowing) reductions in adult smoking, but increasing rates of smoking among high school students (e.g. increasing from 28% to 36% between 1991 to 1997).[6] The American Medical Association, together with the CDC have responded by undertaking a 3-year project to develop, implement and evaluate an effective tobacco use cessation programme for young people. This involves the setting up of a number of research projects followed by the dissemination and implementation of effective practice across the nation. The overall goal of the US programme is:

"To ensure that every youth tobacco user (aged 12-24) has access to effective youth cessation interventions by the year 2010."

What does the literature suggest?

Within this overall programme a series of specific 2, 5 and 10-year goals have been developed with regard to **research**, **implementation**, **support** for environments and policies conducive to cessation, and efforts to increase **demand** for cessation among young people. However, although the United States has already embarked on this process and has backed it with significant funding, it will clearly be some years before results are forthcoming. In the meantime we in the UK must examine the available evidence prior to deciding on how best to promote cessation in young people.

1. UK survey data.

One of our strengths in the UK is the high quality of national data on smoking attitudes and behaviour from large scale surveys. Among the largest recent surveys carried out was the "Health Behaviour in school-aged children" survey[7] which included a representative sample of school children aged 11-16 in England in 1997 (n=10,407). Among the 1979 (19%) who were regular smokers, 61% stated that they would like to give up and 66% had already tried to give up. More girls (74%) than boys (58%) had tried to give up. 82% of those who wanted to give up had already tried, but 46% of those who did not currently want to give up had still tried to do so at some time in the past (suggesting considerable fluidity in quitting intentions). It was also noteworthy

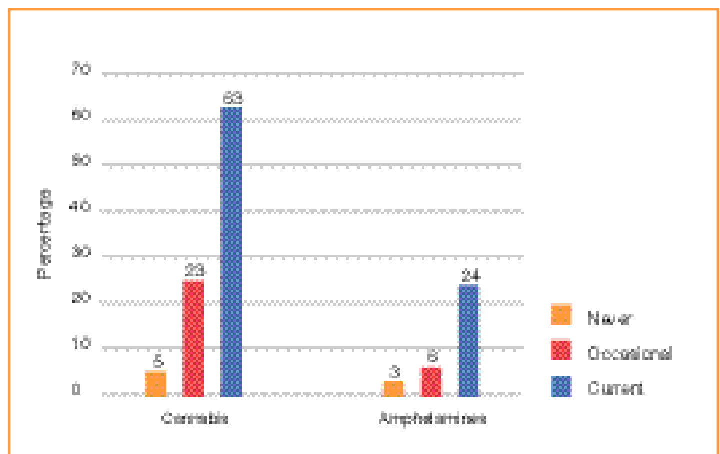

Figure 2
Percentage of never, occasional and current smokers in school years 10 and 11 (aged 14-16) who have tried cannabis or amphetamines in England.[7]

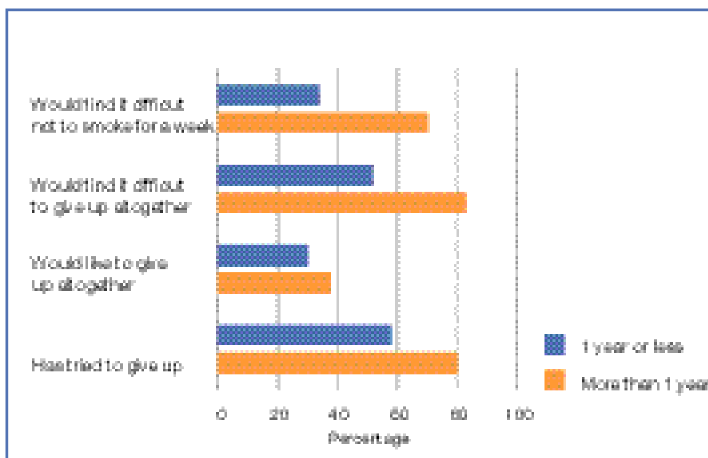

Figure 3
Perceived dependence on tobacco by length of time as a regular smoker in 11-15 year-olds in England.[2]

that among the 14-16 year-olds in this study, 68% of the smokers had tried an illegal drug, compared with only 11% of the never-smokers. As shown in Figure 2, left, this strong relationship between smoking and illegal drug use is not restricted to smoked drugs.

The 1998 ONS survey of smoking in 11-15 year-olds[2] found similar results to those outlined above. Although the young regular smokers were smoking an average of 65 cigarettes per week, the majority stated that they would find it difficult to stop smoking and this perception increased the longer they had been a regular smoker, as shown in Figure 3, above, (note, the lower proportion wanting to give up in this study was due to the survey providing a “don’t know” option, which was chosen by 47%).

It is a consistent finding in surveys of young people in the UK that almost 100% of regular smokers believe that smoking causes lung cancer and around 90% are aware that smoking can cause heart disease.[8] Strangely, however, 20-40% of young regular smokers will also endorse the view that, “smoking is not really dangerous, it only harms people who smoke a lot.” By far the main perceived positive effect of smoking in young people (and adults) is that “smoking helps people relax if they feel nervous.” This statement is typically endorsed by around 80% of regular smokers (as well as 58% of never smokers).

These surveys suggest that a majority of young smokers are aware of the main health risks, primarily smoke for perceived mood enhancement, but want to stop smoking. However, the strength and consistency of their desire to quit is unclear. The fact that 46% of those who currently do not want to quit had previously tried to, suggests that within this age group, quitting intentions may be particularly fluid. These surveys also demonstrate that young people who smoke also tend to indulge in a number of other risky behaviours (e.g. drinking alcohol) and are considered to be more rebellious people. It is similarly clear that even although they are not necessarily smoking very large numbers of cigarettes, many young smokers perceive themselves as somewhat addicted to tobacco.

2. Survey data from other countries

Some recent surveys of young people in other countries with similarities to the UK situation (e.g. U.S., New Zealand) have also revealed some potentially useful information.

One study in New Zealand[9] studied tobacco dependence in a cohort of 937 18-year-olds (321 of whom were daily smokers). Using research diagnostic criteria,[10] this study found that 56% of 18 year old daily smokers satisfied the criteria for tobacco dependence (these included criteria such as unsuccessful efforts to cut down or quit, and experience of withdrawal symptoms on trying to quit). Almost half the sample of smokers indicated that they would participate in an organised programme if they wished to quit smoking. It was concluded that as a large number of young smokers are dependent on tobacco, the results support the development of treatment programmes for youth that take into consideration their degree of dependence.

A longitudinal study in the US followed a cohort from high school (early 1980's) to their early 30's in 1994.[11] Like a number of UK studies, they found that women and those who believed that smoking was more dangerous to their own personal health, were more likely to try to quit. Lighter smokers and those with a high educational attainment were more likely to succeed.

Gillespie and colleagues surveyed a representative sample (n=1426) of 15-year-old Australian smokers.[12] Unlike Stanton in New Zealand, they found that only a relatively small proportion (12%) would prefer to use a recognised programme for help to quit smoking. Cutting down slowly was the preferred method (68%). Around 50% of participants rated the help of a friend as a favoured quit method. The participants were asked to indicate factors which might enhance an organised cessation programme. The top three "enhancing factors" were, "if it was free", "if friends were supportive" and "if lots of friends were doing it". The two main inhibiting factors were, "if parents found out you smoke", and "if the programme was done in lunchtime" The most preferred person to deliver the programme was an adult from outside the school (38%), followed by "a student" (21%).

3. Focus group studies

A series of focus groups were recently conducted in the US in order to explore perceptions of smoking cessation among high school smokers.[13] Focus group methodology allows researchers to assess the views of a target group without imposing their own structure on the conversation (as is inevitably the case with questionnaires). The groups are allowed to "go with the flow" of conversation, and this allows the participants to raise issues which the researchers may not have foreseen.

Balch reported that none of the participants spontaneously mentioned seeking out a smoking cessation programme of any kind to help them quit. Two female teenage smokers commented:

"It seems silly to have a programme to get you to quit smoking."

"If you do drugs and stuff, there's a desperate need for immediate help. But if you smoke there's not a desperate need for immediate help."

One weakness of these focus groups which should be borne in mind was that very few of the participants were themselves planning to quit smoking. Hence, this report is largely based on the views of "pre-contemplator" teen smokers.

At this point it is perhaps also worth mentioning the results of some focus group studies originally carried out in the late 1970's for a Canadian tobacco company and which came to light as evidence in litigation.[14] A report on one of those studies stated:

"However intriguing smoking was at 11,12, or 13, by the age of 16 or 17 many regret their use of cigarettes for health reasons and because they feel unable to stop smoking when they want to. Over half claim they want to quit. However, they cannot quit any easier than adults can."

4. Outcome of smoking cessation trials in young people.

One review of 17 adolescent smoking cessation trials and 17 prevention trials has recently been conducted.[15]

It is noteworthy that while the majority of the cessation studies used a single group design (i.e. no comparison or control group), most of the prevention studies had control groups. Most of the cessation studies were very small (average was 90 participants) and less than half used any kind of biochemical verification of abstinence. From these details alone one can conclude that research on smoking cessation in young people is in its infancy and the number and quality of trials is too low to come to any meaningful conclusions.

All but one of these 17 trials included daily smokers (one included monthly smokers). The average number of sessions in the cessation studies was 6 (range = 1-20). Only 11 studies reported quit rates. The mean initial quit rate was 20%, and the (usually 6 month) follow-up quit rate was 14%.

Another characteristic of the teen cessation trials is the wide variety of different types of intervention being evaluated. This means that it is rare for the same intervention to have been evaluated in more than one study, and so it is impossible to examine the reliability of the findings.

Conclusion

Dr Foulds concluded from his review of the literature that around two thirds of teenage smokers are interested in quitting, but around a half are dependent on nicotine. There is a lack of high quality research evaluating smoking cessation interventions for young people, with only one large controlled trial published from the UK, right. However, there is also a lack of knowledge of how best to recruit young people to participate in smoking cessation interventions. There is a need for a range of smoking cessation interventions for young people to be piloted in the UK, and then the most promising ones evaluated thoroughly in controlled trials.

Case studies of Youth Cessation Programmes in the UK

1. Evidence of demand for smoking cessation amongst young smokers in Scotland.

Sally Haw (Health Education Board for Scotland) presented data from the Smokeline (free telephone helpline for adult smokers) and the 1998 Health Behaviour of Scottish Schoolchildren survey (HBSC).[16] Although set up in 1992 as an adult service, 57.2% (n=263,860) of calls to the Smokeline have been from callers under 16 years old. Routine monitoring data indicate that young callers are predominantly smokers (93%), female (69%), aged 13-15 (70%), and first time callers (96%). Over half of the young callers (56%) were given counselling about their smoking. The modal weekly cigarette consumption was 20-39 cigarettes amongst callers under 13, and 70-99 amongst 13-15 year-olds. The vast majority of callers (97%) wanted to give up, with (38%) stating that they were "desperate" to do so. Figure 4, below, shows the variations in motivation to give up by age and sex.

Questions on the use of the Smokeline by Scottish schoolchildren were included in the 1998 HBSC survey. The sample included 5,631 pupils from primary 7 (age 11), and secondary years 2 (age 13) and 4 (age 15), from 261 schools on mainland Scotland. Overall, 8.9% (n=249) of girls and 5.9% (n=165) of boys in the sample said that they had ever called Smokeline. Consistent with Smokeline monitoring data, call rates were highest amongst current smokers, as shown by Figure 5, over.

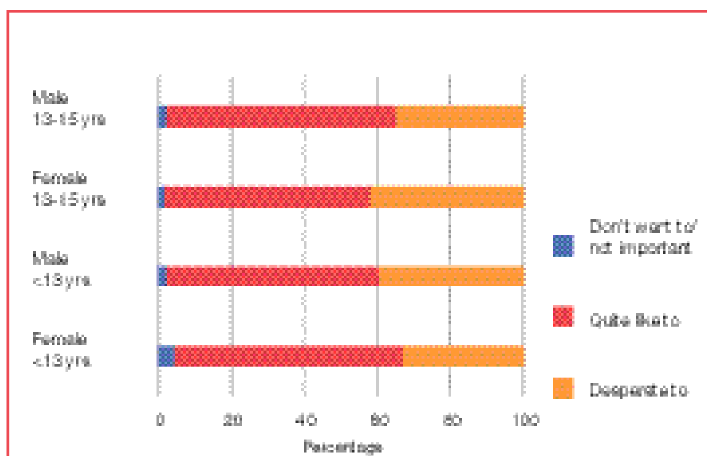

Figure 4
Motivation to stop smoking in young smokers phoning the Scottish Smokeline, by age band and sex.[16]

19.2% of girls and 14.7% of boys in the survey were current smokers. More than one in four girls who were current smokers (25.9%, n=139) and nearly one in five boys (19.7%), n=79) who were current smokers said that they had called Smokeline at some time, as shown in Figure 5, below.

Respondents who had called Smokeline (n=402) were asked about their main reason for calling. Overall, 30.3% (n=122) of pupils said they called for a prank, compared with 27.9% (n=112) who had called to get help for a family member or friend, and 23.1% (n=93) who called for help with their own smoking. However, there was variation according to gender and smoking status. Figure 6, right, shows that prank calls were most likely amongst non-smoking boys, whereas calling for help was more common amongst girls who smoked.

Conclusion

After taking account of the fact that around a third of the calls from young smokers may be prank calls, these data suggest that a substantial minority (around 15%) of young Scottish smokers have called Smokeline for help. This provides powerful evidence which backs up survey data in confirming that a sizeable proportion of young people who smoke want to stop and are willing to take action to obtain help in doing so.

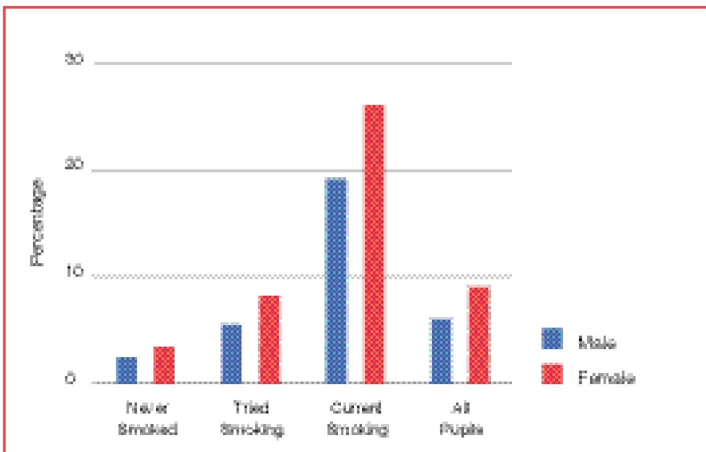

Figure 5
Proportion of pupils who called Smokeline by sex and smoking status.[16]

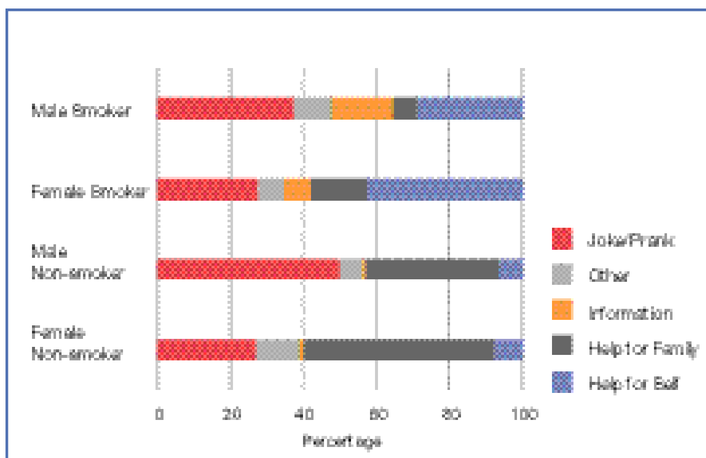

Figure 6
Reasons for calling Smokeline by sex and smoking status. [16]

2. A randomised trial of a computer-based "stage of change" intervention for smoking prevention and cessation in schools.

Dr Paul Aveyard presented the results of an extremely thorough study which examined whether a year long programme administered by computer could reduce the prevalence of teenage smoking. The programme was based on the transtheoretical model of behaviour change,[17] and incorporated three sessions using an expert system computer programme and three class lessons.

Method
The study took place in 52 schools in the West Midland region and compared the intervention to a control group who were exposed only to health education as part of the English national curriculum. 8352 students in year 9 (aged 13-14) participated in the study, with 7444 (89%) being followed up one year later. 1090 (13%) of the participants were smokers at the start of the study. Over 98% of participant attended at least 2 sessions and the vast majority agreed that these were useful.

Results
Despite the high participation rate, and the tailoring of the intervention to the stage of change, the results provided no evidence that the intervention had any effects on smoking initiation, cessation or even changes in stage of change. Focusing on those classed as smokers at the beginning of the study, by the one year follow-up 80% were still classed as smokers with no difference between the intervention and the control group.

Conclusion

It was concluded that there is no evidence that the computerised expert system based on the transtheoretical model is effective in smoking prevention and cessation.

Full details of this paper have been published in the BMJ.[18] Dr Aveyard also presented data from this study which demonstrated that smoking status and intentions are very fluid in teenagers. Figure 7, below, shows the change in reported smoking status in young ex and regular smokers from baseline to their one-year follow-up. It shows that within a one-year follow-up period there is substantial fluctuation in young people's smoking status and in their recollection of prior smoking status (e.g. 8% of ex-smokers at baseline state that they are never-smokers a year later).

3. Training teachers to help smokers in schools.

Gerry McElwee (Ulster Cancer Foundation) described his own experience of training over 100 teachers to run small group interventions to help reduce smoking in young people in Northern Ireland. This involved an intensive 2-day course and was met with considerable enthusiasm and good attendance by the teachers involved. The training programme had been fully funded, but since this funding ran out it has not been possible to run such training courses, due to the need to provide cover for staff in schools. This underlines the point that if teachers are to be involved in interventions, then their time needs to be fully funded, in addition to that of the trainers.

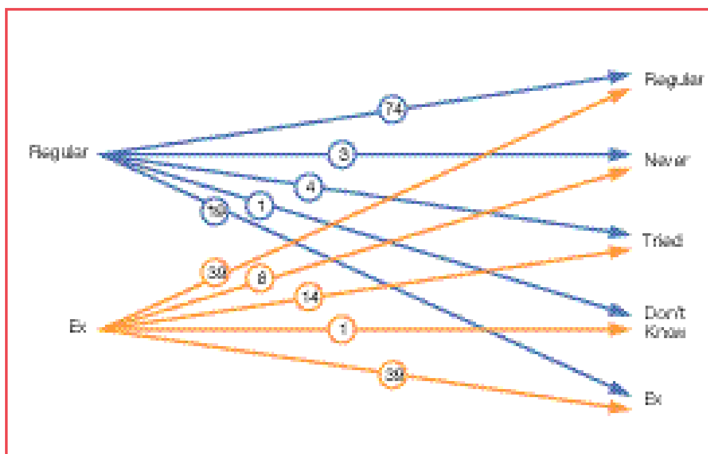

Figure 7
Changes in reported smoking status from recruitment to one year follow-up in 1429 13-14 year-olds participating in a trial of a computer-based smoking cessation and prevention intervention.[18] (Numbers are percentages of baseline Ex or regular smokers)

Key questions on smoking cessation in young people

What are appropriate locations for cessation services for young people?

Young people may have good reasons for being less able to access cessation services in traditional locations. For example, in schools young people may have concerns about confidentiality or explaining to others the time spent either off classes or outside school hours at a school-based clinic. Young people may be less able to afford transport costs to visit hospitals or health centres. However, serious consideration should be given to delivering cessation services in an acceptable format for young people in such established settings.

Schools and Colleges

Some school-based initiatives have reported high levels of satisfaction by young people, who appreciate the effort that is being made on their behalf by teachers or school nurses. It may also be useful to explore the use of outsiders, rather than teachers, in schools, and to use educational settings other than schools to attract young people, such as training colleges and universities. For example, one project underway, and funded by Europe Against Cancer, is using screensavers on computers in a college to promote a helpline, an information pack and free Nicotine Replacement Therapy (NRT). Senior schools also have the advantage of having internet-linked computing equipment which may yet prove to be an acceptable means of delivering advice, information and support to young people.

Primary Care and Other Health-Care Settings

Similarly, it may not be sensible to write-off primary care as an appropriate setting for cessation services for young people. The General Household Survey shows that young people use primary care services at much the same rate as adults, and one pilot project reported high levels of participation by young people in a "contract to quit" with their GP, and a significant cessation rate when recontacted after three months.[19]

Unfortunately, it is not clear whether the funding available through the National Health Service for cessation services must be used exclusively for adults. Other health settings remain relatively unexplored. Family Planning Clinics, for example, may be a particularly fruitful location for cessation services, since they are likely to reach young people who are demonstrating their wish to make informed decisions about another major health issue, contraception. For those young people seeking advice about their pregnancy, the clinics may be a suitable place to reach existing or future young parents.

The Youth Service

Given that smoking is often associated with "rebellious" behaviour among young people, it may be advisable to provide cessation

services for young people in settings in addition to traditional ones which may be associated with authority. For example, young people may link smoking in school to issues of discipline rather than health. Youth services are less associated with authority and are focused on responding to young people's needs. It seems likely, therefore, that cessation services provided in youth settings would have some value. Partnerships between health professionals and youth workers should be developed in order to explore this area.

What are appropriate mechanisms for delivering cessation services for young people?

Given the limitations on the research in the area of cessation services for young people as a whole, there are few indications about particularly effective (or ineffective) mechanisms. The following summarises what is known:

One-to-one counselling

The main difficulty here is the lack of sufficient numbers of well-trained cessation advisers to cope with demands from adults, let alone additional demands (possibly requiring different approaches) from young people.

Telephone helplines

Evidence from the Smokeline in Scotland shows a surprisingly high proportion of callers are young people, even though (or perhaps because) the line is not promoted as suitable for young people. Although a proportion are prank calls (particularly from boys), older girls who smoke seem genuinely motivated (some even describe themselves as “desperate”) to stop and seem to appreciate the instant, personalised and confidential service offered by the Smokeline. However, it is difficult to recontact young callers to check how effective the phoneline has been at helping them to stop smoking. Given the value young people place on confidentiality, they are predictably reluctant to give their home telephone number. Mobile phones, increasingly used by young people, may be a way to overcome this problem.

Computer-based services

Young people appear to be much more comfortable with computer-based activities than adults. Computers and the internet offer the anonymity of telephone helplines, a degree of personalisation (depending on the sophistication of the programme) and access to as much, or as little, information as the user wants. Unfortunately, the only well-designed study using computers in schools (described above) produced no effect on cessation rates.

Group sessions

It is not clear whether cessation services for young people would be best provided in groups designed especially for them or whether being mixed with adults would be more effective. Some studies have shown that young people would like services that allow or encourage the involvement of friends, while other research indicates that young people prefer being treated like adults. Given young people's heterogeneity, it seems likely that both tailored and mixed groups would have value.

None of these services will, or should take place in a vacuum, and the role of local authority smoking policies in, for example, restricting young people's access to tobacco through law enforcement and work with retailers remains important.

Should young people be advised to use Nicotine Replacement?

The use of Nicotine Replacement Therapy (NRT) is a particularly contentious issue. It was agreed that:

- Young people should be encourage to try to stop smoking without NRT, in the first instance;
- Although NRT is not generally recommended for those smoking less than ten cigarettes per day, NRT is less harmful than cigarettes so should not be discouraged as a replacement for them;
- Health professionals should assess, on a case by case basis, whether or not NRT is appropriate for particular smokers under 16 who want to quit.

However, there are also longer term issues to consider. Current guidelines mean that young people are normally excluded from research with NRT, with only rare exceptions.[20] We therefore do not know how effective (or otherwise) NRT might be with young people. Pharmaceutical companies describe their NRT products as unsuitable for those under 18 (or sometimes 16) not because there is evidence of harm to young people from NRT, but because there is no evidence at all. The on-pack declaration also protects the companies from legal liability if a person under 18 misuses their product and suffers harmful effects.

The position of the Department of Health, and of the Medicines Control Agency on this issue is not clear. As a result, responsibility (and probably legal liability) for using NRT with young people falls on the health or other professional working with young people. This, and the fact that very little research is being conducted in this area, is far from satisfactory.

Conclusions and Recommendations

1. Reducing smoking in young people is a public health priority in the UK.

2. There is ample evidence from both surveys and telephone helplines which demonstrate that a significant proportion of young smokers want to stop smoking, and are willing to seek help to do so.

3. It is unlikely that services which are set up primarily for adults will be suitable for young smokers.

4. There is almost no good evidence of effective smoking cessation interventions for young people, and in the UK there is very little experience of setting up and running cessation interventions for young people over a sustained period.

5. There is a need for current smoking cessation services to consider the needs of young smokers.

6. There is a need for a range of smoking cessation interventions for young people to be piloted in the UK, and then the most promising ones evaluated thoroughly in controlled trials.

7. In a context of limited resources for the evidence-based interventions for adults,[20] interventions for young people should only be advocated and funded on a national basis once they are supported by solid evidence. Consideration needs to be given to the relative costs and benefits from alternative interventions.

Some further recommendations for future work are as follows:

- Establish and maintain networks to encourage the exchange of information and experience, not only on current and completed research but also on practical initiatives;
- Ensure the networks are multidisciplinary in nature and international in scope. They should bring together, for example, not only experts in smoking, but also in youth work, and in addictions to substances other than nicotine;
- Encourage these networks to foster collaborative research projects, which ought to help people avoid duplication of effort and share costs, particularly for large-scale studies;
- Develop common criteria and systems for research, of whatever scale, into cessation services for young people to promote high quality and comparable studies in this field;
- Clarify, with the Department of Health, the extent to which funds available through the National Health Service for cessation services can be used to develop such services for young people;

- Explore, with the Department of Health, the Medicines Control Agency and the pharmaceutical companies, how to develop a research programme capable of demonstrating whether existing NRT or other, new nicotine replacement products are effective in helping young people to stop smoking;
- Host a similar seminar in one or two years time to assess how much progress has been made and develop further recommendations.

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