Pergamon

European Journal of Cancer Vol. 30A, No. 2, pp. 253–263, 1994
Elsevier Science Ltd. Printed in Great Britain
0959-8049/94 $6.00 + 0.00

0959-8049(93)E0062-H

Smoking Cessation Methods: Recommendations for Health Professionals. Advisory Group of the European School of Oncology

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Smoking is the leading preventable cause of death. Approximately 40% of Europeans now smoke. Many smokers want to stop but do not make the attempt, and of those who try, most are unsuccessful. Primary care health providers can help their patients to stop by using brief behavioural and pharmacological interventions. Specialised smoking cessation clinics can support selected patients referred by primary care providers. This report reviews intervention techniques for health care providers, which, in combination with effective legislative and educational interventions, can significantly reduce the prevalence of smoking.
Eur J Cancer, Vol. 30A, No. 2, pp. 253–263, 1994

INTRODUCTION

MASS IMPLEMENTATION of effective smoking cessation interventions that reach a large percentage of the population would save lives and be a major public health initiative in primary prevention.

Smoking and disease: the burden of illness

Smoking is killing 8000 people a day, worldwide, by causing many of the most prevalent chronic degenerative diseases: 80–90% of chronic respiratory diseases, 80–85% of lung cancer, 25–43% of coronary heart disease [1]. Approximately 1/3 of *all* cancer deaths are caused by smoking [2]. Half of the people dying from smoking are under the age of retirement, in their 40s, 50s or early 60s, accounting for 50% of these premature deaths [3]. In Europe, smoking is considered responsible for an estimated 800 000 deaths a year [4]. In all, smoking causes approximately one in six deaths [5].

The ill effects of environmental tobacco smoke are also becoming established: others' smoking can cause disease and death to non-smokers, who have been in environments where they breath in sidestream smoke. The U.S. Environmental Protection Agency has classified environmental tobacco smoke as a "group A" or known human carcinogen [6]. In addition to causing discomfort and exacerbating respiratory and cardiovascular ailments, environmental tobacco smoke exposure is estimated to increase lung cancer risk among non-smokers by about 30% [7].

Tables 1 and 2 present a summary of the devastating health effects caused by smoking, Table 3 presents current knowledge about the health effects of environmental tobacco smoke, and Table 4 presents estimated risk reductions after cessation.

In the European Community, as shown in Table 5, smoking among men 15 years of age and older ranged in the late 1980s from 38% in Ireland and Luxembourg to 61% in Greece; among women 15 years of age and older, from 12% in Portugal to 45% in Denmark [8], thus being a highly prevalent and visible behaviour.

If we can provide effective interventions that encourage smoking cessation and abstinence, public health in the community can be enhanced, both in lowering health risks and in primary prevention:

— The health risks created by smoking diminish progressively over time following cessation [1]; decreases in smoking prevalence should be followed by reduced incidence of the numerous diseases caused or exacerbated by smoking. For example, recent drops have been registered in lung cancer mortality rates among men in those countries where men's smoking rates began declining in the 1960s and 1970s [9].

— Fewer smokers in the population means less exposure to environmental tobacco smoke and its sequelae.

— Primary prevention can be facilitated. Decreased smoking prevalence among adults would enhance the possibility for prevention programmes among children and adolescents to have lasting effects. In Europe today, smoking is still a "normal" behaviour. Young people who are searching for an alternative behaviour to signal a message about themselves are much more

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This study was supported by an educational grant from the EC "Europe Against Cancer" programme.

Table 1. The health risk of smoking (I)

Diseases causally linked to tobacco
Coronary heart disease
Artherosclerotic peripheral vascular disease
Lung cancer
Oral cancer
Laryngeal cancer
Oesophygeal cancer
Chronic obstructive pulmonary disease (COPD)
Cerebrovascular disease (stroke)
Fetal effects causally linked to tobacco
Intrauterine growth retardation
Low birthweight
Passive smoking effects on children and adults
Increased risk of lung cancer
Increased respiratory infections
Probably causally linked to tobacco
Unsuccessful pregnancies
Increased infant mortality
Peptic ulcer disease
Diseases for which smoking is a contributing factor
Bladder cancer
Pancreatic cancer
Kidney cancer
Cervical cancer

Source: U.S. Surgeon General's Report. *Reducing the Health Consequences of Smoking. 25 Years of Progress.* DHHS Pub (CDC) 89-8411, 1989, Rockville, Maryland, U.S.A.

likely to choose to smoke themselves when they have an example to follow [10].

This report

Smoking cessation programmes are a vital component of any smoking control strategy. But they can only be supplementary to 'whole population' approaches which include regular tobacco tax increases, legislation (banning direct and indirect advertising, restricting smoking in public places to identifiable "smoking zones", regulating strong health warnings on cigarette packaging), media campaigns and public information education programmes, and self-help cessation materials. A global, comprehensive approach can influence consumption trends and the social acceptability of tobacco use, which in turn encourages spontaneous as well as aided cessation. Most ex-smokers report that they stopped smoking unaided [11]. However, the rate of new, sustained cessation in the population remains low, and usually occurs only after repeated efforts over time. Unless concerted efforts continue to be made to promote smoking cessation, the prevalence of smoking will not significantly decrease, because of the high levels of uptake among adolescents.

This report will not attempt to deal with the effects of legislation, mass campaigns, self-help materials or prevention campaigns, but will assume that these methods should exist and serve as a backdrop to more therapeutic methods for smokers that desire and ask for help or for smokers in the general population who can be motivated to stop on their own. **The scope of this report is limited to the smoking cessation methods offered by health professionals.** Most evaluated results come from smoking cessation clinics or specialist consultations, or from trials in general practice; medical doctors or therapists being the principal agents of change. However, this

Table 2. The health risk of smoking (II). Relative risks of mortality as a result of smoking (Data from ACS 50-state study)

Underlying cause of death	Non-smoker's risk	Smoker's risk Males/females	Ex-smoker's risk Males/females
All causes	1	2.34 / 1.90	1.58 / 1.32
Coronary heart disease (35–65)	1	2.81 / 3.00	1.75 / 1.43
Cerebrovascular lesions (35–65)	1	3.67 / 1.84	1.38 / 1.06
Other circulatory diseases	1	4.06 / 4.80	2.33 / 1.41
COPD	1	9.65 / 10.47	8.75 / 7.04
Cancer: lip, oral cavity, pharynx	1	27.48 / 5.59	8.80 / 2.88
Cancer: oesophagus	1	7.60 / 10.25	5.83 / 3.16
Cancer: pancreas	1	2.14 / 2.33	1.12 / 1.78
Cancer: larynx	1	10.48 / 17.78	5.24 / 11.88
Cancer: lung	1	22.36 / 11.94	9.36 / 4.69
Cancer: cervix uteri	1	/ 2.14	/ 1.94
Cancer: kidney	1	2.95 / 1.41	1.95 / 1.16
Cancer: bladder, other urinary	1	2.86 / 2.58	1.90 / 1.85

Source: U.S. Surgeon General's Report. *Reducing the Health Consequences of Smoking. 25 Years of Progress.* DHHS Pub (CDC) 89-8411, 1989, Rockville, Maryland, U.S.A.

Table 3. The health risks of smoking (III). Suspected effects of passive smoking

Increased lung cancer risk: 20–30% of cases of lung cancer among non-smokers caused by passive smoking	
Risks:	
Unexposed non-smoker	1
Non-smoking woman married to smoker	1.34
Smoker <10 cigarettes/day	2.3–4.6
Increased risk of death from heart disease (disputed)	
Increased incidence of childhood respiratory diseases and respiratory tract infections	
Pneumonia	
Trachecitis	
Bronchitis	
Asthma	
Otitis	
Tonsillectomy	
Adenoidectomy	
More frequent childhood admissions to hospital	
Reduced lung function	
Increased fetal risks caused by maternal smoking	
Reduced birthweight	
Natal mortality	
Spontaneous abortion	
Possible effects:	
Neo-natal mortality	

Source: Hirsch A. Characteristics and consequences of passive smoking. *Aerobiologiea* 1990, **6**, 75–78.

report wishes to encourage the entire health profession, and proposes actions that can be considered not only by general practitioners and medical specialists, but also by nurses, dentists, pharmacists and other professionals in the health field such as psychologists and social workers.

DEFINITION OF THE PROBLEM

Current knowledge about smoking and smoking cessation

Tobacco smoking is a complex behaviour to which psychological, social and pharmacological factors contribute [12]. The acquisition of the habit in childhood or adolescence is largely determined by the desire for experimental, rebellious behaviour which is perceived as adult and which is encouraged by peer group behaviour [9]. The relatively low cost and high availability of tobacco products underpin the overall legitimacy of tobacco use. The highly visible prevalence of smoking among certain groups, including people in the entertainment industry and young adults, provides constant reinforcement and modelling for continued smoking. As a psychological device, smoking becomes a powerful component of coping for many smokers, and physical responses rapidly develop alongside psychological needs. Pharmacological addiction frequently becomes the major factor determining persistence of the behaviour. Nicotine, possible other pharmacological mechanisms, social, psychological and behavioural factors can all help to explain the difficulties smokers face in stopping smoking.

Although the balance between psychosocial factors and pharmacological addiction vaires from smoker to smoker, research has increased awareness of the importance of nicotine addiction. The powerful nature of this addiction had been emphasised by comparing it to such drugs as heroin and cocaine [13]. As a drug, nicotine has many of the characteristics of other drugs of addiction, including the development of tolerance and experience of withdrawal effects after stopping smoking. However, as spontaneous addiction to pure nicotine has never been documented, other still unknown pharmacological determinants of tobacco addiction might exist.

Despite these psychosocial and pharmacological factors, people can and do stop smoking. It may be useful to consider smoking cessation as a process, with identifiable stages of precontemplation (not yet thinking about stopping), contemplation (awareness of the issues), decision (personal reasons for stopping), action and maintenance [14]. A conceptual model of this process is presented in Fig. 1. While the majority of smokers now acknowledge that smoking creates additional risk, there is evidence that only those who are closest to a decision to stop smoking are likely to feel personally vulnerable to the risks [15].

However, although 65% or more of smokers pass beyond the stage of precontemplation [16], few are able to pass through all of the stages. Using this conceptual model, techniques for smoking cessation have evolved to respond to the barriers of passage from one stage to the next. Depending on the stage of their cessation, smokers may need increased motivation to move towards the decision to act, techniques to facilitate action or strategies to maintain their abstinence. In some populations receiving cessation aid, there may be a high percentage of smokers who stop smoking initially, with a majority relapsing, in large numbers at first and decreasing numbers over time as shown in Fig. 2. In other populations the relapse curve will be similar, but the initial cessation may be much smaller.

Table 4. The health risk of smoking (IV). Risk reduction after smoking cessation

	Short term	Long term
Coronary heart disease	50% less risk at 1 year	Non-smoker rate at 10–15 years
Cerebrovascular disease	Non-smoker rate at <1 yr	
Peripheral vascular disease	Halts progression immediately	
Lung cancer	60% less risk at 5 years	50–90% less risk at 15–20 years
Laryngeal cancer		Non-smoker rate at 10–15 years
Oral cavity cancer	Decreased risk after 6 years	Non-smoker rate at 16 years
Bladder cancer		Non-smoker rate at 15 years
Respiratory disease	Slow decline	50% less risk at 20 years

Source: Fielding JE. Smoking: health effects and control. *N Engl J Med* 1985, **313**, 491–498.

Table 5. Proportion of smokers (cigarettes, pipes, cigars) by sex and age in the EC (accumulated results of four surveys 1987 to 1989)*

Age	Males					Females					Total
	15–24 %	25–39 %	40–54 %	55+ %	Total %	15–24 %	25–39 %	40–54 %	55+ %	Total %	population %
Denmark	33	39	50	47	46	44	49	46	40	45	45
Greece	59	72	67	47	61	35	45	21	09	26	43
Netherlands	38	49	55	46	47	41	47	38	21	37	42
Spain	51	64	61	38	53	49	50	13	04	28	40
France	51	57	49	28	44	46	38	20	10	29	36
Belgium	38	51	50	37	44	32	43	25	13	28	36
U.K.	30	45	42	41	40	29	32	35	30	32	35
Ireland	32	43	37	39	38	31	38	31	25	31	35
W. Germany	31	55	46	38	43	26	43	20	17	27	34
Luxembourg	28	45	39	35	38	37	37	29	14	30	34
Italy	31	45	42	35	39	24	40	25	16	26	32
Portugal	52	57	42	28	46	26	22	03	01	12	28
Community	39	53	47	37	44	34	40	26	17	28	36

*Here the countries are arranged in order of the decreasing percentage of smokers of both sexes in the total population (15 years or over). Weighted average. Source: Comission of the European Communities (1989b), from Bosanquet N & Trigg A. *Smoke-free Europe in the Year 2000: Wishful Thinking or Realistic Strategy?* Health Policy Unit Discussion Paper 4. Chichester: Carden Publication Limited, 1991.

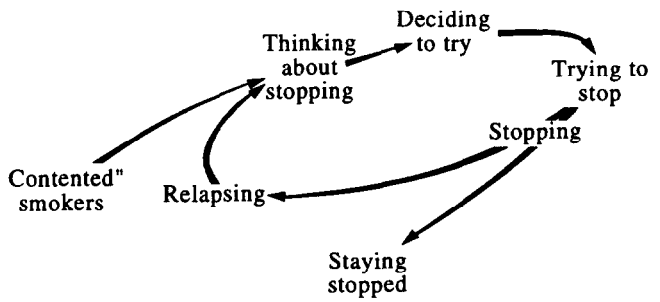

Fig. 1. Stopping smoking as a process. Source: Raw M. *Help Your Patient Stop.* London, BMA, ICRF, UICC, WHO, 1988.

Methodological issues

Motivation to stop smoking and confidence in the ability to do so are important predictors of success [17]; method of recruitment is, therefore, an important variable and those participating in studies in specialist smoking cessation clinics will generally be more motivated than those in primary care studies. Analysis of results should be on an 'intention to treat' basis, those not followed-up being assumed to be continuing smoking, rather than excluded from analysis. Relapses are common after cessation, but most people who do relapse do so in the first year [10]; 1 year follow-up is, therefore, a good measure of long-term success. Point prevalence cessation at 1 year includes not only those who have achieved sustained abstinence since the intervention, but also those who have stopped recently and are likely

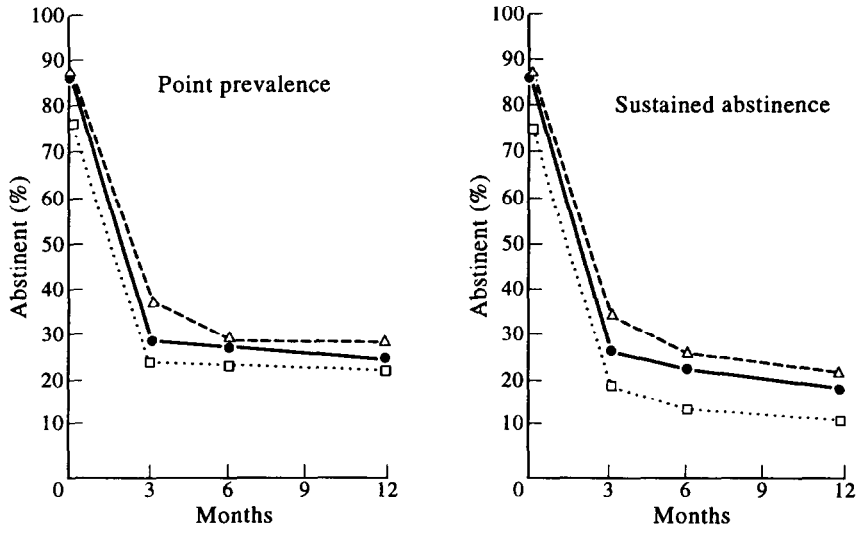

Fig. 2. Examples of point prevalence and sustained abstinence curves for three smoking cessation therapies. Source: Lando HA, *et al.* Comparative evaluation of American Cancer Society and American Lung Association smoking cessation clinics. *Am J Public Health* 1990, 80, 554–559.

to relapse. Abstinence immediately following the intervention and maintained for 1 year is the most reliable measure of long-term success and self-reporting needs to be validated by biochemical tests such as exhaled carbon monoxide (CO) level or blood, urine or saliva cotinine, because deception is common.

Implementation of smoking cessation interventions

Despite the clear public health mandate to reduce the prevalence of smoking in the community, health professionals outside the realm of cessation clinics have been reticent to offer smoking cessation interventions. Existing health care delivery systems vary throughout Europe, but within each context, health professionals can use their exemplary role and their access to a large number of smokers to provide advice and treatment.

General practitioners and medical specialists may not feel confident about their skills in treating smokers, since their medical training focuses on curative procedures rather than preventive techniques [18]. They may be reticent to significantly increase such procedures which are often not accepted clinical procedures for fee payment or reimbursement. General practitioners may not be aware of the significant impact that their actions can have on prevalence in the community, nor the clear mandate that smokers attribute to them for providing treatment, as shown in Table 6.

Other health professionals (dentists, pharmacists, nurses, etc.), and those working in health delivery systems, such as psychologists and social workers, may face even larger disincentives to action, as little research has been undertaken to demonstrate what techniques they could adapt to their working practices and the impact such action would have on smoking cessation efforts. Opportunities for advice, however, are plentiful [19, 20].

The combination of advice and the possibility of treatment coming from a maximum number of sources is essential for undermining the social legitimacy of smoking and for aiding smokers through the various stages of cessation [21]. This committee emphasises the importance of the problem and the desirability of putting into place means for advising smokers to stop at every contact with the existing health delivery system.

Table 6. Smokers' attitudes to GP detection of their smoking and predicted reactions to the offer of specific advice

	% of smokers expecting this from their GP	% of smokers saying that they would change to another GP because of this	% of patients saying they would change to another GP in relation to preventing hypertension
Initial detection	91%	0%	2%
Health warning	86%	2%	7%
Advice to stop smoking	78%	7%	
Smoking cessation strategies	78%	2%	
Strategies for reducing hypertension			1%
Prescription of medicinal aid	44%	0%	3%

Source: Slama KJ, Redman S, Cockburn J, Sanson-Fisher RW. Community views about the role of general practitioners in disease prevention. *Family Practice* 1989, **6**, 203–209.

STATE OF THE ART, PART 1: PROGRAMMES FOR GENERAL PRACTICE PATIENTS

There is important evidence of the efficacy of smoking cessation interventions in primary care and much of this evidence comes from rigorous evaluation by randomised controlled trials [22, 23].

Brief advice

An overview [23] of the effect of brief smoking cessation advice, given by doctors in consultations about other matters, indicates achievement of about 5% long-term cessation, compared with less than 1% in non-intervention control groups; following such advice, about one in 20 can, therefore, be expected to stop smoking for good. GPs can be influential even for those who are in the early stages of the process of cessation, and help smokers move towards a decision to stop smoking. Any action on the part of the GP increases the number of cessation attempts by 10% [17].

Although the evidence of efficacy of brief advice in primary care almost entirely relates to doctors, advice from nurses seems likely to have an effect too, especially if supplementary to a doctor's advice [24]. In the following text, health professionals are given advice based on results from general practice.

Basic procedure for health professionals

In light of the scientific evidence of the efficacy of smoking cessation interventions in primary care, it is possible to outline a procedure which could be adopted by all health professionals. The US National Cancer Institute has proposed a programme of four steps as a guideline for helping patients to become motivated to stop and helping motivated patients succeed at cessation attempts. The four steps are:

(1) ASK all patients about smoking
(2) ADVISE smokers to stop
(3) ASSIST their efforts with self-help materials, a quit date, and possibly nicotine replacement
(4) ARRANGE follow-up

1. *ASK about smoking at every opportunity.* The health professional should seek opportunites to raise the issue of smoking in any consultation, especially in the context of smoking-related symptoms, pregnancy and forthcoming operations—and also discussing parental smoking in the context of respiratory illnesses in infants and children. Medical records should include information about whether the patient is a smoker or not.

2. *ADVISE (motivate) all smokers to stop.* The health professional should ask if the patient is interested in stopping smoking and provide information and advice, reinforcing patients' own motivation where possible and emphasising the benefits of stopping. There is no set procedure for giving advice and stopping smoking, but a prescriptive approach should be avoided. Eliciting the patient's own knowledge and beliefs, reinforcing the smoker's own reasons for wanting to stop and boosting motivation and confidence are useful approaches. Emphasis on possible immediate benefits will often mean more to the smoker than long-term advantages.

For those patients who presently do not want to stop, nagging is rarely of benefit. Health professionals must accept the patient's decision, make sure the patient is making an informed decision, and attempt to maintain the patient's trust and confidence, so that smoking can be discussed at future visits. If the conversation is noted in the medical records, it can be referred to in future discussions.

3. *ASSIST the patient in stopping.* For those patients who express a sincere desire to stop smoking, the health professional should help them to pick a specific date for this action. There is evidence that patients who set a "quit date" are more likely to make a serious attempt to stop [25]. The data should usually be within 4 to 6 weeks, but not immediately, giving the patient the necessary time to prepare to stop.

Once a patient has selected a specific date to stop, information must be provided so that he or she can prepare for that date. Preparing to stop by planning a strategy, including involving a spouse or friend, avoiding smoking situations, etc., will be a matter of individual style. Since consultation time is limited, self-help leaflets are useful adjuncts. Effective self-help material (brochures, cassette or video tapes, etc.) provide the patient with necessary information about smoking cessation (symptoms and time course of withdrawal, tips about stopping, good reasons for stopping, answers to common questions, etc.). With this information, the patient can leave the office with a concrete plan for stopping, including a quit date, and information about preparing for that date and successfully stopping.

Medical practitioners can include nicotine replacement therapy as an adjunctive aid, where appropriate. Results from placebo-controlled trials of nicotine patches in the primary care setting are encouraging [26–28]. For example, a recent study among highly motivated heavy smokers in general practice found sustained cessation at 12 month follow-up of 9.3% for brief advice and active patches compared with 5.0% for brief advice and placebo patches [28]. Readers are referred to the section on pharmacological treatments for more details about nicotine gum or patches.

4. *ARRANGE follow-up visits.* When patients know their progress will be reviewed, their chances of successfully stopping are improved. This monitoring may include a letter or phone call just before the quit date reinforcing the decision to stop. In addition, clinical trials strongly suggest that a return visit after a patient has stopped smoking is extremely important to the patient's ability to remain a non-smoker [17]. Merely scheduling the visit may help the patient by providing a short-term goal that appears more manageable than "forever".

Most relapses occur in the first 6 weeks after cessation [29], and a person who returns after being a non-smoker for 1 to 2 weeks has a much improved chance of remaining abstinent. Follow-up visits consist of an assessment of the patient's progress, discussion of any problems encountered or anticipated, and discussion of nicotine gum use, if prescribed. It is also useful to consider a second follow-up visit 1 or 2 months later. Studies show that the quit rate improves as the number of follow-up visits increases [30].

Incorporating smoking cessation advice into routine operating procedure

Some simple changes in office procedures will significantly increase the health professional's effectiveness in treating patients who smoke. A policy of including a patient's smoking history, including cessation attempts, in his or her medical records encourages the doctor's continued implementation of routine advice, and has been shown to increase cessation rates [31]. Every practice is different, so the exact procedures adopted will vary somewhat, but the goal is to ensure that all patients who smoke are routinely identified, monitored and appropriately treated.

A smoke-free office makes a powerful statement about the health professional's strong commitment to non-smoking. Steps for making an office tobacco-free include posting no-smoking signs, removing ashtrays, displaying tobacco cessation/prevention information prominently and eliminating tobacco advertising from the office, by subscribing to magazines that do not carry this advertising [30].

The single most important cessation strategy is the involvement of primary care physicians. Workplace programmes and specialist smoking cessation clinics have a part to play, as do other health professionals. A coordinated approach with liaison between all agencies involved is highly desirable [32]. Specialist smoking cessation clinics have a limited role as they can only serve limited numbers of smokers [33], but their value in supporting general practitioners may have been underestimated [34].

Recommendations

(1) The primary care health system is the logical setting to provide smoking cessation services to most smokers. These interventions should be a routine part of primary care.
(2) All health care professionals need to acquire the appropriate knowledge and skills to provide these services, and be encouraged to use them.
(3) Payment should be made for providing smoking cessation services in primary care.

STATE OF THE ART, PART II: SPECIALIST SMOKING CESSATION CLINICS

Clinics, hospitals and university laboratories can offer special assistance to smokers with a promise of expertise in aiding cessation. As mentioned previously, dependence on smoking varies across individuals, and although subjects who attend smoking cessation programmes usually are the more heavily dependent subjects, these smokers are generally more motivated to stop, but have sought help in stopping smoking and staying abstinent. Results both in initial and sustained cessation are, therefore, higher than results in general practice, where smokers with lower and varying motivation to quit smoking are recruited. For this reason, results from cessations clinics should not be compared with those of general practice.

Individuals who attend smoking cessation clinics vary in their needs; most clinics, therefore, offer multicomponent programmes to respond to the complex mix of behavioural, psychological and pharmacological factors in smoking dependence. The 1988 US Surgeon General's Report "Nicotine Addiction", drawing on research in the treatment of tobacco dependence, concluded that tobacco dependence can be treated successfully, that effective interventions include behavioural approaches alone and behavioural approaches with adjunctive pharmacological treatment, that behavioural interventions are most effective when they include multiple components, and that nicotine replacement can reduce tobacco withdrawal symptoms and may enhance the efficacy of behavioural treatments [13].

Behavioural, psychological approaches

The most effective behavioural techniques correspond to elements from behavioural modification therapy which attempt to establish a better understanding of the environmental and physical cues to smoking so as to enable the smoker to more successfully modify his or her response to these cues, and to analyse fears and difficulties involved in abstinence from smoking, so as to prepare adequate but non-smoking strategies for coping.

Self-management (self-control) techniques are based primarily on understanding one's smoking and the circumstances around it, and modifying them both in a controlled way with behavioural and cognitive (mental imagery) strategies. Within a wide range, these strategies, usually provided in a group context, produce 33% cessation rate [35]. Aversive strategies, on the other hand, attempt to eliminate the positive associations the smoker has with smoking and to replace them with negative associations, by enforcing an aversive context to the act of smoking. While early results of rapid smoking and satiation were impressive, replication has shown more modest results [36]. Concern about the potential harmfulness of methods which encourage an increase, even if only temporarily, in smoking [35], has led to utilisation of milder aversive techniques such as normal-paced aversive smoking or smoke holding, almost always in conjunction with self-management strategies. Within a wide range of results, these multicomponent programs produce 25% cessation [37]. Self-management and aversive techniques have often been assessed in research comparing treatment options in the absence of a control group, and without biochemical verification of abstinence. This means that comparison of results from behavioural therapy research with the results of nicotine replacement therapy is difficult.

Pharmacological treatments

Several drugs have been tested in smoking cessation, but nicotine replacement therapy is the only one proven to be effective [13]. (ACTH and mecamylamine, a nicotine antagonist, are currently under investigation.) Antidepressive drugs which have been tested have shown negative effects. Several placebo-controlled trials of clonidine, as tablets or in a patch, have shown conflicting outcomes and sedative side-effects. (Clonidine might have a role in aiding women who do not tolerate nicotine replacement therapy, but further research is needed.) Nicotine substitution is the only drug therapy showing a significant increase in outcome in most studies. Nicotine chewing gum (nicotine polacrilex gum) and nicotine transdermal patches are the nicotine delivery systems most extensively tested; newer delivery systems such as nicotine nasal spray and nicotine vapour inhaler ("smokeless cigarettes") are currently under investigation.

The rationale for nicotine replacement therapy (NRT) is that a switch from tobacco to NRT temporarily enables the smoker to tackle the psychosocial aspects of cessation first, while obtaining relief from nicotine withdrawal effects. Subsequently, by tailing off the pharmacological treatment, nicotine abstinence may be achieved and withdrawal effects minimised.

Nicotine polacrilex gum Many rigorous, placebo-controlled trials have investigated the efficacy of nicotine chewing gum. In specialist smoking cessation clinics, specific efficacy of the gum has been clearly demonstrated [38, 39], but this has not been shown in the primary care setting [40, 41]. Nicotine gum as an option to treatment, however, has shown efficacy. Of 13 trials [39–51], the short-term outcome (during use of the gum) is significantly higher in the active nicotine group in nine of the trials [39, 41, 43–46, 48, 50, 51] with median values at 4 weeks of 60% cessation versus 37% for placebo. The long-term outcome is significant in only four studies [39, 42, 49, 50], with median values of 23 versus 17% for placebo. However, many of the studies were not designed to measure long-term success. Also, underdosing seems to be a major reason for conflicting findings in several clinical trials with the gum. When adequate gum dose is used in adjunction with psychological support, active gum increases smoking cessation rate.

> Use of nicotine polacrilex (chewing gum): nicotine polacrilex should not be chewed like chewing gum, but instead chewed intermittently and then held in contact with the oral mucosa, where the nicotine is absorbed. Patients need careful instruction in the use of this unusual drug delivery system, or they will derive no benefit from it. When used appropriately, withdrawal symptoms are reduced. The use of this drug for 3 months is recommended followed by a gradual tapering. Use for more than 6 months is not recommended, although this is not rare among patients who successfully stop smoking.

Nicotine skin patch Nicotine skin patches are now available in many countries and in several varieties. Their efficacy in specialist smoking cessation clinics has already been clearly established [52]. Of 11 placebo-controlled trials [26, 53–62], median results show 48% cessation with the active patch versus 20% for placebo at 6 weeks, and 17% in active versus 6% in placebo groups at 12 months.

> Use of the nicotine transdermal patch: transdermal nicotine patches deliver nicotine through the skin and may prove easier for patients to use. Nicotine patches are available in 24-h and 16-h delivery systems. All manufacturers recommend a higher initial treatment dose followed by one or two weaning doses. Most also advise a lower starting dose for patients with a history of cardiovascular disease and for those weighing less than 45 kilos. The nicotine transdermal patch should be applied once every 24 h (usually in the morning) to a clean, dry and non-hairy site on the trunk, upper arm, or gluteal region. Application sites should not be reused for at least 48 hours to decrease skin irritation.

The evidence clearly indicates that nicotine replacement therapy helps people to stop smoking. The benefits of nicotine gum depend on adequate compliance and lack of this at least partly explains the failure to demonstrate efficacy in general practice in placebo-controlled trials. Compliance with transdermal nicotine patches seems to be better. However, about 10% of people are unable to use nicotine patches because of skin reactions and a small proportion using 24-h patches experience sleep disturbance.

We have no definitive way of estimating dependence on smoking or on nicotine. The Fagerström Questionnaire is currently the most commonly used scale to determine nicotine dependency [63], but more precise measures are needed. We recommend the possibility of using nicotine replacement for subjects smoking 10 or more cigarettes per day, as this has been the minimum number for inclusion in trials that have shown efficacy for the nicotine patch.

Laboratory studies have shown that the combination of nicotine gum and nicotine patch might affect withdrawal symptoms at the same level as does smoking. The combination of the different forms of nicotine delivery should thus be tested in the clinic to increase outcome further.

Basic principles in smoking cessation clinic treatments

There are some general rules and basic principles that are fundamental to smoking cessation programmes. Smoking cessation must be complete, as even one or two cigarettes per day

will be followed by relapse. Cessation among heavily dependent smokers can be doubled with nicotine replacement therapy. Follow-up must be included as a part of treatment, especially in the first 3–6 weeks when risk of relapse is greatest. Subjects who do relapse should be recycled into other treatment after a period. Recommendations:

(1) Specialist smoking cessation clincs should be research-based, and be the legitimate site for testing new treatment options.
(2) Treatment in specialist smoking cessation clinics should take into account both behavioural and pharmacological aspects of smoking.

CONTROVERSIAL SMOKING CESSATION METHODS

A number of methods which are claimed to be useful in smoking cessation must be regarded as controversial because of the relative lack of scientific evidence regarding their efficacy. Compared with, for example, the substantial amount of evidence from rigorous scientific trials of the efficacy of brief advice, and of nicotine replacement therapies, there is little or no evidence supporting these controversial methods either because appropriate trials have not been conducted or because of the methodological inadequacies of such trials as have been attempted.

Hypnosis

This is widely regarded as a useful treatment strategy in smoking cessation and there are many reports of successful cessation following hypnosis. Some individuals are highly susceptible to hypnotic induction but others are unresponsive. Studies have found hypnosis better than non-treatment control but these rely on short-term follow-up and self-reported cessation only. There is little evidence that hypnosis *per se* facilitates smoking cessation [64]. However, although scientific evidence does not justify the promotion of hypnosis for smoking cessation, susceptible individuals wishing to try it should not be discouraged.

Acupuncture

This is also widely used and has become increasingly popular with the growth of interest in "alternative" or "complementary" therapies. Although there have been a number of trials, most have suffered from serious methodological flaws, especially lack of a proper control group. The scientific basis for acupuncture, as for hypnosis, is therefore weak.

Products without a medical license (over the counter smoking cessation aids)

A number of products claiming to facilitate smoking cessation are available through newspaper advertisements, pharmacists and other agencies. These include some nicotine tablets or lozenges (and recently, skin patches) which have not been formally evaluated. Other products available are non-nicotine and include herbal cigarettes, special filters, dummy cigarettes and non-nicotine chewing gum or tablets. These have not been scientifically evaluated and their use should not be encouraged.

FUTURE RESEARCH NEEDS

Following the advances research has made in our understanding of the evolution of smoking and the role of nicotine in tobacco dependence, there remain many areas for future research in smoking cessation methods.

Research in interventions by health professionals

Social pressures for non-smoking, persistent anti-tobacco messages from a variety of sources, and a tobacco-free environment greatly influence the success rates of smoking cessation treatments. Efforts should be maintained to keep these the major goals of tobacco control policy. Of the smokers who are influenced to stop, most will stop without any formal treatments; for this reason general information about the reasons for stopping smoking and the most effective available strategies should be provided to the widest possible audience. One of the most logical access points is the health delivery system. Research is needed not only in continuing the search for the most effective intervention tools, but equally, in discovering how to influence health professionals to incorporate such interventions systematically into their normal job functions. The role of nicotine replacement therapy in general practice needs refining, and the feasability and acceptability (both to the agents and to their patients/clients) of smoking cessation interventions by other health professionals (dentists, pharmacists, social workers) is still to be determined.

Research should investigate how health professionals can increase motivation to stop smoking, and promote smokers' passage from a desire to stop smoking to actual behaviour change. The whole area of relapse prevention in the community should also be addressed: how can health professionals systematically play a role in helping new ex-smokers?

Treatment packages specific to each European health delivery system need to be designed and evaluated, and then made available for distribution, to increase the feasibility of incorporation into everyday practice of smoking cessation interventions by health professionals, and particularly by GPs. In conjunction with the treatment packages, optimal training techniques should be found to encourage health professionals' participation.

Precision of measurement

Currently, we have very crude measures of motivation, the measure of intention to stop smoking and the measure of confidence that one can stop and remain abstinent being the two most correlated to eventual stopping among motivational measures [10]. It would be helpful to have more accurate measures, to identify the actual role of motivation in successful cessation.

Research should continue to develop more precise measurement of nicotine addiction with the objective of obtaining optimal results from nicotine replacement therapy. Monitoring of plasma nicotine would allow more individualised doses of nicotine, and/or the recognition of optimal dosage.

It is also important to determine the limits of the explanation nicotine dependence mechanisms can provide in our understanding of dependence, and to continue to examine the possibility of other pharmacological factors in tobacco dependence.

Research questions in specialist smoking cessation clinics

We need continued research not only on optimal dosage and duration for each sort of nicotine replacement therapy, but also on the utility of combining different forms of nicotine substitution delivery (e.g. gum + patch) and the concomitant questions of dosage and duration of treatment.

Depression appears to inhibit successful smoking cessation. Research is needed to measure the magnitude of the role depression plays in the outcome of smoking cessation treatment.

It is well known that weight gain is a common result of smoking cessation. But there are few positive examples of weight gain prevention techniques promoting successful outcomes in smoking cessation treatment. This merits further research.

Research is also needed for special populations: what are the optimal treatments for pregnant women, people with smoking-related disease symptoms, worksite populations, adolescent smokers?

Finally, the relationship between smoking and other dependencies, or other maladaptive behaviours needs further study.

SUGGESTED FUNDING PRIORITIES

With 800 000 deaths a year in Europe at the present time, smoking cessation should be a top priority.

This priority should be reflected in the funding of research and the dissemination of results.

Dissemination of existing knowledge

Research to extend our knowledge about the phenomena of smoking cessation and relapse is not enough. We must know about the feasibility and implementation of existing knowledge. This can only be done by a clear policy favouring health promotion activities such as smoking cessation interventions by health professionals. Priority should be given to the evaluation of effective implementation and training of health professionals in cessation activities.

Research

Funding of research in the tobacco cessation field should give priority to the research questions developed in the preceding section.

- Optimising the implementation of routine smoking cessation interventions in general practice, training for all health professions, and developing intervention packages for use with their patients.
- Optimising the treatments general practitioners and other health professionals have at their disposal.
- Discovering more precise measurement of dependence and of attitudinal measures of motivation.
- Optimising the treatment efficacy of nicotine replacement therapy through research on dosage, duration and combination of forms of delivery.
- Searching for other pharmacological determinants of smoking and for new pharmacological therapies.
- Discovering ways of preventing relapse.
- Deepening our knowledge about the needs of special subgroups, about the effects of specific factors on smoking cessation and about predictors of outcomes.

This research can and should come from a number of sources. Research in general practice and other health delivery sites needs to be encouraged, in particular for:

- defining the optimal cessation and relapse avoidance interventions for each health site.
- Developing and evaluating the efficacy of both training and treatment packages for health professionals.

As stated above, only a limited number of smokers can be treated by specialist smoking cessation clinics. But these clinics can also play an important role in developing and defining specific techniques in cessation, aid in disseminating this information, and support primary health care professionals. It is suggested that funding be made available to a network of cessation clinics throughout Europe to coordinate activites and serve as:

- Information centres for scientific documentation and information for the media and the public.
- Centres for collaborating and coordinating research, awarding grants and fellowships, and organising meetings.
- Centres for evaluating specific treatment therapies, particularly nicotine replacement therapy and self-management strategies, and developing measurement of dependence.
- Teaching centres for GPs and other health professionals, psychologists and educators involved in smoking prevention or cessation.

CONCLUSIONS

Smoking is killing people in the prime of their lives; three times as many smokers die in middle age as non-smokers [65]. Many smokers can be motivated to become non-smokers on their own, others can stop and remain non-smokers if they are assisted. Along with persistent social, educational and legislative pressures for a tobacco-free society, smoking cessation activites must exist. Our commitment must be to continually search for the best ways to reach out and help the greatest numbers of these smokers.

MESSAGE TO THE PUBLIC

Individuals can safeguard their health by never becoming smokers. But the benefits of stopping for those who do smoke are important, and can be gained fairly quickly at any age, however much is smoked and whatever the duration of smoking. It is never too late to stop smoking.

Many smokers succeed in stopping without any special aids or help and without any special support other than that of a spouse or friends. But for some, the help and support of a primary care doctor, or any health professional can be valuable. Smokers should not be reticent in requesting such help. Many doctors in many countries identify helping smokers to stop as an important part of their job.

It is often said that the most important preventive action is to help children avoid taking up smoking. Adult smoking behaviour provides a continuing "role model" for children, and by stopping, adults can not only benefit their own health but also make an important contribution to preventing children from adopting this deadly behaviour.

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Pergamon

European Journal of Cancer Vol. 30A, No. 2, pp. 263–264, 1994
Elsevier Science Ltd. Printed in Great Britain
0959–8049/94 $6.00+0.00

Education in Cancer Palliative Care Report From a Consensus Meeting Supported by the EC "Europe Against Cancer" Programme

F. De Conno

OVER THE past few years, various documents and curricula on education of palliative care in Europe were drawn up according to the needs and realities of each country. Bearing this in mind, the EC decided to produce one common document for all its 12 members. A meeting was specially convened on 20th and 21st March 1993 in collaboration with the European Association for Palliative Care (EAPC) and with the participation of other organisations such as the European School of Oncology (ESO), the Italian School of Palliative Medicine (SIMPA), the International School of Cancer Care (ISCC) and the "Europe Against Cancer" programme of the EC. Two representatives of each member state attended this meeting, as well as representatives from Sweden and the "Europe Against Cancer" programme. Each country was represented by one general practitioner and one health professional working in palliative medicine. In addition, there were eight so-called experts: Dr Ch. Couvreur, Dr F. De Conno, Dr X. Gomez-Batiste, Dr A. Vanvossel, Prof. V. Ventafridda and Prof. R. Zittoun, while Drs Twycross and Doyle jointly chaired the two-day workshop.

Prior to the meeting, each participant had received the curriculum prepared by the Association for Palliative Medicine of Great Britain and Ireland (APM), the Canadian Palliative Care Curriculum, the Italian Curriculum of Palliative Medicine and the various syllabi and curricula from different European countries, the Report of the Education Committee of the EAPC (1992) and copies of other documents relevant to the aims and objectives of the Workshop, namely the planning of palliative medicine education for Europe.

At the end of the second day, it was unanimously agreed that palliative medicine should be taught to undergraduates in all medical schools in Europe, preferably in the clinical years; that it should be included in the training programmes of all general practitioners, be included in the curricula of postgraduates and, in particular, oncologists and geriatricians and, at all levels, be made examinable if possible.

Rather than drawing a new curriculum, it was agreed, again unanimously, that the different curricula produced by the APM should form the basis for all training programmes in the EC, modified appropriately in the light of the status of palliative medicine, general practice, etc., in each member state. The final and most important recommendation was that more attention should be paid to training "the trainees". It is hoped that across Europe, workshops will be set up to demonstrate and develop teaching skills, initially in English and French-speaking centres.

A definition of palliative medicine, an *ad hoc* curriculum and general recommendations were agreed upon at the meeting and are hereby presented.

The recommendations will be distributed by the EAPC to deans of medical schools (universities), ministries of health and social affairs, presidents of postgraduate colleges/academies of medicine, associations for palliative medicine, all other official bodies which assemble physicians.

(A) DEFINITION OF PALLIATIVE MEDICINE

It was noted that in some Member States there still appeared to be uncertainty about the definition of this subject.

The World Health Organization (WHO) states that:
"Palliative care is the active, total care of patients at a time when their disease is no longer responsive to curative treatment and when control of pain, or other symptoms, and of psychological, social and spiritual problems is paramount. The overall goal of palliative care is the highest possible quality of life for the patient and family. Palliative care affirms life and regards dying as a normal process. Palliative care emphasises relief from pain and other distressing symptoms, integrates the physical, psychological and spiritual aspects of patient care, offers a support system to help the patient live as actively as possible until death and a support system to help the family cope during the patient's illness and in bereavement".

The Workshop, whilst accepting this definition, **recommends** that for education purposes throughout the European Community, the acceptable definition should be:
"Palliative medicine is the appropriate medical care of patients with advanced and progressive disease for whom the focus of care is the quality of life and in whom the prognosis is limited (though sometimes may be several years). Palliative medicine

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Received 11 Nov. 1993; accepted 2 Dec. 1993.