

TOBACCO: A FUTURE DISASTER FOR TURKEY'S CHILDREN*

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Limited data from Turkey indicate that smoking presents a major threat to Turkish children. Parental, particularly maternal, smoking results in an increase in spontaneous abortion, low birth weight, congenital abnormalities, neonatal death and decreased physical and mental development in the infant, which can persist into adult life. Parental smoking results in increased rates of respiratory and middle ear illness in children, more so in infants and in older children more school absences. Naturally both of the effects are even greater if the children start to smoke themselves. Smoking parents are more likely to have smoking children, so that the cycle of illness repeats in future generations. Doctors have a major responsibility to save both present and future generations from this disaster. In this article appropriate action is outlined. *Key words:* tobacco, Turkey, smoking children, smoking parents.

In developed countries which have had a smoking problem for a long time the findings may be summarized as follows:

1. Almost all smoking starts before the age of twenty, mostly before the age of seventeen.
2. About half of all smoking young men will be killed by smoking-related diseases, 84 percent of them between the ages of 35 and 69. Probably the same will apply in due course to women, who have not been smoking so extensively for as long.
3. Maternal smoking leads to higher abortion rates, higher neonatal and infant death rates, more congenital abnormalities, and poorer physical and mental development in the child.
4. Parental smoking leads to increased respiratory ill-health in children.
5. Smoking in children leads to more respiratory illnesses and more school absences.
6. Smoking children become smoking adults, who become smoking parents, who are more likely to have smoking children, with all the resulting disease and death.

All this disaster can be prevented. Doctors must take the lead in that prevention. Smoking in Turkey already presents a formidable problem. The rates in men are reportedly 63 percent and in women 24 percent, with somewhat similar rates in urban and rural areas. (Ministry of Health figures kindly provided by Professor Dagli).

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Professor Dagli has provided me with some figures for children in Turkey. Twenty percent of boys aged eight to 12 have tried smoking. In secondary schools 33 percent of children smoke, more boys than girls. Only 25 percent of Turkish homes are said to be smoke-free, according to local not national surveys.

In the remainder of this lecture I will produce some samples of research evidence to support the above statements. I will then go on to suggest what we should all be doing to prevent this lethal epidemic.

Effects of Maternal Smoking

Spontaneous Abortion Rates: Spontaneous abortion rates increase with age. A survey by Himmelberger et al. (1978)¹ on nearly 13,000 women showed that for each age-group the abortion rates were higher in smokers than in non-smokers. At the extremes of the age range the respective rates were 19% and 15% for women less than 25 years old and 36% and 33% for those over 40.

Low Birth Weight: Haddow et al. (1978)² showed that there is a steady increase in the percentage of children with birth weights under 2800 g with increases in the amount smoked, up to those smoking 17 cigarettes a day. The percentage with low birth weight was 7.7 percent for non-smokers, rising to a peak of 22.9 percent for those smoking 13 to 17 cigarettes daily.

Congenital Abnormalities: In the study by Himmelberger et al.¹ already quoted, in each age group the percentage of congenital abnormalities was higher in smokers than in non-smokers. Again quoting the ends of the age range, in those under 25 the respective rates were 8.5% and 7.2% and in those over 40, 11.4 and 5.2 percent.

Late Fetal and Neonatal Death Rates Related to Smoking After the Fourth Month of Pregnancy: Haddow et al. (1987)² found an increasing rate with increased cigarette consumption. The rate was 32 per 1,000 in non-smokers, increasing to a peak of 42 in those smoking 10 or more cigarettes per day.

Effect of Smoking on Physical and Mental Development of the Infant: A number of studies have shown impairment of physical and mental development in infants of smoking mothers compared to infants of non-smokers. One of the most impressive demonstrations of this was in a cohort of 8,200 infants born in a single week in the UK and followed up for 23 years³. At certain intervals, height and mental achievement were measured. It is remarkable that the effect of maternal smoking was still demonstrated in these children when they reached the age of 23, after careful adjustment for other potentially confounding variables. With the increase in numbers of cigarettes smoked by the pregnant mother 23 years before, there was a steady decrease in their children's heights. For mothers who had smoked 20 cigarettes or more per day, the 23-year-old men were 0.41 and the 23-year-old women 1.49 cm below the mean height for the group. All the differences were highly statistically significant.

For mental ability the authors used a somewhat complicated formula to express academic qualifications after adjusting for known confounding factors such as social class and the size of the family. When the mothers had been non-smokers the mean positive qualification standards for the 23-year-olds were 0.25 for men and 0.35 for women. When the mother had smoked 20 cigarettes or more per day the negative figures were 0.77 and 1.09 respectively. Again the differences were highly significant.

Children's Illnesses and Smoking

Effects of Parental Smoking on Children's Illnesses: Table I summarizes a very useful review of this subject⁴ A large number of studies have demonstrated a 50 to 100 percent excess, in children of smokers compared to children of non-smokers, of 1. acute respiratory infections; 2. cough, sputum and wheezing; and 3. middle ear disease. In the first two of these conditions the rates were even higher in infants. Asthmatic children of smokers have worse lung function, more frequent and more severe attacks than asthmatic children of non-smokers.

Table I: Children's Illnesses vs Parental Smoking

Illness	No. of Studies	Increased Risk	Higher
Acute Respiratory Infections	20	50-100%	Infants Mother smoking
Cough, Sputum Wheezing	26	50-100%	Infants
Asthma	10	More attacks More severe Worse lung function	
Middle Ear Disease	15	50%	

School Absences: One study of 2,885 children aged 12 to 13 year in the UK examined both the effects of childrens' smoking and that of their parents on the rate of school absences⁵. For boys the rate in those smoking regularly was 47 percent compared to 21 percent in the non-smokers. For girls the rates were 37% and 17%, respectively.

For non-smoking children where both parents were non-smokers or only the father smoked, the rate was 17% compared to 21% when both parents smoked or only the mother smoked.

Adolescents: In one of the studies where a cohort of children was followed from birth, it was found that smokers at age 20 had a substantially higher rate of cough day or night than non-smokers⁶. For men the rate in smokers was 13.9 percent compared to 3.2 percent in non-smokers. For women the rates were 16.0 and 6.5 percent, respectively.

In 195 boys aged 16 to 20, Backhouse showed a slight but steady decrease in lung function, as shown by the Peak Expiratory Flow Rate (PEFR), with

increasing daily consumption of cigarettes⁷. In the same age-group, improvement of PEFR was shown at each smoking rate when the 16-20-year-old boys were detained in a corrective institution where they were not allowed to smoke. The improvement in PEFR was 3.8 percent in the non-smokers, rising to 6.5 percent in those who had smoked 40 or more cigarettes a day⁸.

*The Vicious Family Circle*⁹: From the above it can be seen that a smoking mother is liable to have a child with fetal problems leading in turn to increased neonatal and infant problems, leading in turn to developmental problems. A smoking mother is liable to have a smoking child, with the related increase in illnesses which I have described above. A smoking child is liable to go on to become a smoking adult with all the illnesses and death that this produces. The smoking adult then in turn becomes the smoking parent and the sad cycle is renewed in the next generation.

Prevention

Social Factors Affecting Smoking Prevalence: Positive factors tending to decrease smoking prevalence include:

1. Knowledge of the disastrous health effects.
2. Knowledge of the dangers of environmental smoke. I have demonstrated the effect on children, but of course the risks on environmental smoke in producing lung cancer in non-smokers is now well established⁴.
3. The "top down" social pressure. Smoking often starts in the more prosperous and better educated members of the community and then gradually becomes adopted by the less educated and the poor. As the better educated become aware of the dangers, they start to abandon smoking. Gradually in this group smoking ceases to be socially acceptable. That process then very gradually moves down through the other social groups.

Counteracting these positive factors are the influences which tend to recruit new smokers among children, thus maintaining and increasing smoking prevalence:

1. The ruthless and highly successful promotion by the tobacco industry. I believe this is an expanding threat in Turkey.
2. The industry seeks to promote an image of manliness connected with smoking, which will appeal to boys and encourage them to take up the habit. Similarly it seeks to promote an image of glamour connected with smoking which will appeal to girls. With the low smoking rate in women in countries that are at an early stage in the smoking epidemic, the industry sees an enormous potential market among girls and women. This is being intensively exploited, particularly in Asia. The industry has to recruit children to smoking in order to replace those killed every day by the habit.

3. In a country like the UK, which is in an advanced stage of the smoking epidemic, the educated classes have steadily abandoned the habit, which is now increasingly socially unacceptable. For the less educated and the "non-achievers", either in school or in the adult population, smoking may form a sign of "tribal" cohesion among those who feel excluded from the more prosperous groups in society.
4. For very poor sections of the community, living in grim conditions, smoking may be regarded as one of the "escapes". Some mothers state, "It is my one luxury". When tomorrow seems hopeless, the prospect of future ill-health from cigarette smoking may seem relatively unimportant.

All these negative effects need countering. It is logically absurd that a habit which we now know is liable to kill one in two of those who take it up¹⁰ should be permitted by any responsible government to promote their lethal products to the public. The industry has all the money in the world, but doctors have all the morality on their side. We must win in the end. The harder we work at it the more likely we are to win. I will now outline some of the desirable action⁵.

The Principles of Smoking Control: These are now well established¹¹ and recognised internationally, though governments and countries are very variable in how far they have applied them. The principles can be summarized as follows:

1. A government smoking control program. We must all push as hard as possible for such a program to be established in our own countries and to counter the enormous efforts that the tobacco industry will make to prevent it from being established. Meanwhile it is extremely useful to have a non-governmental organization. This in the first place has to be initiated by doctors, and will aim to influence government, media and the general public.
2. All tobacco promotion of any kind, direct or indirect, should be prohibited¹². It is very important that breach of the law result in huge fines which may deter even rich companies. A specific government department, and an individual within that department, must be made responsible for ensuring that the law is obeyed and for prosecuting offenders.
3. There should be a progressive increase in cigarette tax¹³. Each increase should be higher than the rate of inflation and higher than any national increase in disposable income. This strategy has been shown to be highly effective in reducing consumption. An increase of 10 percent in tax normally results in about a five percent decrease in consumption. Consequently the government both improves the health of the nation and makes money out of it. This should appeal to politicians and to Finance Ministries.
4. Public places, transportation, workplaces, and of course hospitals and schools should be made progressively smoke-free. This would not only reduce the ill-effects of environmental tobacco smoke but would also create a climate in which smoking becomes increasingly socially unacceptable. For this reason this strategy is bitterly opposed by the tobacco companies.

5. There should be strong and varying government health warnings on all cigarette packets and, pending the abolition of advertising, on all advertisements.
6. There should be intensive and continuous health education both for the general public and, in particular, for opinion leaders, the media, schools, etc. Doctors should take the lead in initiating and supporting this.
7. Sales of tobacco to children should be made illegal. This is mainly an indication of disapproval of society as it can be difficult to implement the law.
8. There should be continuous monitoring in the trends of smoking rates in the general population, in specific occupational groups, and in children. There should be continuous monitoring of mortality and morbidity from smoking-related diseases. The results should be steadily fed back to opinion-markers, decision-makers and the general public. Naturally, the public are much more impressed by figures for their own country.

All these measures must be continuous, comprehensive and frequently varied, in order to capture public interest. It is extremely useful to have a national non-governmental organization which will maintain the pressure on the government and keep the matter before the public.

*The Enemy*¹⁴: We have to face up to the fact that, besides the problem of helping people to give up a habit which is so reinforced by nicotine addiction, we have, as I have mentioned above, the strong counter-effect of the tobacco industry attempting to maintain and increase the numbers of children and adults smoking. They do this in many forms, not only by direct advertising, but also by indirect promotion, for instance of sport. By subsidising various public and sporting activities they seek to buy support. They are extremely skilled at lobbying and, by various means, buying powerful friends, for instance by contributing to the funds of political parties. They realise that the problem of environmental tobacco smoke, which persuades the public to establish smoke-free areas, is a major way of creating an anti-smoking climate. Therefore they try to recruit suspect science to throw doubt on the research results. Another more recent method is to threaten with litigation statements from people who are trying to control the epidemic. Of course the industry has vast amounts of money to buy litigation and their opponents have not.

Influences on Individual Behavior: Individual behavior is affected by a large number of factors (Fig. 1).

When children are young, the family influence is very important. Smoking parents are much more likely to have smoking children. As a child grows up the peer group with whom he or she identifies becomes very influential. The school can have a limited effect but it is not likely to be great if there is strong counteracting influence

from the family or the peer group. An individual professional whom the child or adult trusts can certainly have an influence. There is excellent evidence that advice by his/her general practitioner can help individuals to quit smoking. The percentage who do so as a result of such advice may seem disappointing, but if all doctors were doing it all the time, the total who quit would become, nationally, very large. General health education and the influence of the media form a very important background on which the other factors can act. The counter-effect is from advertising and promotion by the tobacco industry, in some countries supported by the media.

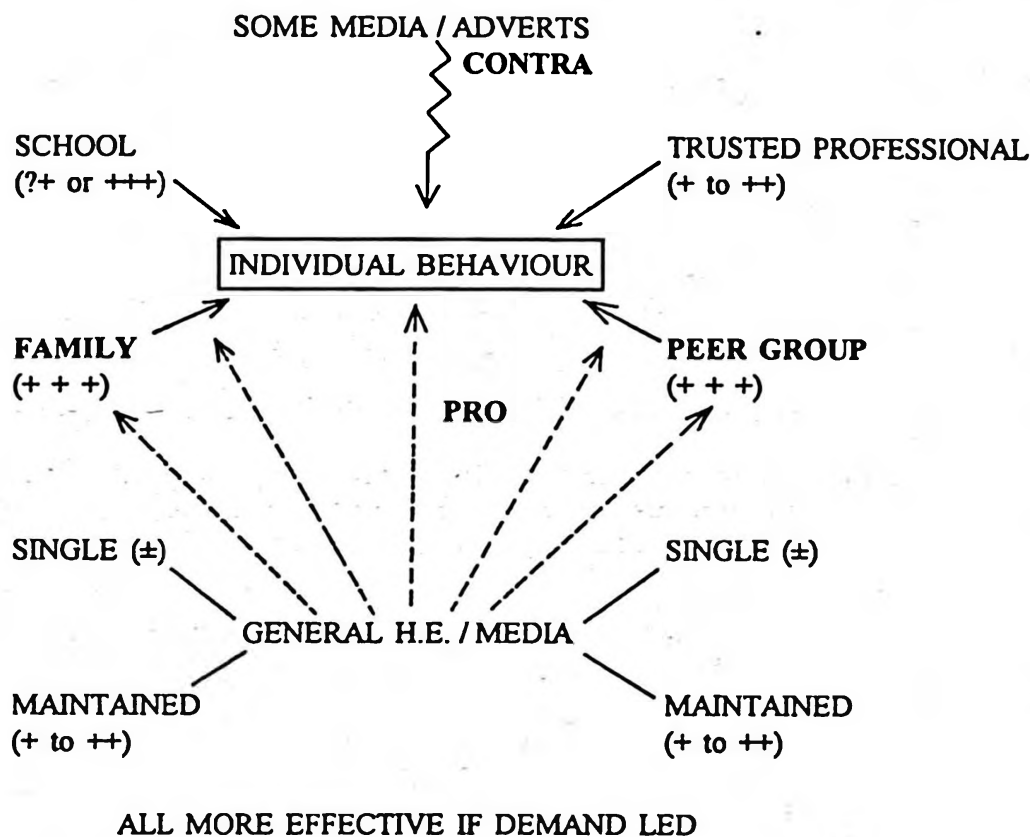


Fig. 1: Factors affecting individual behavior. The number of +s represents the author's assessment of the importance of the factor.

The Process of Achieving National Tobacco Control: Figure 2 shows an outline of this. The first initiative has to be taken by doctors. The doctors can recruit the interests of influential non-doctors. This can lead to a national organization with the objective of establishing effective tobacco control and helping the public to quit. This in turn can influence politicians, the media and decision-makers and so build up the climate of opinion that government may take action along the lines already indicated. Finally smoking becomes no longer socially acceptable. Success may initially appear to be relatively slight. It will then gradually gather strength as shown symbolically in Figure 3.

The UK As an Example: In the UK we have felt very intense pressure by the medical profession and non-governmental organizations. Unfortunately we have

had rather weak action by successive governments owing to the great power of the tobacco industry. Some of the major multinational companies are based in the UK and have heavily influenced the government.

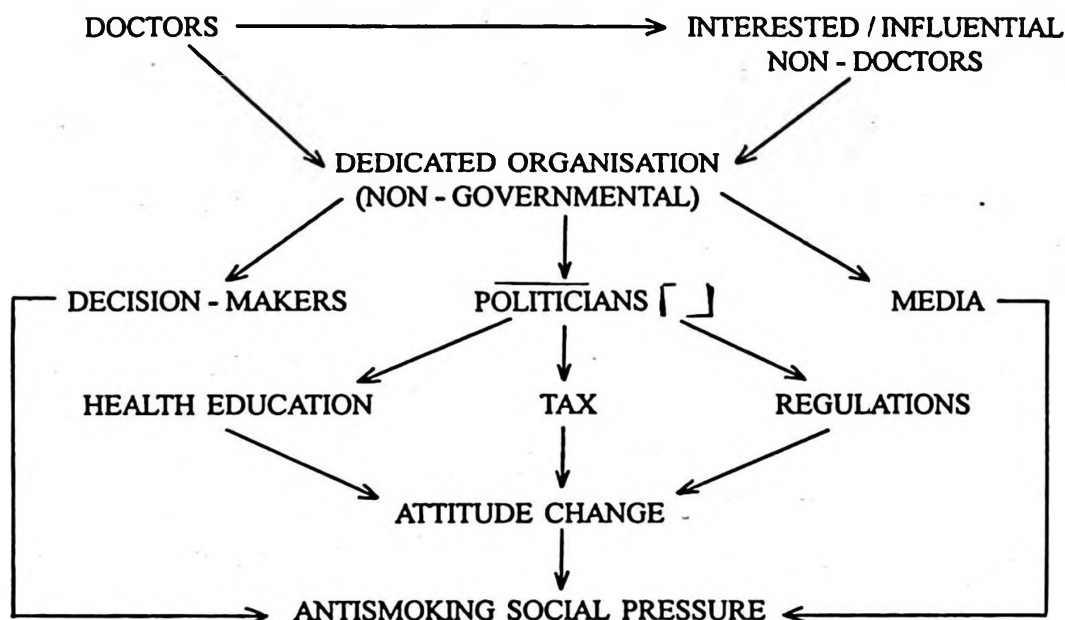


Fig. 2: Achieving National Tobacco Control: The Process. This illustrates the doctors' primary role in recruiting the interest of laymen and the steps leading to ultimate widespread social pressure against smoking.

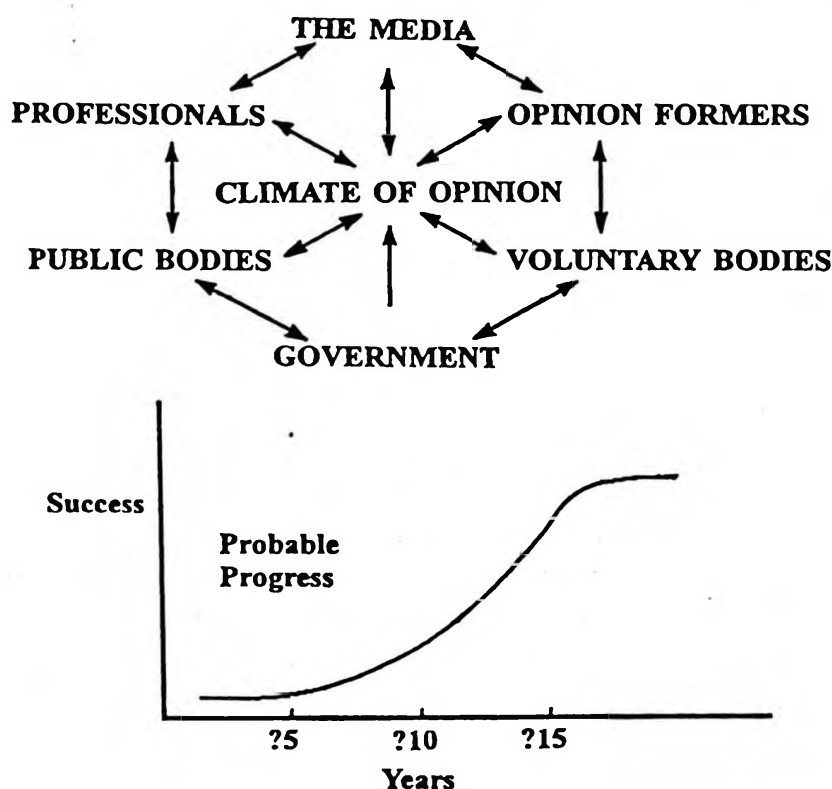


Fig. 3: Factors influencing the development of the climate of opinion. The climate develops slowly at first and then gains momentum.

In Figure 4 I show the UK smoking rates in men, women and male doctors since 1948. (There are no early figures for female doctors). I have placed arrows to show some of the main events which might have affected public opinion and smoking rates. You will see that the earliest research results^{15, 16} had only a slight and relatively temporary effect on male smoking and virtually none on female smoking. They did, however, affect the doctors' rates. These had been higher than the general male rates but soon came down below the male rates. In 1962 the Royal College of Physicians of London, anxious that the results of research had relatively little effect on the public, published a report¹⁷ summarizing the extensive research results to date. Again you will see that this had a very small and temporary effect.

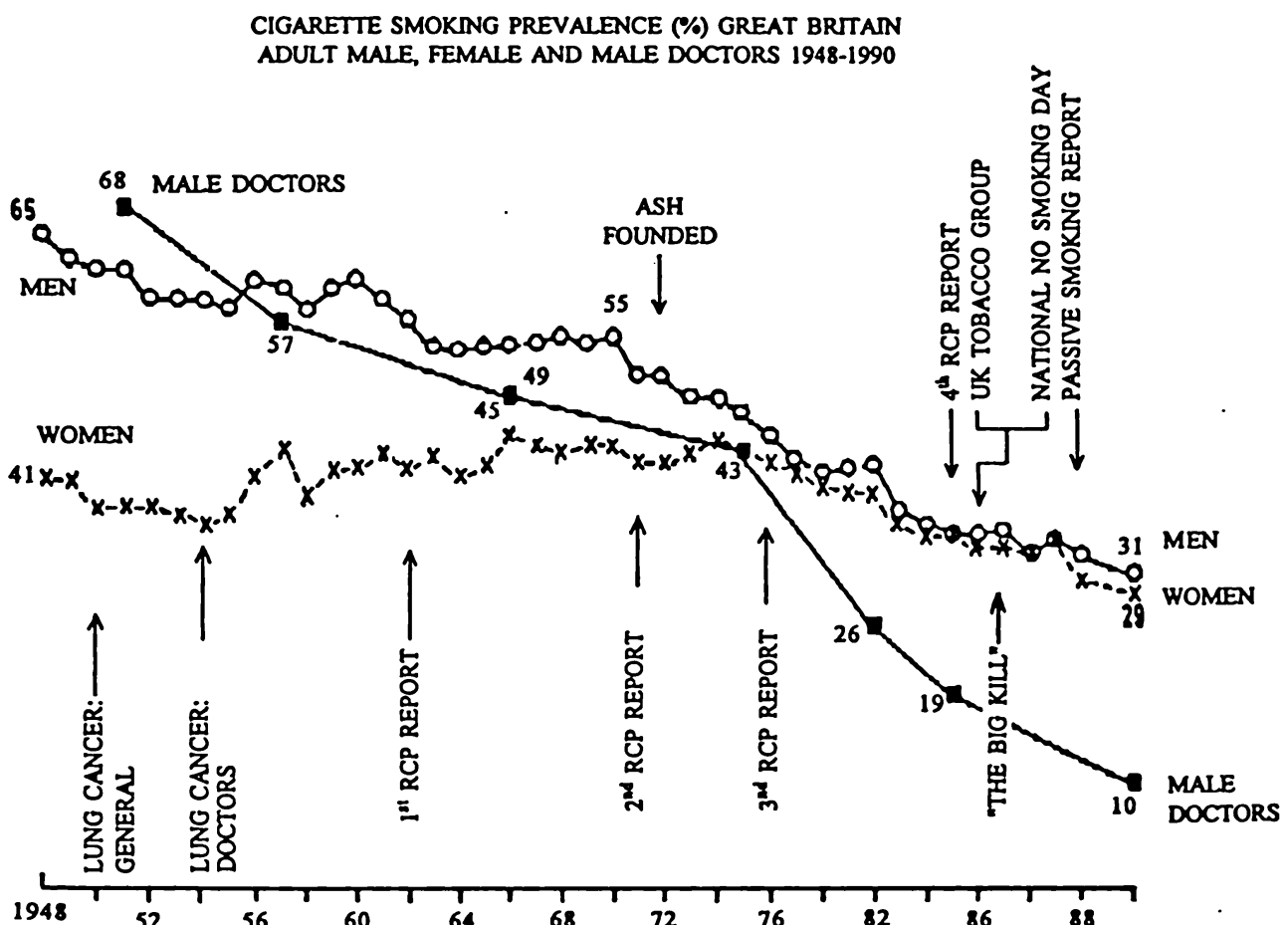


Fig. 4: Cigarette Smoking Prevalence (%) Great Britain: Adult Males and Females, and Male Doctors: 1948-1990. The changes show the relatively small effects of the widely publicized early research and even of the equally publicized comprehensive reports by the Royal College of Physicians of London in 1962 and 1971, but the acceleration of the decline in smoking prevalence (including that of doctors) after the foundation of ASH (Action on Smoking and Health), a non-governmental national body initiated in 1972.

Consequently, when the College's second report in 1971 was published in 1971¹⁸, many of us thought that we must set up a national organization to keep the problem perpetually before the public and the decision-markers. Accordingly the Royal College

of Physicians of London founded Action on Smoking and Health (ASH) in 1972. Although of course there were various other factors, you will note that soon after this the male smoking rate began to reduce more dramatically and the female smoking rate, which had previously changed very little, began to decline as well. It is interesting that the doctors' rate also started to decrease much more dramatically.

Figure 4 shows what a slow business it has been in the UK, although we have over time, achieved a very substantial decrease in smoking rates. I am sure that you in Turkey could do much better. But this depends on extensive efforts, in the first place by doctors, and then by interested laymen, to save your children and future generations from so much of the death and misery which has afflicted my own country in the past and is increasingly afflicting many others. All of us should have an intense feeling of responsibility to do our best to prevent this threatened disaster.

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