

*Around Europe***Smoking in the Soviet Union**

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**Introduction**

The international character of the problem of smoking has become widely recognised.<sup>1-5</sup> Although it is the fourth largest producer of tobacco in the world, relatively little has been written about the problem in the USSR. Since the economy is centrally planned and marketing of tobacco products is under direct government control it might be expected that the Soviet Union would implement different, perhaps more effective, anti-smoking campaigns. Unfortunately, this has not been the case.

**Tobacco consumption in the USSR**

The Russian peasant has traditionally smoked the papyrosa, a hollow paper tube filled one-third with tobacco. It is usually creased in the middle and held between the teeth, the open space allowing smoke to be pulled easily. Cigarettes are now rapidly replacing the papyrosa, whose use is confined primarily to peasants and workers or those of recent proletarian background. Soviet production of tobacco consists almost entirely of the Oriental leaf (93%) with dark tobacco (makhorka) being used in water pipes and other tobacco products.<sup>6</sup> Consumer preferences appear to be shifting towards blended varieties, which will require increased imports.<sup>6</sup> Efforts have been made to modernise the tobacco industry, and leaf processing, cigarette making, and packaging machinery have recently been purchased from Western manufacturers.<sup>6</sup> Detailed attention was given to the tobacco industry in the tenth five-year plan (1976-80), indicating its economic importance. The government made a commitment to meet the growing demand for blended cigarettes, to hold down imports, and to guard against possible shortfalls in the production of the Oriental leaf.<sup>6</sup>

As shown in table I, total cigarette and papyrosa output has increased by 69% since 1960, while the production of papyrosa declined after

1970. Only 32% of the cigarettes produced in 1980 had filters. The Soviet Union imports about 20% of the tobacco consumed each year, primarily from Bulgaria.<sup>6</sup> Domestic production continues to increase; if the tenth five-year plan was in fact fulfilled output in 1980 would have been 20% greater than in 1975.<sup>6</sup> Trend-line analysis suggests, however, that a smaller increase took place, although newer manufacturing techniques and a switch to the use of more filters allowed more cigarettes to be brought to the market (table I). Consumption per head rose rapidly during the 1960s and is now at a level which is comparable to Western Europe and roughly two-thirds of that in the USA and the UK (table II).

Population surveys of smoking prevalence are available, particularly in the Slavic regions. Smoking rates among men ranged from 44% to 69%, while only about 10% of women were found to smoke.<sup>7-10</sup> In a recent large-scale survey in Moscow 44.2% of men and 10.1% of women reported smoking cigarettes.<sup>10</sup> The highest smoking rate was in the age group 20-29 years (60.4% for men and 16.8% for women). The heaviest consumption was in the decade of the 40s, men smoking on average 18.1 cigarettes a day and women 14.7.<sup>10</sup> The Moslem minority groups in Central Asia smoke cigarettes less frequently,

TABLE I—Cigarette and papyrosa production in the USSR (selected years 1960-80)<sup>6</sup>. (Figures given are billion units)

Year	Total cigarette and papyrosa	Papyrosa	Cigarettes with filters	Cigarettes without filters
1960	244.8	185.9		61.2
1965	304.0	221.9	4.0	78.1
1970	324.0	196.7	22.9	104.4
1975	367.3	162.3	58.6	146.4
1980	413.3	140.7	85.7	186.7
% Increase	+68.8	-24.3		+205.0

TABLE II—Consumption of cigarettes and papyrosi per head in USSR (1962-78)<sup>6</sup>

Year:	1962	1964	1966	1968	1970	1972	1974	1976	1978	1980
Consumption (per head)*	1059	1308	1421	1324	1504	1616	1656	1675	1727†	1786†

\*Based on total population.

†Estimated.

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although some minority populations in the Far East are very heavy smokers.<sup>9</sup> Among the Buryats, a native ethnic group in the Far East, 80% of women were found to smoke compared with 0.3% in the female population of Central Asia.<sup>9</sup> An interesting phenomenon is the social class gradient which has appeared in recent years. Baseline data from a multifactorial intervention trial for coronary heart disease, collected from 15 000 men aged 40-59 in six major Soviet cities, indicated that 48.2% were current smokers.<sup>11</sup> Smoking rates were 37.2% among those with a higher education, 59.7% with a secondary education, and 64.8% with a primary education.<sup>11</sup> In Moscow, 3.5% of boys aged 10-15 had already taken up the habit.<sup>7</sup>

## Health consequences of smoking

### CORONARY HEART DISEASE

The Soviet Union has experienced an unprecedented rise in death rates from coronary heart disease.<sup>12-13</sup> For adults aged 30-59, rates increased on average by 7% a year through the late 1960s (table III) (unpublished data). The increase has occurred among both men and

TABLE III—Death rates per 100 000 population from coronary heart disease related to age in men and women in the USSR (1966-70 and 1971-72)

Years:*	1966-7	1967-8	1968-9	1969-70	1971-72	Increase (1966/7- 1971/2)	% Change (1966/7- 1971/2)
<b>Men aged (years)</b>							
30-39	19.3	21.1	23.7	24.2	26.4	7.1	36.8
40-49	69.3	76.6	84.1	87.4	96.6	27.3	39.4
50-59	231.6	247.0	270.0	281.5	292.1	60.5	26.1
≥60	1466.1	1526.2	1602.3	1683.5	1737.5	271.4	18.5
<b>Women aged (years)</b>							
30-39	3.3	3.3	3.6	3.9	3.8	0.5	15.2
40-49	13.0	13.5	14.8	15.6	17.5	4.5	34.6
50-59	72.9	78.3	85.2	87.3	92.3	19.4	26.6
≥60	1160.5	1208.2	1265.1	1341.9	1390.7	230.2	19.8

\*Data for 1970-71 not available.

women and in the urban and rural areas (unpublished data). Primarily as a result of this upsurge in age-adjusted coronary heart disease, mortality due to all causes rose to 18% over the last decade.<sup>12</sup> The recent trends in coronary heart disease in the USSR are unusual in two respects: the slope of the increase is steeper than previously recorded in any other country and the impact on women has been more pronounced (unpublished data). Smoking, of course, is only one of the risk factors for coronary heart disease, although in a susceptible population it is associated with a 2.5-fold greater incidence among those who smoke a pack a day or more.<sup>14</sup>

### LUNG DISEASE

By 1972, the last year for which complete data are available, lung cancer had already become the second cause of death due to cancer for men in the USSR and the fourth for women.<sup>9</sup> Trend data through the 1960s indicated that men were being primarily effected, as one might expect from the relatively low smoking rates among women (table IV). Age-adjusted lung cancer rates for the entire population were 21.3 per 100 000 in the USSR in 1973 compared with 28.3 in the USA (1969) and 43.3 in the UK (1970).<sup>15</sup> The number of deaths due to lung cancer in the USSR almost doubled from 1960 to 1975, rising from

TABLE IV—Death rates from lung cancer per 100 000 population according to age and sex in the USSR (1961 and 1970)<sup>9</sup>

Age (years)	Men				Women			
	1961	1970	Change in rate	% Change	1961	1970	Change in rate	% Change
<30	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0
30-39	4.2	4.6	+0.4	9.5	1.6	1.4	-0.2	-12.5
40-49	27.5	29.8	+2.3	+8.4	5.8	5.1	-0.7	-12.1
50-59	104.1	132.9	+28.8	+27.7	14.5	15.4	+0.9	+6.2
>60	190.2	238.0	+47.8	+25.1	30.7	32.3	+1.6	+5.2
Total	33.3	41.2	+7.9	+23.7	5.5	5.7	+0.2	+3.6

29 500 to 57 100.<sup>9</sup> Death rates from lung cancer are highest in the Russian Soviet Federated Socialist Republic, followed by Estonia, Latvia, the Ukraine, and Lithuania<sup>9</sup>; those regions also have the highest prevalence of smokers. Among ethnic groups living in Uzbekistan, the age-adjusted death rates were 22.9 for Russians, 3.2 for Uzbeks, 1.0 for Kara-Kalpaks, and 2.4 for Kazakhs, again reflecting primarily the different use of cigarettes.<sup>9</sup>

Unfortunately, mortality data on bronchitis and emphysema are not available, to my knowledge. Morbidity data suggest that these illnesses are common, however; in a survey of five major cities one in 20 outpatient visits was attributed to bronchitis or emphysema.<sup>16</sup>

## Antismoking policies

The USSR has adopted a wide range of antismoking policies. The regulations put into effect last year give the USSR some of the most progressive antismoking legislation in the world. Advertising has been banned entirely and smoking is forbidden in many public places, including subways, buses, and restaurants.<sup>3,17</sup> Cigarettes are heavily taxed and relatively expensive. At the Black Sea resort of Sochi, which caters for two million tourists a year, smoking is not permitted within the city limits. The cigarette package carries a familiar message, warning the buyer that the Ministry of Health has determined that smoking may be harmful to health. Antismoking campaigns on television were even thought to be unduly aggressive. Although data indicating a decline in overall smoking rates are not available, the social class gradient noted above suggests that the educational campaigns are having some effect. As in all other parts of the world the most privileged section of the population has been the first to heed the message.

## Discussion

The emerging pattern of cigarette use in the USSR and its related health consequences is remarkably similar to the experience in Western industrialised countries. About half of men smoke and women, at least in the younger age groups, are approaching the one-third mark. Minority groups take up the habit somewhat later, although often at a greater rate. The educated stop first, making this increasingly a working-class disease. Rates of coronary heart disease, lung cancer, and bronchitis and emphysema rose dramatically during the decade after the mass adoption of the smoking habit. Government anti-smoking programmes in the Soviet Union have been vigorous, if not by Scandinavian standards certainly in comparison with the USA and the UK; thus far, however, the effect has been less than dramatic.

But why, one wonders, do the Soviet policy makers not use the economic levers available to them through central planning? Tobacco is clearly recognised as an enormous menace, if not the greatest single threat to public health today, so why has production been raised to such a high level? The government must derive some appreciable benefit from marketing tobacco to tolerate all the destructive consequences. The USSR faces a chronic shortage of manpower, particularly among men, and has every reason to take health protection seriously. Two advantages come to mind immediately which could give impetus to a tobacco lobby Soviet-style. As in all countries, tobacco is a profitable cash crop almost without equal. The value of the tobacco crop increased by more than 100% from 1960 to 1975, rising from 234 million roubles to 542, despite only a 50% growth in physical units.<sup>5,18</sup> Large revenues through taxation can generate a dependency on the part of the government and can in the long run limit its willingness to reduce sales.<sup>1</sup> To what degree that is true in the Soviet Union is unknown. In the case of alcohol, which has certain parallels, a written record does exist, however. Although hotly debated on ideological grounds, alcohol production was specifically increased to generate direct revenue.<sup>19</sup> Both Lenin and Stalin defended the reintroduction of the vodka monopoly as necessary "for the maintenance of the currency and the support of industry."<sup>19</sup>

On a broader scale, in a society in which consumer goods are relatively scarce cigarettes can also provide a highly marketable

commodity which does not require a big investment in technology or industrial capacity. The USSR has increasingly become a consumer-orientated society.<sup>20</sup> Smoking cigarettes, like eating a high-fat diet, has been part of catching up with the West.<sup>21</sup>

In effect, the economic considerations appear to have taken precedence over the public health issues, in a pattern not at all unlike what we recognise in Western capitalist countries.<sup>21-22</sup> The hortatory approach has likewise met with a similar lack of success. The public probably recognises the hypocrisy of a policy which attempts to discourage individual consumption while continuously raising production and earning the government a nice profit at the same time. This dual aspect of the public health policy towards cigarettes—explicitly discouraging their use while implicitly encouraging it—has been constructed to maintain a level of consumption which is apparently acceptable to the government and in which the economic advantages are balanced with the health consequences. Certainly they had the opportunity to learn this approach from experience in the West.<sup>1-5</sup> Whether or not the underlying cause of this phenomenon is a convergence of the social systems or the development of state capitalism in the USSR, it is difficult to identify fundamental differences between antismoking policies in the East and the West.<sup>21-24</sup> A solution to this problem will have to await a social situation in which the economic interests of the government or private industry or both are not placed before the health of the public.

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## Clinical curio: gross diverticular change after colostomy

A 56-year-old man recently under my care had sustained severe perineal injuries in a lift accident during the second world war. His anal sphincters were damaged beyond repair and a right iliac fossa colostomy was established (he also has situs inversus). This was at the age of 17. I have recently removed the rectosigmoid distal to the colostomy because of an embarrassing mucus discharge. Despite this segment of bowel being bypassed for the past 40 years, there is fairly gross diverticular change present, and this seems worthy of record.—G A D LAVY, consultant surgeon, Tunbridge Wells.

after the seventh week, lethal bronchopneumonia without any clinical or morphological sign of neurotoxicity, though 1100 ppm potentiated the neurotoxicity of n-hexene.<sup>4</sup> This finding supported earlier epidemiological evidence which suggested that methylethylketone speeded up the development of polyneuropathy caused by n-hexene in glue-sniffers, when the solvent was denaturated with 11% methylethylketone.<sup>5</sup>—L MAGOS, toxicologist, Carshalton.

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## Is there a risk in using methylethylketone in industrial processes?

Methylethylketone (2-butanone) is a widely used solvent that, in the absence of neurotoxic solvents, presents a low hazard in industrial handling. Its main effects are dermatitis and irritation of mucous membranes. In unacclimatised subjects the threshold concentration for throat irritation is probably around 100 ppm and for eye irritation 200 ppm.<sup>1</sup> According to Elkins<sup>2</sup> no evidence of permanent ill effect was found in workers with exposures running as high as 700 ppm. Recent reports of the neurotoxicity of methylethylketone were viewed with scepticism,<sup>3</sup> because neither the solvents nor the atmosphere were analysed for the presence of contaminants with known neurotoxic potential, and so the possibility of methylethylketone acting only as a potentiator could not be excluded. In animal experiments the daily exposure of rats to 6000 ppm methylethylketone (8 h/day) caused,

*A girl with a strong family history of asthma developed bronchospasm on using our wart paint. This consists of formalin 5%, acid salicylic 12%, acetone 12%, and collodion to 100%. Are any of these constituents recognised as producing bronchospasm?*

It is improbable that the compounds contained in this wart paint would provoke asthma. Formalin is well recognised as causing wheezing in asthmatic patients, although few cases of asthma have been proved as being started by exposure to formalin. The other components, salicylic acid, acetone, and collodion might act as irritants if inhaled as vapours, provoking already existent asthma, but are unlikely to induce asthma.—JOHN COLLINS, consultant physician, London.