

R. G. Oganov, I. S. Glasunov, A. N. Britov, L. V. Chazova,  
I. I. Sapozhnikov, & A. D. Deev

## Intensifying the fight against high blood pressure

Studies in the Soviet Union revealed prevalences of arterial hypertension among men aged 35–59 ranging from 17% to 30%. Treatment over periods of up to five years in accordance with WHO recommendations reduced the extent of the problem and the mortality associated with it. The experience gained will be put to good effect on the national scale.

An experimental programme for the control of arterial hypertension was initiated at community level in the Soviet Union during the 1970s. It was undertaken in district outpatient clinics and medical departments of industrial enterprises, the major units of primary health care in the country (1). The programme covered more than 80 000 men aged 35–54 employed in industrial enterprises in 22 cities, and 70 000 aged 40–59 in open population groups from selected communities in Frunze, Kaunas, Kharkov, Kiev, Minsk, Moscow, and Tashkent.

To evaluate the programme's effects, a study was made in both settings of an intervention group and a reference group, each comprising about 2000 men. After screening to detect hypertensives, the intervention subjects were intensively treated by a specialized team of research workers, while the second group was referred to the usual

source of health care. In the open communities a second, unselected, reference group was recruited. All deaths and their causes, and all cases of myocardial infarction and cerebral stroke, were recorded. Standard operational protocols and measurement procedures were used by cooperating centres in the different cities. The criteria of arterial hypertension were diastolic blood pressure at 95 mmHg or higher and the administration of antihypertensive drugs within two weeks before examination.

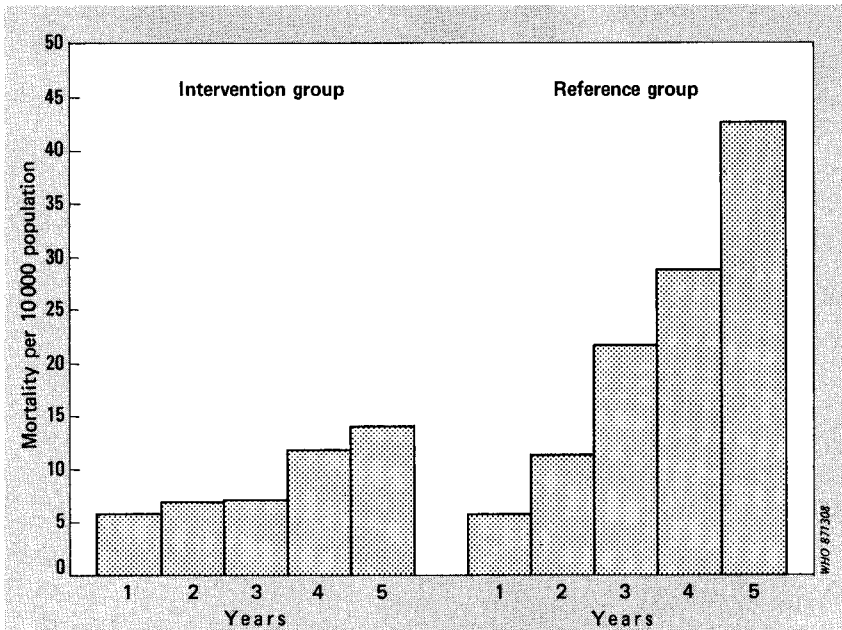
### Employees of industrial enterprises

In industrial enterprises the prevalence of arterial hypertension ranged from 17% to 30% at different centres. The Moscow results showed that 56% of the detected hypertensives had a moderate elevation of diastolic blood pressure (95–104 mmHg), while only 8.5% showed levels of 115 mmHg and above. Elevated diastolic blood pressure was relatively stable in 65–72% of subjects, confirming that the random blood pressure measurements reliably detected hypertensive subjects. A random sample

---

The authors are with the Institute of Preventive Cardiology, 10 Petroverigsky Lane, 101 837 Moscow, USSR. Dr Oganov is the Institute's Director.

Fig. 1. Cumulative mortality caused by stroke over five years in industrial enterprises in Moscow, Donetsk and Cheboksary



from a Moscow factory showed that normal and borderline diastolic blood pressure levels were stable in 80–90% of subjects.

Follow-up continued for up to five years and stepwise drug therapy was given in accordance with WHO recommendations (2) to all arterial hypertension subjects in the intensive intervention groups. Blood pressure was significantly lowered in these groups as a result of measures that included annual checkups, regular monitoring of blood pressure, and nonmedical intervention in respect of such risk factors as overweight, smoking, hypercholesterolaemia, and low physical activity.

Annual screening demonstrated a considerable improvement in patients' awareness about their disease, adherence to antihypertensive therapy, and its efficacy. A two-to threefold increase in adherence to treatment among detected hypertensives and

in its efficiency was achieved in comparison with the reference group within one year and was maintained during the succeeding years. Access to treatment was the same in the reference group but was given routinely and in many cases only when the subjects sought medical advice.

Evaluation of the programme in Moscow, Donetsk and Cheboksary, three out of the 22 industrial cities whose populations

were investigated, showed that a decline in mortality rates for cerebral stroke was the greatest achievement. The number of fatal cases of cerebral stroke over five years was 70% lower in the intervention group than in the reference group (Fig. 1). There was also decline in total mortality in the intervention group (Fig. 2).

Of great importance is the fact that antihypertensive therapy reduced absenteeism caused by arterial hypertension and other cardiovascular diseases.

### Open population groups

The prevalence of arterial hypertension was high in all the communities studied, ranging from 21% in Tashkent to 29% in Moscow. From 56% to 74% of the subjects detected as having arterial hypertension were aware of their condition; from 22% to 30% of

hypertensives received hypotensive therapy, which was effective in only 7.2–14% of them (Fig. 3). The high prevalence and the

**Our studies demonstrated the feasibility of preventing arterial hypertension and its major complications.**

unfavourable treatment situation called for intensified efforts to detect and treat arterial hypertension at community level.

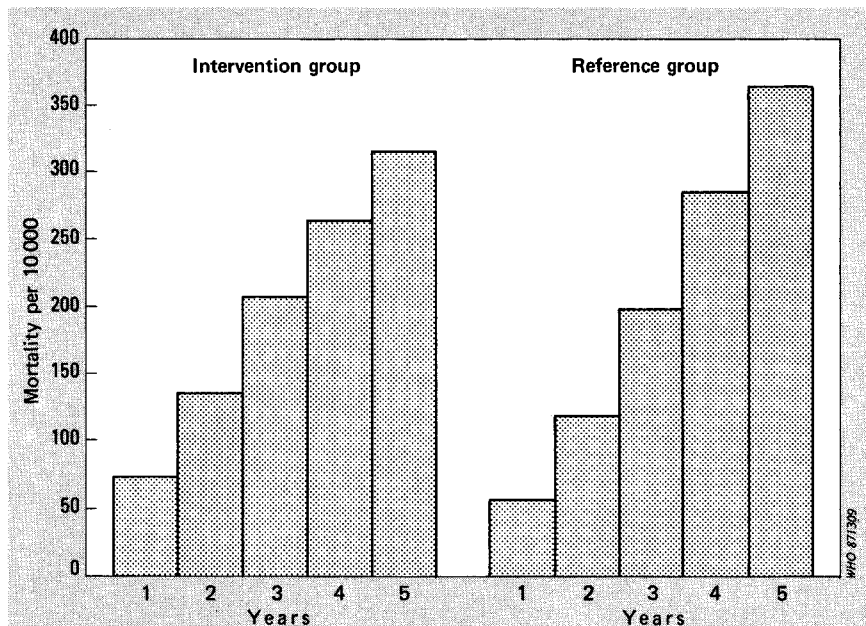
The Moscow and Kaunas centres have completed five years of the programme. In 1985 a preliminary analysis of the results obtained in the intervention group indicated a 20% decline in the prevalence of elevated

blood pressure relative to baseline values, while the reference group displayed a rise in the proportion of subjects with diastolic blood pressure of 95 mmHg or higher. The highest rate of normalization, 62%, was achieved among subjects with a moderate rise in diastolic blood pressure, i.e., to 95–104 mmHg, although diastolic pressure was brought down below 95 mmHg in 24% of subjects with even higher baseline values. It should be emphasized that the success obtained in the intervention group was primarily associated with an increase in the proportion of subjects who were effectively treated. The most intensive interventions produced a reduction in total and cardiovascular mortality rates relative to those in the reference group.

\* \* \*

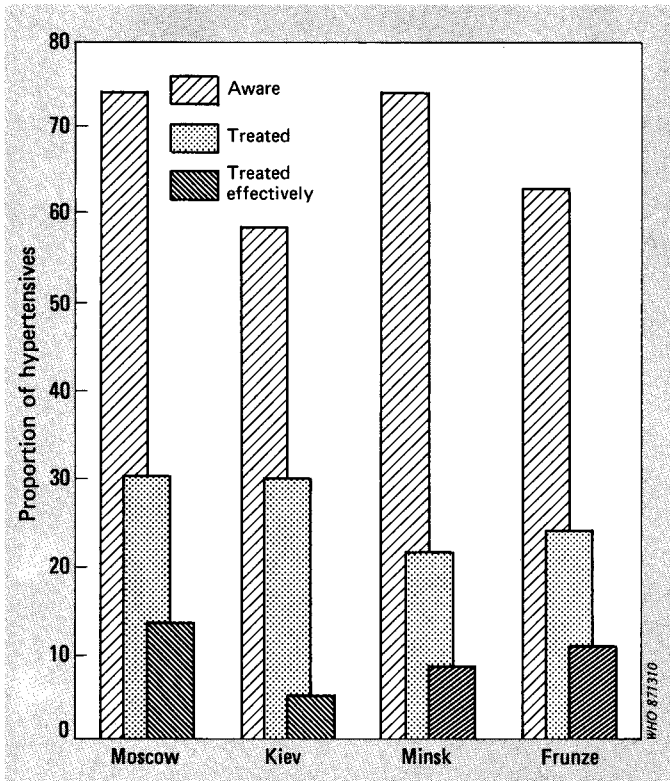
Our studies demonstrated the feasibility of preventing arterial hypertension and its

**Fig. 2. Total mortality rates over five years in industrial enterprises in Moscow, Donetsk and Cheboksary**



major complications. Given that drug treatment is not the best possible way to tackle these problems, increasing attention is being paid to the development of research programmes aimed at primary prevention. A programme for the control of arterial hypertension among children and adolescents has been set up and another will be conducted among

Fig. 3. Awareness of arterial hypertension and efficacy of antihypertensive therapy in open population groups



adult occupational groups. The experience gained in the course of the programme described here will be put to good effect on the national scale. □

#### References

1. Oganov, R. G. et al. Preventing cardiovascular diseases in the USSR. *World health forum*, 6: 243–245 (1985).
2. *Arterial hypertension*. Geneva, World Health Organization, 1978 (Technical Report Series, No. 628).

## *Said at the First World Health Assembly*

### *Respecting WHO's Constitution*

*What should we do in order that our work may be... successful in the future? First of all we must strengthen the authority of the World Health Organization and prevent its exploitation for aims which have nothing in common with its actual task. Members of the Organization must strictly and accurately observe the Constitution.*

—Dr N. A. Vinogradov, USSR  
Fifth Plenary Meeting, 26 June 1948.