



## Prevention of Metabolic Syndrome

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**Abstract:** At present, there is no doubt that the most effective, economical way to reduce morbidity, disability and mortality is prevention based on the identification and elimination of risk factors. For the MS, this means identifying and tracking its key components. MS and its major components need to be studied in every region and every population. This is due to the fact that factors such as lifestyle, ecology, nutritional habits, as well as genetic and behavioral characteristics of the population are of great importance in the diagnosis of metabolic syndrome and many other diseases.

The study of the prognostic significance of hypertension in relation to coronary artery disease during a prospective study showed that among individuals with initially normal blood pressure indicators, the incidence of new cases was significantly lower than among individuals who had hypertension at the start of the study [32]. This study found a direct proportional relationship between AH levels and CHD mortality. Among persons with hypertension, mortality from coronary artery disease was 7 times higher than among persons with initially normal blood pressure.

Data from a 20-year prospective study in England covering 2779 people indicate that at the level of systolic blood pressure > 151.2 mm Hg. the risk of developing coronary artery disease increases significantly. Among subjects with higher BP at baseline, 31.8% new cases of coronary artery disease accounted for 21.4% of those with lower BP [23]. However, this study showed that in hypertension, the relative risk of cerebral vascular disease is higher than the relative risk of coronary vascular disease [RR 1.035 and 1.013, respectively].

Pre-stroke cerebrovascular disorders are one of the factors worsening the quality of life and, to a certain extent, affecting the prognosis in AH. According to the results of studying the frequency, structure and period of occurrence of these disorders, obtained on the basis of clinical data, neurophysiology, rheoencephalography, echoencephalography and electroencephalography, signs of brain damage in the form of pre-stroke cerebrovascular disorders appear already in the second stage of hypertension [10].

The main priorities in the development of health care, along with effective treatment of various diseases, also include the prevention of morbidity. Numerous studies on the prevention of [primarily multifactorial] cardiovascular diseases, including hypertension, have shown their rather high efficiency [19, 20, 22, 28, 32].

The sixth report of the United States Joint National Committee on the Prevention, Detection, Evaluation and Treatment of High Blood Pressure indicates that over 18 years, the number of patients informed about the presence of high blood pressure increased from 51% to 68%. Treatment coverage increased from 31% to 55%, and the number of patients effectively treated increased from 10% to 29%. As a result of these changes, there was a decrease in hypertension-related mortality: by 60% from stroke and by 53% from myocardial infarction [23].

At the same time, modern views on the prevention of hypertension have undergone significant changes. The current level of knowledge in the field of hypertension allows us to conclude that the approach to the treatment and prevention of hypertension cannot be limited only to lowering blood

pressure. However, effective prevention of various complications of arterial hypertension is not provided [2]. Complete prevention of hypertension can be carried out by taking into account and controlling hyperlipidemia, hyperinsulinemia, impaired glucose tolerance, obesity, and impaired mineral and electrolyte metabolism [4].

Based on this, the WHO Expert Committee on the Control of Hypertension recommends that further research be carried out to study the risk factors for high blood pressure and the possibility of their prevention [5].

Research on multifactorial prevention of cardiovascular and other non-communicable diseases in organized teams has significantly improved the health of employees [10, 26]. The effectiveness of drug control of hypertension increased by 7 times. The prevalence of hypertension decreased from 16.2% to 6.6%. It should be noted that the most significant results in reducing the incidence of hypertension were achieved in the age group of 30-49 years, which opens up significant prospects for the prevention of cardiovascular complications and mortality in this category of patients.

Studies in Lithuania among the male population of the rural areas of Salantai and Merkinė over the age of 15 revealed AH in every third inhabitant (32.4%). Moreover, among those who considered themselves absolutely healthy, the frequency of AH ranged from 28.6% to 32.3% 33.2% in Salantai and 37.5% in Merkinė among those who believed that they were not completely healthy or ill with hypertension. Among people with hypertension, only one in four knew that he had elevated blood pressure [7]. At the same time, among the rural population of the Khorezm region of Uzbekistan aged 40-59 years, the frequency of AH was significantly lower [8.8%]. At the same time, among the urban population of this region in the city of Urgench, AH occurred in 20.3% [9].

In the region of Central Asia, there is a fairly high prevalence of AH [18, 21]. The frequency of hypertension among the adult population in Kazakhstan is 34.3%. Moreover, the prevalence of hypertension at the age of up to 20 years is 10 times lower than among people 60-69 years old. In Bishkek, among men aged 40-59, AH occurs in 25.3%. There is also an increase in the incidence of hypertension with age. Among people of working age in the Leninabad region of Tajikistan, AH occurs in 22%. In the Tashkent population of men aged 40-59 years, AH occurs in 26.6%.

In the zone of ecological disaster - the Aral Sea region, the frequency of hypertension among the population aged 16-60 years is 11.1%. Moreover, AH is more common in men [13.1%] than among women [9.1%]. This study shows a close relationship between AH and BP measures with threshold sensitivity to sodium chloride [5]. According to the data of another epidemiological study conducted in the Aral Sea region, the risk factors for AH can be nutritional characteristics, anemia, diseases of the digestive system [24].

To create effective programs for the treatment and prevention of hypertension, it is necessary to have information about the various risk factors involved in the formation of elevated blood pressure, the development of cerebral stroke, coronary artery disease and myocardial infarction, as well as the associated mortality of the population. Currently, there is information in the literature about the role of a number of such risk factors.

One of the most important risk factors for the development of hypertension is neuropsychic overstrain [9, 20, 23, 24]. At the same time, it is indicated that reducing the negative impact of nervous stress by protecting a person from negative emotions is very doubtful [30]. It seems more appropriate to lead an active lifestyle, exercise and sports.

The results of a population study conducted among 3201 people aged 20-59 indicate the presence of an association between lipid metabolism disorders and hypertension [27]. Among persons with hypertension, the frequency of dyslipidemia was 54.8%, and in normal blood pressure - 41%. Moreover, AH was more common in both hypercholesterolemia and hypoalphacholesterolemia.

There is evidence in the literature that hereditary burden is a risk factor for hypertension. Genotypes of predisposition to AH have been established [10]. At the same time, the familial form of AH was established in 33.6% of cases. This study showed that over the course of 7 years of observation of

people aged 20-49 years, new cases of hypertension among people with hereditary burden were detected 4 times more often than among people not burdened by hypertension [10, 13, 24].

A very important factor in the progression of levels of elevated blood pressure is the lack of awareness of patients about the presence of hypertension in them. According to various authors, up to 50% of persons suffering from hypertension are not aware of the presence of elevated blood pressure [8, 16, 33]. It is alarming that about 70% of them are people aged 31–40 years [28]. Among men aged 40-59 in Minsk, only 9.7% of patients with hypertension receive antihypertensive therapy [3].

In Chisinau, 10.4% of the population aged 20-55 believe that increased salt intake does not increase blood pressure, 1.2% believe that salt reduces blood pressure, and 61.3% do not have a definite opinion on this issue [8].

According to population studies, the prevalence of hypertension among men is higher than among women [24]. However, it should be noted that the development of hypertension among women has its own characteristics. The formation of elevated blood pressure in women is influenced by such factors as frequent pregnancies and their pathology, disorders in the hormonal system, uncontrolled intake of hormonal contraceptives [15, 25].

Although many aspects of the pathogenesis of increased blood pressure during pregnancy are not yet clear, nevertheless, at present, importance is attached to a decrease in uteroplacental perfusion and changes in prostaglandin metabolism [17].

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