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# FEATURES OF PRIMARY PREVENTION TECHNOLOGIES FOR ARTERIAL HYPERTENSION IN RURAL POPULATIONS

***Abstract.***
*The development, course and prevention of arterial hypertension, despite many years of multifaceted research, continue to remain the most important health problem for the population of the world and Ukraine in particular, it is the trigger mechanism for almost all pathologies of the heart and blood vessels of a person. The results of epidemiological studies show that 45% of the adult population have elevated blood pressure. Over the past 5 years, the number of patients with arterial hypertension in Ukraine has increased by 2 times. The increase in the prevalence of arterial hypertension is evidence of positive changes achieved by improving work with patients with arterial hypertension and improving their detection, accounting and registration. The effectiveness of treatment of the rural and urban population has improved. The situation regarding arterial hypertension control is unsatisfactory in both the rural and urban population, but it is an obvious fact that the situation regarding arterial hypertension is more unfavorable in the rural population. Therefore, we devoted our study to the search and development of urgent measures aimed at improving and correcting the situation with arterial hypertension in the rural population.*

***Keywords:*** *rural population, arterial hypertension, features of prevention technologies, risk factors.*

The development, course and prevention of arterial hypertension (AH), despite many years of multifaceted research, continue to remain the most important health problem for the population of the world and Ukraine in particular, it is the trigger mechanism for almost all pathologies of the heart and human vessels. The results of epidemiological studies show that 45% of the adult population have elevated arterial pressure (AP). Over 5 years, the number of patients with AH in Ukraine has increased by 2 times. The increase in the prevalence of AH is evidence of positive changes achieved by improving work with patients with AH and improving their detection, accounting and registration. The effectiveness of treatment of the rural population (RP) and urban population (UP) has improved. The situation regarding the control of hypertension is unsatisfactory in both RP and MH, but it is an obvious fact that the situation regarding hypertension is more unfavorable in RP [3, 4, 6, 9]. Therefore, we devoted our study to the search and development of urgent measures aimed at improving and correcting the situation regarding hypertension in RP.

In the context of our study, we analyzed the literature and came to a conclusion that coincides with the WHO position that the occurrence and course of hypertension are closely related to the presence of risk factors. Prevention aimed at changing lifestyle, i.e. the implementation of a healthy lifestyle World Health Organization and the correction of identified risk factors is a universal "vaccine" against hypertension: the use of preventive measures contributes to a 50% reduction in its new cases [4, 5, 6, 9].

Given that primary prevention should prevent the occurrence of diseases and is aimed at a conditionally healthy body, its technologies include measures to influence factors that are significant for the human body. Important are measures aimed at the formation of a healthy lifestyle, that is, at the awareness of the need for active activity of the individual (society) in order to preserve and improve their own health [7, 8].

The development of technologies for promoting physical activity among the rural population should take into account the peculiarities of living in rural areas. Science has proven that a health-improving, training effect is provided only by motor physical activity in free time with an energy expenditure of at least 2000 kcal per week (300 kcal per day). This is well known, but little is said here about the technologies for educating physical activity in RP, a patient with hypertension.

Where should physical training begin? What physical exercises can and should be recommended to rural patients? What is the most optimal intensity of exercise, regularity of training, and duration? The answers to these questions formed the basis of our development.

So, first of all, it is necessary to determine the potential of physical health (PPH) and adhere to the following basic principles:

– the lower the individual PHP, the greater the frequency of training per week, the lower their intensity, but the longer the duration in time;

– physical activity should be increased gradually and only after the body has fully adapted to less intense loads;

– independent physical training for people with low physical fitness should be advised to start with health walking – 3 times a week for 15–30 minutes and with a heart rate (HR) that is 60% of the maximum for age.

We suggest calculating the training HR, taking into account age, as follows:

a) for people under 49 years of age, determine the maximum heart rate for age by subtracting the numerical designation of the age of the specific patient from

220. The next step is to determine the maximum training heart rate, which should be 75% of the calculated maximum heart rate and the minimum training heart rate, which should be 60%, respectively; b) for people aged 50

b) for people aged 50 and older, as well as younger people who have cardiovascular pathology, the maximum age-related heart rate is calculated by subtracting the numerical designation of age from 180 or half of the numerical designation of the age of a particular person from 170. The maximum training heart rate is 75%, respectively, and the minimum is 60% of the maximum heart rate.

Therefore, the rational frequency of physical training for people of mature age who have low or lower than average levels of PPH is at least 5 times a week with a duration of 40 - 60 minutes, for people with an average level of PPH - 3 - 4 times a week with a duration of 20 - 30 minutes. To maintain high and higher than average levels of PPH, 2 - 3 high-intensity training sessions per week are enough.

A feeling of mild fatigue combined with an improvement in mood (mild euphoria) after training indicates that the choice of intensity and duration of training is correct.

The algorithm highlighted above is an aspect of educating the population of rural regions in physical activity.

Of the numerous means of physical culture, the best are dynamic physical loads, in which large groups of skeletal muscles are involved in the work, with an intensity at which the heart rate reaches optimal training values. Walking, recreational running, cycling, rowing, swimming, rhythmic gymnastics, fast dancing, outdoor sports games, etc. are considered optimal. Moderate physical activity is recommended for everyone, regardless of age, only in moderation [1, 2, 3, 6, 9].

The purpose of promoting balanced nutrition in RP is to form patients' conviction in the vital necessity of rational nutrition, to provide information about the basics of balanced nutrition, to teach them to analyze their diet and peculiarities of nutritional behavior and to make corrections in the initial forms of excess body weight.

Nutritional advice should be real, acceptable and understandable for a rural resident. It is not necessary to advise expensive, inaccessible, unknown to patients food products, to abuse special terms (microelements, grams, calories, nutrients, etc.). Instead of the latter, the following words can be used: portion, plate, unit, piece, glass, spoon, as well as the names of food groups: meat, fish, dairy, vegetable, fruit.

The most appropriate for implementation in rural areas is a regime with 3-4 meals. The last meal should be 2-3 hours before bedtime. It is important to eat slowly, to observe the ratio between the number of chewing and swallowing movements of 20:1. In order to reduce the level of cholesterol in the daily diet, it is necessary to persistently advise to limit the consumption of foods rich in cholesterol, in particular chicken eggs - to 1 - 3 per week, butter - to 30 g per day, animal fats - to an amount that provides 20% of the daily energy requirement. It is useful to consume 20 - 25 g of soy products daily, which contain all the necessary amino acids, as well as potassium, calcium, phosphorus, iron and vitamins (B, C, D, E), but soy does not have cholesterol. Moreover, it binds blood cholesterol and helps to remove it from the body. The main error in nutrition is the abuse of high-calorie and refined carbohydrates, in particular bakery products, sugar, jam; insufficient consumption of fresh vegetables, fruits, seafood and products made from coarse flour; also additional salting of food and alcohol consumption, which is widespread in rural areas [3, 4, 9].

The goal of anti-nicotine propaganda is to completely abandon smoking by smokers, to prevent those who do not smoke from starting to smoke, and to create a smoke-free environment. Doctors and other health workers should support the non-smoking of citizens by their personal example. High awareness of health workers about the problem of smoking and their awareness of their importance in the fight against this risk factor is a prerequisite for successful intervention aimed at stopping smoking.

It is known that there is no recommendation that is more difficult to implement, especially for the population of rural regions. However, there is something that can make this technology more effective. The fact is that smoking is almost not widespread among rural women. Therefore, technologies for combating this factor of hypertension are aimed primarily at men, but take this fact into account as a visual example (for comparison) and, as a result, are more effective and efficient.

It is the professional duty of health workers to explain to smokers why they should quit smoking; to give advice, hand out reminders or brochures on smoking to visitors and to schedule a follow-up appointment. During the patient's return visit, the doctor should ask whether quitting smoking is possible. Particular attention should be paid to: children and adolescents; pregnant women; women who want to have children; adults with newborns and young children in their families; people with high blood pressure, cholesterol, cardiovascular disease, overweight and insufficient physical activity, as well as family members with newborns and young children. Do not ignore those who have quit smoking. You can also refer patients (at their request and consent) to group classes or to specialists in smoking cessation.

Patients who have decided to quit smoking should be recommended actions that will help them not smoke, namely: develop the habit of doing physical exercises, drinking more fruit juices and water, reducing the consumption of alcoholic beverages, not drinking coffee, taking up a new hobby. In addition, it is advisable to establish control over them so that, in case of failure, patients can be encouraged again to make the next attempt to quit smoking.

The doctor's algorithm of actions in relation to a patient who is not ready to quit smoking consists (5 international principles: relevance, risk, rewards, obstacles, repetition) in: a) explaining to the patient the reasons for quitting smoking (addiction) for him personally (family or social circumstances, medical indications, etc.); b) informing the smoker about the harmfulness of smoking for everyone's health in general and for him personally;

c) discussing the potential advantages of not smoking (economic, physical factors, appearance, etc.); d) identifying obstacles that prevent the patient from

quitting smoking (fear of withdrawal syndrome, loss of pleasure from smoking, etc.). It is worth noting that many European countries and Ukraine have adopted legislation prohibiting smoking in rooms where the problem of passive smoking occurs or may occur. When forming our own algorithms and technology models, we borrowed data obtained in the spectrum of evidence-based medicine. Smoking cessation is not only disease prevention, but also one of the mandatory doctor's appointments for the patient in the process of treatment and rehabilitation [1, 3, 7, 9].

Prevention of alcohol abuse in RP is that the doctor, when recommending not to abuse alcohol, should be guided by the WHO slogan: "The less, the better." In practice, this should not mean that absolutely everyone should be recommended to completely stop drinking alcohol. To minimize the risk of developing alcohol dependence, it is necessary to emphasize to patients that there must be at least one day a week without drinking any alcohol at all. At the same time, people who lead a sober lifestyle or drink alcohol from time to time should not be recommended to increase alcohol consumption to safe doses. Regarding the protective effect of alcohol consumption to prevent coronary heart disease (CHD), the expected positive result probably occurs when alcohol is consumed in very small quantities [from 1 dose (10 g of pure ethanol) every other day to 2 doses per day]. Moreover, some reduction in risk is observed only in people over 50 years of age. Therefore, promoting alcohol consumption to prevent coronary heart disease may ultimately cause more harm than good. For individuals with a hazardous level of alcohol consumption (350 g of ethanol or more per week for men and 210 g or more for women), it is worth using an approach based on 8 motivational interviewing strategies (Rollnick): 1) lifestyle, stress and alcohol use; 2) health and alcohol use; 3) a typical day (week) and occasions of alcohol use; 4) what is good and what is bad; 5) providing information; 6) the future and the present; 7) studying the patient's fears about his addiction to alcohol; 8) providing assistance in case of a decision to give up alcohol. It is worth noting that alcohol, as a factor in the development of hypertension and its complications, is ambiguously interpreted in medical science. The above is confirmed by our studies and set out in the recommendation form of a generalized model of hypertension prevention.

The doctor’s algorithm of actions depends on the degree of readiness of the patient to change his behavior regarding alcohol consumption. Thus, strategies 1 and 2 are introductory strategies, therefore they should be applied to almost all persons without exception who have sought outpatient care, regardless of the level of alcohol consumption. Strategies 3 and 4 contribute to the formation of trusting relationships and make it possible to determine the patient’s readiness to change his behavior regarding alcohol consumption. If the patient is concerned about his habit of ethanol abuse, it is worth applying strategies 7 and 8. In cases where the patient is not concerned about his own addiction to alcohol, strategies 5 and 6 should be used, that is, to focus his attention on information about the effects of ethanol on health, as well as on what consequences await him if he does not change his attitude towards alcohol [1, 3, 4, 8, 9].

Therefore, the most promising direction for reducing the incidence of hypertension and other circulatory system diseases, disability, and mortality among the rural population is primarily primary prevention, which is based on eliminating risk factors or reducing their impact on a person and forming a healthy lifestyle, taking into account the characteristics of living in rural areas.

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