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THE ROLE OF INFORMING PATIENTS ABOUT HYPERTENSION IN POLYCLINIC SETTINGS

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Abstract
A retrospective analysis (over the last five years) was carried out on 222 randomly selected outpatient records from among patients undergoing dispensary observation with arterial hypertension in family clinics (n=54) and in a number of rural family clinics of the Republic of Uzbekistan (n=168). Data from a retrospective analysis of outpatient records were compared with the results of examination of patients (questioning, examination, anthropometry, blood pressure measurement, cholesterol determination, etc.). Doctors from family clinics in Tashkent and rural family clinics in the regions of the Republic were interviewed. Before training, 156 doctors were surveyed, after training 119, and 236 patients undergoing follow-up with hypertension were surveyed and examined. Subsequently, some of them (n=122, main group) completed an awareness course at a health school, and some (n=114, comparison group) did not participate in the educational program. All patients were monitored for 2 years with subsequent re-examination and examination.

Keywords: Arterial hypertension, risk factors, family clinic, awareness, prevention of hypertension.

Introduction

Today, according to the World Health Organization (WHO), it has been proven that patients suffering from arterial hypertension (AH) not only experience a deterioration in their quality of life, but also a decrease in motivation. Work capacity noticeably decreases and, most importantly, life expectancy decreases. According to WHO, about 20% of the world's adult population has problems associated with high blood pressure. In addition, alarming forecasts have been published by WHO experts, according to which the peak growth of hypertension is expected in 2025, with the incidence reaching 29% of the entire adult population of the planet. In the CIS countries, the epidemiological situation correlates with global data (Kurbanov R.D., Mamutov R.Sh., 2007). According to estimates from a number of European countries, hypertension is observed in 30% of

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the population, 60% of whom could reduce their blood pressure by maintaining a healthy lifestyle (Consilium medicum, AG, 2001).

Today, modern society dictates the pace of life and there is an opinion that hypertension is nothing more than a response of the macroorganism to the peculiarities of life [1; 3; 23; 32]. Global urbanization and social insecurity lead to the launch of one of the pathogenetic mechanisms of hypertension - psycho-emotional stress. The Framingham study showed that the increase in heart rate that accompanies stress not only contributes to the progression of atherosclerosis, but also increases the incidence of leading cardiovascular complications (CVC) such as sudden death, myocardial infarction (MI), and stroke (SI) [44]. According to Russian scientists, psychoemotional stress activates the sympathoadrenal system and the pituitary-hypothalamic-adrenal axis, creating conditions for chronic inflammation (C-reactive protein, tumor necrosis factor, interleukin-1B, interleukin-6), which leads to oxidative stress with subsequent dissonance between vasoconstrictors and vasodilators, which is manifested by hypertension [19; 21]. Such as tension, anger, depression and are aggravated by changes in diet, excessive alcohol consumption and smoking, which provokes an episodic increase in blood pressure at the initial stages, and subsequently persistent hypertension [32]. An independent predictor of overall mortality in the population is poor nutrition [7; 28]. The dietary habits and characteristics of the general population can be influenced by increased nutrition awareness and education [4; 10], but for patients receiving consultation from health care professionals, group or individual preventive education is necessary [6; 8]. A diet that includes excessive consumption of red meat and highly saturated fats, combined with low consumption of fruits and vegetables, is the cause of cardiovascular pathology in approximately 30% of cases [17], including hypertension. A dependence of body mass index (BMI) and blood pressure on dietary characteristics has been established [13; 24]. According to WHO experts, BMI in the Republic of Uzbekistan is steadily growing. Thus, in 2005, the average BMI for women was 13.5, and for men 10.7. Already in 2017, these figures increased significantly and became 19.0 and 14.1, respectively [15, 16].

Excessive consumption of table salt is another factor of alimentary disorders, the connection of which is beyond doubt with the development of hypertension [22; 30]. It is necessary to correct patients' attitudes to salt consumption, the intake of which should be reduced [30; 35]. Smoking is the only risk factor that can be relatively easily eliminated. The prevalence of smoking in Uzbekistan is relatively high – 54% of men and 4% of women smoke, while the number of young people (under 29) who smoke reaches 75% [33]. In patients of all ages, smoking increases the risk of developing stroke and cardiovascular disease by 2 times, but especially in young people [43]. Among social factors, WHO experts pay special attention to alcohol consumption. It has been proven that the use of alcoholic beverages in any form poses a health hazard to the population if the so-called maximum permissible dose is exceeded (for men 35 units per week and for women 21 units; 10 g of 40% vodka corresponds to 1unit equivalent) [25; 36]. According to epidemiological data, physical inactivity is the cause of the development of major chronic non-communicable diseases and mortality associated with them in 23% of cases [27; 31]. Up to 70% of people have physical activity below the acceptable minimum level, regardless of age [20]. Regular exercise leads to a decrease in cardiovascular disease [17].

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Normalization of lifestyle is recommended for all patients with hypertension, and special attention should be paid to it. Non-drug treatment includes cessation of excessive alcohol consumption, smoking, regular aerobic exercise, reduction of salt and fat intake, especially saturated fats, as well as increasing the proportion of vegetables and fruits in the diet, which should ultimately lead to weight loss and its stabilization at the achieved values.

Awareness about hypertension prevention is the “key to success” in treating patients. Patient motivation to eliminate risk factors reliably prevents new cases of hypertension. Only a combination of drug therapy and risk factor control provides stable normalization of blood pressure [14; 15; 18].

The main goal of treating patients with hypertension is to minimize the overall risk of cardiovascular complications and mortality. Belonging to a certain risk group, rather than the degree of increase in blood pressure, is the main criterion for prescribing drug therapy [12; 26; 29; 37]. Achieving a target blood pressure level below 140/90 mm Hg is considered appropriate [5]. In young and middle-aged patients, as well as in patients with diabetes mellitus (DM), safety and additional benefits for further reduction of CVD, achieving blood pressure levels below 130/85 mm Hg have been established [45; 46].

The main criterion for choosing an antihypertensive drug at present is its ability not only to maximally reduce blood pressure to an individually tolerable level and help prevent the progression of damage to target organs, but also to reduce cardiovascular complications and mortality while maintaining a good quality of life [41;48].

At the same time, a number of domestic and foreign studies have convincingly shown that, despite the availability of medications that can effectively reduce blood pressure and prevent the development of complications, patient adherence to treatment remains low [9; 11; 34; 38]. In this regard, the study of the role of public awareness of risk factors, methods of control and prevention of hypertension complications in improving patients' adherence to treatment is of particular relevance.

Primary prevention consists of minimizing all the listed risk factors, which will prevent or delay the development of hypertension, and timely treatment will reduce the risk of developing complications of hypertension. The most beneficial strategy is mass prevention, such as the formation of a healthy lifestyle through knowledge and understanding of the problem.

One of the main areas of work of a family doctor is primary and secondary prevention of diseases, among which cardiovascular pathology occupies a leading place. Long-term, continuous and comprehensive monitoring of the patient and his family allows monitoring the effectiveness of preventive and therapeutic measures. Unlike specialists of other profiles, he has a unique opportunity for early detection of all risk factors for CVD, as well as prevention of complications that worsen the quality of life of patients [16; 17]. The role of the family doctor in educating the population is great, but doctors not only do not practically do this work, but also have very little knowledge in matters of prevention [2; 40].

Thus, the education of doctors plays one of the key roles in using the potential of primary care in the prevention of non-communicable diseases, which is currently untapped [39; 42; 47].

Dynamic control of high blood pressure, including measures to maintain a healthy lifestyle and continuous long-term therapy with antihypertensive drugs with proven effectiveness, prevents the

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development of CHF and improves cardiovascular activity (Drapkina O.M., 2010). Hypertension can be both a cause and a consequence of kidney damage; it is the main risk factor for the progression of nephropathy with subsequent development of chronic renal failure (CRF) (Chernova I.M., Lukyanov M.M., Boytsov S.A., 2012). To achieve target blood pressure levels, dynamic monitoring of the patient's condition over a long period of time is required, with control over the implementation of the doctor's recommendations for maintaining a healthy lifestyle and regular intake of antihypertensive drugs with proven effectiveness, and correction of treatment depending on the safety, effectiveness, and tolerability of the prescribed treatment. In consultation, the established contact between the doctor and patients is of great importance, as is their education, which increases adherence to treatment. Patient education in a polyclinic setting allows for lowering blood pressure to target levels, reducing the use of antihypertensive drugs while increasing their effectiveness. According to the above, dynamic control over blood pressure levels aimed at preventing severe complications of hypertension (HT) is becoming an important task for the healthcare systems of the vast majority of countries in the world.

Purpose of the study. Improving the effectiveness of prevention and treatment of hypertension by informing patients at the primary health care level.

Material and methods. A retrospective analysis (over the past five years) was conducted on 222 randomly selected outpatient cards from among patients undergoing outpatient observation with hypertension in family clinics (F) (n=54) and in a number of rural family clinics (RFC) of the Republic of Uzbekistan (n=168). Данные ретроспективного анализа амбулаторных карт сопоставлены с результатами обследования больных (расспрос, осмотр, антропометрия, измерение АД, определение холестерина и др.). Family doctors from family clinics in Tashkent and rural family clinics in the regions of the Republic who had undergone retraining courses were surveyed. Before the training, 156 doctors were surveyed, after the training, 119, and 236 patients under dispensary observation with hypertension in family clinics/rural family clinics were surveyed and examined. Subsequently, some of them (n=122, main group) underwent an information course, and some (n=114, comparison group) did not participate in the educational program. All patients were followed up for 2 years with subsequent re-examination and testing. In the main group, the age of patients was 45-71 years, the average age was 51.75+1.85 years. Of these, men accounted for 29.5%, women - 70.4%. The distribution of patients by disease stage was as follows: Stage I hypertension – 45 (36.8%); stage II hypertension – 62 (50.8%); stage III hypertension – 15 (12.2%). Crisis course of the disease was observed in 40 (32.7%) patients. As indicated above, the comparison group consisted of 114 patients treated according to traditional methods in family clinics/rural family clinics and not participating in the educational program. Of these, 80 (70.1%) were women and 34 (29.8%) were men aged 44-75 years, with an average age of 52.6+1.62. In this group, patients with hypertension were divided as follows: stage I hypertension – 41 (35.9%); stage II hypertension – 61 (53.5%); stage III hypertension – 12 (10.5%). Crisis course of the disease was observed in 37 (32.4%) patients. The groups were comparable in terms of the main clinical and laboratory-instrumental parameters. In the main group of patients who had undergone school training, 46 (37.7%) patients had an average risk, 63

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(51.6%) people had a high risk, and 14 (11.4%, p<0.05) had a very high risk. The comparison group consisted of patients with an average risk of cardiovascular complications 41 (35.9%), with a high risk 62 (54.3%), with a very high risk 11 (9.6%, p<0.05) people, respectively.

Results and Discussion

In a retrospective analysis of risk factors registered in the outpatient cards of family clinics (n=54)/SSP (n=168), the following results were obtained: an adverse heredity was established in 34 (62.9%) family clinics and 88 (52.3%) rural family clinics, smoking - in 16 (29.6%) family clinics and 47 (27.9%) rural family clinics, overweight – 18 (33.3%) in family clinics and 35 (20.8%) in rural family clinics, alcohol abuse – 9 (16.6%) in family clinics and 37 (22.0) in rural family clinics, hypercholesterolemia – 21 (38.8%) in family clinics and 43 (25.6%) in rural family clinics, physical inactivity – 25 (46.2%) in family clinics and 57 (33.9%) in rural family clinics, stress – 38 (70.3%) in family clinics and 115 (68.4%) in rural family clinics, respectively. In this study, the most common risk factors were aggravated heredity, stress, overweight, and physical inactivity. Most outpatient cards provide incomplete recommendations for non-drug treatment. The results are as follows: limiting table salt is recommended by 35 (64.8%) family clinic doctors and 53 (31.5%) rural family clinic doctors; autogenic training by 24 (44.4%) and 64 (38.0%); limiting fat consumption by 31 (57.4%) and 71 (42.2%); limiting fluid intake to 1-1.5 l/day by 25 (46.2%) and 54 (32.1%); reducing body weight in obesity by 37 (68.5%) and 71 (42.2%); quitting smoking by 11 (20.3%) and 72 (42.8%); regular physical exercise is recommended by 37 (68.5%) and 67 (39.8%), respectively.

Table 1. **Risk factors for hypertension identified during the study of outpatient records and examination of the same patients in rural family clinics**

Risk factors for hypertension	In medical records (n=168)		Identified during examination (n=168)		**ρ**	**χ^2**
	абс.	**%**	**абс.**	**%**		
Heredity	88	52,3	127	75,6	p<0,001	11,3
Smoking	47	27,9	65	38,7	p<0,001	1,92
Overweight	35	20,8	86	51,1	p<0,001	14,9
Alcohol abuse	37	22,0	63	37,5	p<0,001	15,7
Hypercholesterolemia	43	25,6	79	47,0	p<0,001	18,7
Hypodynamia	57	33,9	84	50,0	p<0,001	22,4
Stress	115	68,4	134	79,7	p<0,05	2,45

A comparative analysis (Table 1) of retrospective indicators of outpatient cards with the data of oral questioning of doctors and examination of the same patients revealed a reliable discrepancy (p<0.001) of the above risk factors. These data allow us to conclude that the majority of patients did not undergo timely identification and correction of hypertension risk factors.

While studying outpatient cards, we paid attention to the groups and rules for prescribing antihypertensive drugs with proven effectiveness. Doctors prescribe β-blockers in family clinics 44.4% - in rural family clinics 8.9%; diuretics 35.1% - 10.7%, respectively; calcium antagonists

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are prescribed in 24% in family clinics and 5.9% in rural family clinics; ACE inhibitors 51.8% and 42.2%, respectively. Despite the fact that general practitioners still prescribe antihypertensive drugs recommended as first line, along with this, in the "other drugs" group, doctors prescribed dibazol and other symptomatic drugs, and in courses, without a specific regimen or duration of administration.

As the analysis of outpatient cards shows (Fig. 1), doctors regularly prescribe antihypertensive drugs in 35 (64.8%) family clinics and 30 (17.8%) rural family clinics, in short courses - 19 (35.1%) and 138 (82%), respectively; the difference between them in both cases is highly reliable ($p<0.001$). Based on these data, it can be assumed that not all family doctors adhere to the principles of non-drug treatment methods and drug-based basic therapy based on continuous long-term use of drugs in effective doses.

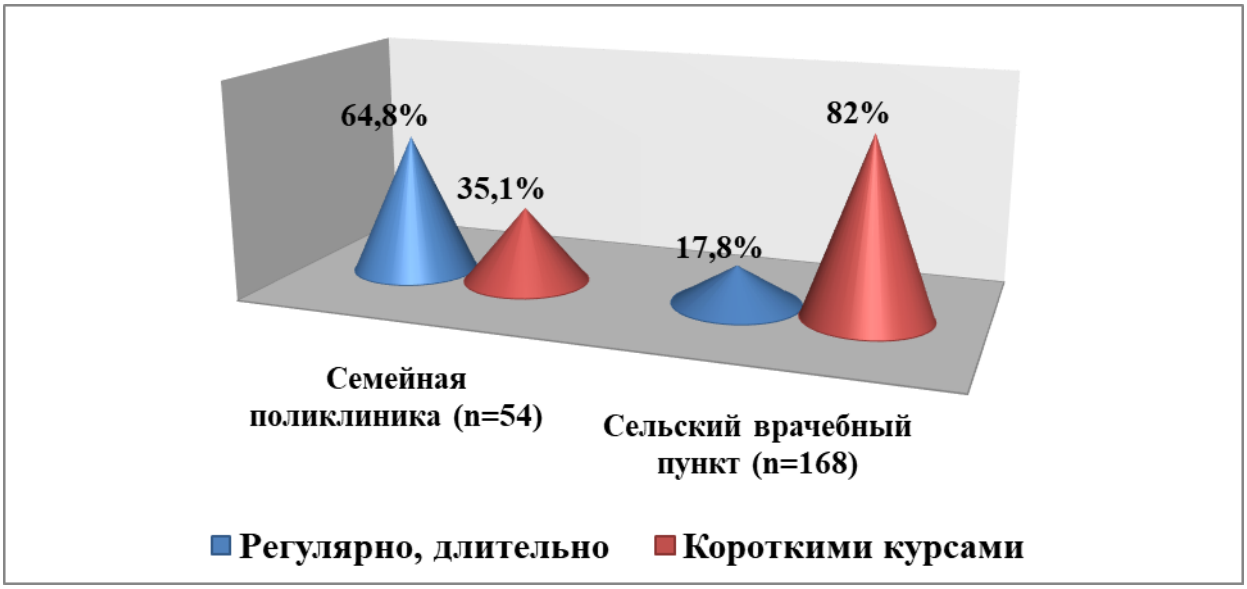

Figure 1.

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During an anonymous survey of doctors from family clinics/rural family clinics who had undergone retraining courses, it was revealed that doctors underestimated risk factors and corrected them in patients with hypertension. It should be noted that after the training, the number of doctors who attach importance to identifying and correcting risk factors increased significantly ($p<0.001$). Thus, before the training, 46.0% of family clinic doctors and 30.1% of rural family clinic doctors recommended reducing the consumption of table salt, after the training, 92.3% and 76.1%, respectively; *weight loss before training 26.9% and 15.0%, after training 96.1% and 85.0%, respectively; limitation of fat consumption was recommended before training 20.6% and 16.1%, after training 94.2% and 43.2%, respectively.*

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Conclusions of the study:

- Patients with hypertension are not sufficiently aware of the risk factors (33.9%) that affect the course and prognosis of the disease; they do not have the skills of self-control (63.3%) and self-help (75%) in case of an acute increase in blood pressure; there is low adherence (24%) of patients to following medical recommendations;
- Antihypertensive therapy in patients with hypertension who are not participating in the educational program does not significantly affect controllable risk factors and does not lead to the achievement of target blood pressure levels (29%);
- "School of Health" is an effective system for organizing patient information and conducting complex therapy in family clinics; it reliably contributes to the prevention of cardiovascular complications and adequate blood pressure control (96.7%);
- Adequate pharmacotherapy is optimally possible in patients participating in the educational program; in our study, this training allowed 82.7% to achieve the target blood pressure level, reduce the pharmacological burden on the patient's body, and, thereby, reduce the number of adverse reactions to drug therapy.
- The results of this work confirm the need for further study of the clinical and economic effectiveness of training and dynamic observation of patients with hypertension.

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