

## **EVALUATION OF THE LEVEL OF KNOWLEDGE OF PATIENTS IN THE CHERNIVTSI REGION REGARDING THE ONSET AND DEVELOPMENT OF ARTERIAL HYPERTENSION**

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**Key words:** arterial hypertension, risk factors, prevention, level of knowledge.

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**Abstract.** The modern strategy for the prevention and treatment of hypertension involves considering the mechanisms of influence of various risk factors. The early detection and correction of these factors will significantly improve the cardiovascular prognosis. The prevention of hypertension should first be directed to the formation of the patient's outlook on improving the quality of his life and eliminating the provoking factors that cause the pathology.

**The aim of the study is** to investigate the awareness of patients with risk factors for the development of cardiovascular disease regarding the onset of arterial hypertension in them.

**Material and methods.** The main method of studying the respondents' awareness was a questionnaire about the patients' knowledge of their disease and risk factors for the development of hypertension, in which 120 respondents aged 23 to 79, took part, among whom 43.3% were men and 56.7% were women.

**Results.** In patients with hypertension, a low level of awareness of their own disease, risk factors, insufficient mastery of blood pressure measurement skills, and pulse checking, improper attitude to non-drug and drug treatment methods was found. The majority of our respondents (82%) have been suffering from hypertension for more than 10 years, and among those examined, hypertension of the 1st and 2nd degrees prevailed. It was important for our research to obtain information from patients about the state of the disease. The majority of patients, 49.17% (59 people), are aware of the extent of the disease, which is associated with a long course of the disease, 40% (48 people) are not aware enough, and 10.83% (13 people) are not aware of it. The unfortunate fact is that among the respondents there are those who are not interested in this information, which suggests a passive and irresponsible attitude towards their own health.

**Conclusion.** The results of the survey showed that patients are poorly informed about hypertension, in particular about its risk factors and prevention. Poor awareness does not allow the formation of motivation for self-control and the need to prevent and correct risk factors.

## **ОЦІНКА РІВНЯ ОБІЗНАНОСТІ ПАЦІЄНТІВ ЧЕРНІВЕЦЬКОЇ ОБЛАСТІ ЩОДО ВИНИКНЕННЯ ТА РОЗВИТКУ АРТЕРІАЛЬНОЇ ГІПЕРТЕНЗІЇ**

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**Ключові слова:** артеріальна гіпертензія, фактори ризику, профілактика, рівень знань.

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**Резюме.** Сучасна стратегія профілактики та лікування артеріальної гіпертензії (АГ) передбачає врахування механізмів впливу різноманітних факторів ризику (ФР), раннє виявлення та корекція яких дозволить значно покращити серцево-судинний прогноз. Профілактика артеріальної гіпертензії повинна бути спрямована, перш за все, на формування у пацієнта поглядів на поліпшення якості власного життя та усунення провокуючих факторів, що викликають патологію.

**Мета дослідження** – вивчити обізнаність пацієнтів із факторами ризику (ФР) розвитку серцево-судинних захворювань (ССЗ) щодо виникнення у них артеріальної гіпертензії (АГ).

**Матеріал і методи.** Основним методом вивчення обізнаності респондентів було анкетування щодо обізнаності пацієнтів свого захворювання та факторів ризику розвитку гіпертонічної хвороби, в якому взяли участь 120 респондентів віком від 23 до 79 років, серед яких 43,3% чоловіків і 56,7% були жінки.

**Результати.** У хворих на гіпертонічну хворобу виявлено низький рівень

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поінформованості про власне захворювання, фактори ризику, недостатнє володіння навичками вимірювання артеріального тиску та підрахунку пульсу, неправильне ставлення до немедикаментозних та медикаментозних методів лікування. Більшість наших респондентів (82%) хворіють на гіпертонічну хворобу більше 10 років, причому серед обстежених переважала гіпертонія 1-2-го ступеня. Для нашого дослідження важливо було отримати від пацієнтів інформацію про стан захворювання. Більшість хворих - 49,17% (59 осіб) - усвідомлюють ступінь захворювання, що пов'язано з тривалим перебігом хвороби, 40% (48 осіб) - недостатньо обізнані, 10,83% (13 осіб) не знають про це. Прикро те, що серед респондентів є і такі, яких ця інформація не цікавить, що свідчить про пасивне та безвідповідальне ставлення до власного здоров'я.

**Висновок.** Результати анкетування засвідчили недостатню поінформованість пацієнтів про артеріальну гіпертензію, зокрема про фактори ризику виникнення та профілактику. Слабка поінформованість не дозволяє сформувавши мотивацію до свого контролю, усвідомити необхідність профілактики та корекції факторів ризику.

**Introduction.** According to WHO [1], almost every fourth person of working age in the world suffers from primary arterial hypertension (AH). The trend in the incidence and prevalence of AH in different countries has its own characteristics. In European countries, the prevalence of hypertension is 30–45% [2]. Taking into account the recommendations of the American Heart Association / American College of Cardiology (AHA / ACC) 2019) [3], according to which the I stage of hypertension corresponds to values of 130–139/80–89 mm Hg, the prevalence indicators on hypertension will definitely increase [4]. According to various authors, the number of people with AH will increase by 15–20% and reach about 1.5 billion by 2025. Features of the age gradation of hypertension are that 60% of people over 60 years of age suffer from AH [2]. The number of patients who do not suspect that they have AH is 56.7%; informed about the presence of AH, but not treated - 28.8%; receive AH therapy, but without adequate control - 14.5%. The target level of blood pressure (BP) is below 140/90 mm Hg. Art. can't be achieved in 69% of patients [5]. Even in very high-risk hypertensive patients, BP target levels remain unsatisfactory [6].

About 14 million people suffer from cardiovascular diseases in Ukraine. Mortality from cardiovascular diseases is one of the highest both in Ukraine and in the world. In the structure of total mortality, it reaches 65% [7]. AH ranks first in the structure of cardiovascular diseases, and it is present in 13 million people. AH is an independent predictor of the development of such diseases as coronary heart disease, cerebrovascular diseases, chronic heart failure, chronic kidney disease, which, in turn, causes early disability and death [2]. High blood pressure is a key risk factor for the development of coronary heart disease. The awareness of the residents of Ukraine about the presence of hypertension is 70%, of which about half are treated [8]. Such a high prevalence, a prognostic tendency to increase, and the disabling consequences of hypertension, in particular for persons of working age, determine a considerable social problem.

It is known that the effectiveness of preventive and curative measures is influenced by the awareness of

patients about diseases, their causes, problems and the possibilities of their elimination, control of indicators, issues of care or self-care of a person [9,10].

The purpose of the work is to study the awareness of patients with risk factors for the development of CVD regarding the occurrence of arterial hypertension.

**Material and methods.** 120 respondents aged 23 to 79 took part in our study, of which: 43.3% were men, 56.7% were women. In the group of patients aged 70 and over, a decrease in their number was found due to the development of complications (heart attack, stroke). According to the history of hypertension indicators, which varied widely, the majority of respondents (82%) suffered from hypertension for more than 10 years. Depending on the level of blood pressure increase, it turned out that among the examined, hypertension of the 1st and 2nd degrees prevailed. In most patients, elevated blood pressure and pulse rate exceeding the norm were found. The main part of patients – 73 people (60.83%) had hypertension of the first degree, less – 29 people (24.17%) of the second and 18 people (15%) of the third degree.

The main method of studying the awareness of the respondents was a questionnaire regarding the patients' knowledge of their disease and risk factors for the development of hypertension. Simultaneously with the questionnaire and measurement of blood pressure, a preventive conversation was conducted regarding adherence to a healthy lifestyle, modification of risk factors and possible complications of the disease. Processing of the survey results was carried out using the Statistica 10 program.

**Results.** The first and most important task was to obtain information from the patients regarding knowledge about their disease. It was established that the majority of patients, 59 people (49.17 %) know about their disease, which is probably related to the long course of the disease, 48 people (40 %) were not sufficiently informed, 13 (10.83 %) respondents were not interested in their disease (Fig. 1). The greatest concern is caused by those patients who do not know enough or are not at all interested in information about the disease, which allows them to think about a passive and irresponsible attitude

towards their health.

In the course of the survey, the following data were obtained on the question of awareness of the risk factors for the development of hypertension: 90.0% of respondents answered "yes", including: 44 men (40.74%) and 64 women (59.26%). The 40-59 age group is better informed, the 20-39 age group is the worst (Fig 2).

Interesting results were also obtained regarding the

probable risk factor (RF) in the development of the respondents' disease. All patients were offered a list of risk factors: age, profession, excess body weight, presence of hypertension in parents (heredity), violation of work and rest regime, irrational diet (high content of fats, carbohydrates, excessive salt consumption), sedentary lifestyle, stressful situations, bad habits (smoking, alcohol abuse). The obtained results are shown in Fig. 3.

### Knowledge about disease

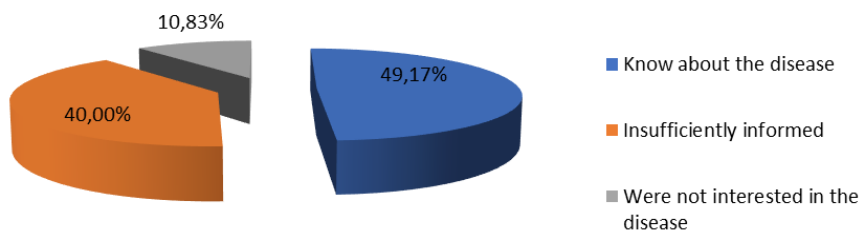


Fig. 1 Level of knowledge of patients about their disease

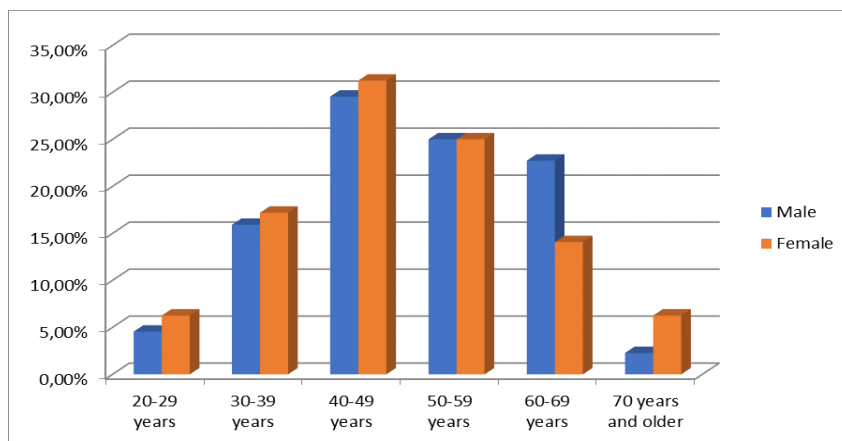


Fig. 2. The level of knowledge of patients about risk factors for the development of AH

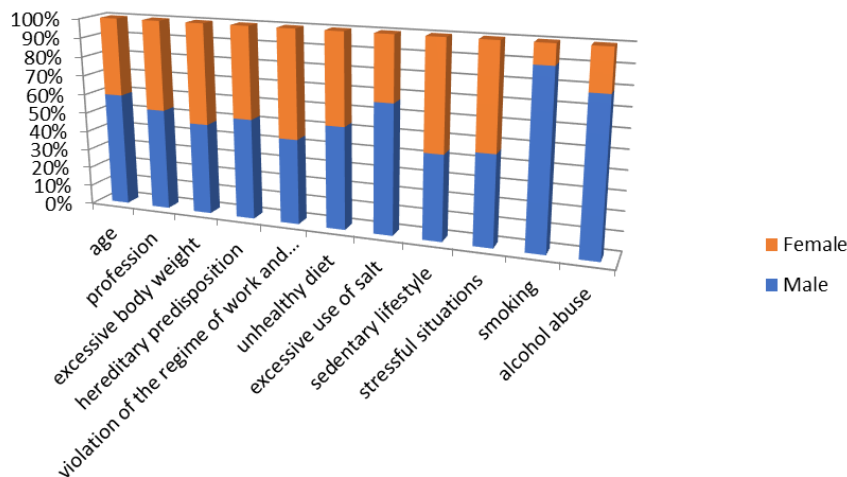


Fig. 3 Probable factors for the development of AH

The total sum of shares exceeds 100%, as patients could indicate several RFs. The majority of women noted such

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RFs as emotional stress, stress, violation of the work and rest regime, irrational nutrition; while men mostly - age, smoking, abuse of table salt. It should be noted that these are modified factors, that is, they themselves can change. The given data show that patients are sufficiently knowledgeable and aware of the "harm of self-destructive behavior."

The results of the survey regarding compliance with the principles of a healthy lifestyle: respondents answered "yes" - 31.7%, "no" - 18.3%, "not always" - 50%. Each patient understood the concept of CSF in a different way. The following answer options were received: avoidance of such behaviors as smoking, abuse of alcohol, drugs, etc.; implementation of such forms of behavior as proper nutrition, systematic exercise, stress management, lack of addiction, etc.; correct behavior in various diseases.

In patients with hypertension, it is important to be able to correctly measure and control the blood pressure level, count the pulse rate. The majority of respondents (79%) have a tonometer for personal home use. Blood pressure is measured once a day (21%), twice a day (9%), once a week (13%), 24% of people when feeling worse, 9% of respondents measure blood pressure sporadically, 21% of patients do not measure blood pressure at home because lack of equipment, and 3% did not comment on this issue.

To the question "Do you know how to measure blood

pressure yourself and carry out self-monitoring?" the answers were distributed as follows: "yes" answered 69% (mostly women), respectively 31% "no" (mostly men); 73% and 27% of respondents are unable to calculate the pulse rate.

Therefore, the respondents measure blood pressure not regularly and when they feel worse, which is unacceptable for patients with hypertension. To perform these manipulations, patients, first of all, must be provided with means of control; secondly, the nurse should teach the patient and his relatives how to measure blood pressure correctly, count pulses and understand their meaning.

Every patient with hypertension should have data on normal blood pressure indicators and possible complications. This allows you to correctly assess your condition, prevent a possible hypertensive crisis and seek medical help in time if necessary.

Among all respondents, 81 (67.5%) people know BP indicators in the norm, among them women are better than men and more in the age category of 40-49 years. Survey of respondents regarding awareness of possible complications of hypertension: 48 (40%) patients know about complications, in particular, such as stroke and heart attack, but 72 (60%) respondents do not have such information (respectively, 59.6% of men and 60.3 % of women) (Fig. 4).

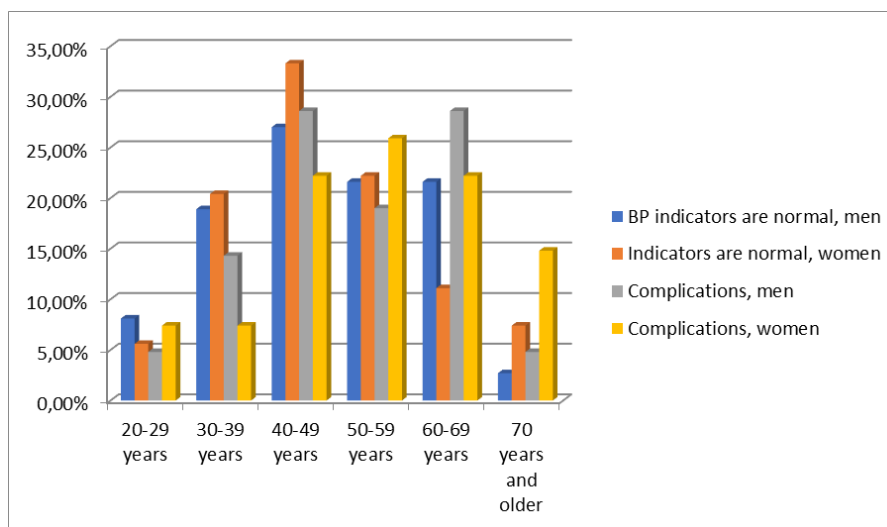


Fig. 4 Respondents' awareness of normal blood pressure indicators and possible complications of AH

During the survey on the question "When do you take medicines for this disease?" it turned out that 30 (25%) respondents answered - constantly, 69 (57.5%) - only with high blood pressure, and 21 (17.5%) respondents - in courses of 1-2 weeks. Studying patients' awareness of preventive technologies for hypertension is appropriate because such data are the basis for their development, improvement, and implementation.

Since the majority of RFs is modified, it was important to identify the level of knowledge of patients about preventive measures for hypertension. Patients are aware of the need to reduce body weight with its excess (60%), limit the use of table salt (59%), stop smoking (48%), limit

the use of alcoholic beverages (26%), reduce the use of saturated fats, sweets and cholesterol (68%), increased physical activity during leisure hours (68%), psycho-emotional relief and relaxation (59%). The total sum of the shares exceeds 100%, as the patients indicated several preventive measures. However, the awareness of patients about the prevention of this disease is insufficient, which, in our opinion, is a significant reason for the increase in the incidence of hypertension.

To the question "Are you able to improve your health on your own?" 50 (41.7%) respondents answered "yes", 29 (24.2%) - "no", and 41 (34.2%) respondents - "don't know".

In our opinion, it was also important to determine the

readiness of all patients to receive this information and the way it was provided. Among the examined, 68.3% of patients wish to receive information about hypertension. Such a large percentage is quite positive. However, it is alarming that 20.0% of respondents do not want to be informed about their disease, and 11.7% of patients do not know about the feasibility of receiving any information.

Among the ways of obtaining information offered to patients were: mass media, oral conversation, health bulletin, reminders with a verbal comment from a nurse, reminder without explanations. It was found that 42% of patients would like to receive this information through the mass media (television, radio, press) and 48% through the Internet (websites, e-mail newsletter), 15% - in the form of a note without explanations from a nurse. 39% - in the form of a poster report, 42% - to receive a memo with a verbal comment from a nurse, and 51% - through an oral conversation. It should be noted that older patients, mainly pensioners, wanted to receive information through oral conversation, while younger patients of the studied group preferred the Internet. According to patients, it is necessary to increase the availability of information on the prevention of diseases at receptions in medical institutions, publications in the local press, increase the number of TV and radio programs about health.

**Discussion.** AH is one of the most serious health problems both in European countries and in the world in general. Regardless of the level of development of the country or social group, hypertension is "democratic" and affects many people. This is one of the most common forms of cardiovascular diseases [11, 12]. Hypertension, classified as an epidemic, limits the patient's physical capabilities and burdens the health care system [13- 16]. Hypertension is caused by many factors, including factors beyond our control (gender, age) and social factors (lifestyle, physical activity, obesity). Blood pressure correlates with body mass index [17, 18] and socioeconomic factors (living in an area prone to noise and smog). For this reason, it is important to determine the knowledge and awareness of patients regarding the factors that can cause hypertension.

Scientists from different countries have found out in their research that patients with hypertension are at a very low level informed about hypertension and its complications, normal blood pressure indicators and lifestyle changes that must be followed during treatment. Our study aimed to find out about the awareness of patients with CVD risk factors that can cause hypertension. Based on the results of this study, hypotheses can be formed that can be tested in in-depth studies of the factors that cause hypertension in humans.

Teaching the patient how to manage chronic diseases takes on a special meaning and becomes an important part

of the daily work of medical professionals. Informed patients will be much more effective in interacting with healthcare professionals in an effort to follow instructions to improve health [19]. It is also important to remember that changes in the patient's lifestyle require increased family involvement, and the final factors will have consequences for the entire family. A good example of adjusting the diet is reducing the amount of salt and fat in food, engaging in physical training of one's body, etc. [20].

According to research by B. Krymska [21], the goals of health promotion among patients with hypertension are: informing about the risk factors of hypertension; conviction that there is a risk of developing atherosclerosis and associated cardiovascular diseases (stroke, ischemic heart disease), chronic kidney disease; familiarization with the principles of a healthy lifestyle regarding: rational nutrition, reducing excess weight, quitting smoking, moderate alcohol consumption, individually selected physical activities, maintaining proper relationships between people, fighting stress; development of a strategy for combating risk factors and overcoming psychosomatic stress (family, medical workers); formation of motivation for leading a healthy lifestyle by stimulating realistic aspirations adapted to the individual psychophysical characteristics of the individual: physical fitness, intellectual work, experience, knowledge and skills; increasing motivation to take responsibility for one's own health; formation of the patient's own independence, preparation for combating the disease, solving life problems; increasing interest in obtaining knowledge about health; maintaining motivation for leading a healthy lifestyle.

**Conclusions.** The results of the questionnaire showed an insufficient level of awareness of patients about hypertension and possible complications, blood pressure indicators in the norm, insufficient level of possession of practical skills for blood pressure measurement, pulse rate calculation and self-monitoring. These data are quite disappointing, and therefore require medical professionals, incl. nurse, carrying out explanatory work. This will contribute to self-monitoring of blood pressure, prevention of blood pressure increase, and improvement of interaction between the nurse and the patient. Thus, the results of the questionnaire demonstrated a lack of knowledge among patients about hypertension, in particular, the RF of occurrence and prevention. Poor awareness does not allow forming motivation for their control, to realize the need for prevention and correction of RF.

**Prospects for further research** are teaching patients the skills of blood pressure measurement, pulse checking, etc., which will certainly become an effective additional method of complex therapy for patients with hypertension.

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